



Ekonomická  
fakulta  
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Jihočeská univerzita  
v Českých Budějovicích  
University of South Bohemia  
in České Budějovice

University of South Bohemia in České Budějovice

Faculty of Economics

Department of Regional Management

Master thesis

## **RPA Project Management**

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České Budějovice 2021

# JIHOČESKÁ UNIVERZITA V ČESKÝCH BUDĚJOVICÍCH

Ekonomická fakulta  
Akademický rok: 2019/2020

## ZADÁNÍ DIPLOMOVÉ PRÁCE

(projektu, uměleckého díla, uměleckého výkonu)

Jméno a příjmení: **Tereza KASTNEROVÁ**  
Osobní číslo: **E18445**  
Studijní program: **N6237 Regional and European Project Management**  
Studijní obor: **RPA Project Management**  
Téma práce: **RPA Project Management**  
Zadávatel katedra: **Katedra aplikované ekonomie a ekonomiky**

### Zásady pro vypracování

#### Objective:

Main aims of the thesis are the analysing and comparison of methods and methodologies in RPA (Robotic Process Automation) projects according to the general project management. The author will focus on the on various project management methods and methodologies in order that the project is managed as best as possible and reaches the goal.

#### Methodological approach:

Theoretical background.

Use of a suitable example of chosen project and its description.

Measuring of the results and outcomes.

Analyzing of the chosen project phases and their feed-back.

Summarizing of the results of chosen project in the project management praxis.

#### Framework structure:

1. Introduction, Objectives

2. Review of literature

3. Methods

4. Results, potentially discussion

5. Conclusion

X. References

X. List of Annexes (if any)

X. Annexes

Rozsah pracovní zprávy: **50 – 60 stran**

Rozsah grafických prací: **0**

Forma zpracování diplomové práce: **tištěná**

#### Seznam doporučené literatury:

TRIPATHI, Alok Mani. Learning robotic process automation: create software robots and automate business processes with the leading RPA tool – UiPath. Birmingham: Packt Publishing, 2018. ISBN 978-1-78847-094-0.



## Original or copy of the first page of assignment

DOLEŽAL, Jan. Projektový management: komplexně, prakticky a podle světových standardů. Praha: Grada Publishing, 2016. Expert (Grada). ISBN 978-80-247-5620-2.

STELLMAN, Andrew a Jennifer GREENE. 2015. Learning agile. Sebastopol, CA: O'Reilly, c. ISBN 978-1-449-33192-4.

ŠOCHOVÁ, Zuzana a Eduard KUNCE. Agilní metody řízení projektů. Brno: Computer Press, 2014. ISBN 978-80-251-4194-6.

MAXIMINI, Dominik. The Scrum Culture: Introducing Agile Methods in Organizations. Switzerland: Springer International Publishing, 2015. ISBN 978-3-319-11826-0.

Vedoucí diplomové práce: **doc. Dr. Ing. Dagmar Škodová Parmová**  
Katedra aplikované ekonomie a ekonomiky

Datum zadání diplomové práce: **21. ledna 2020**

Termín odevzdání diplomové práce: **31. srpna 2021**

  
doc. Dr. Ing. Dagmar Škodová Parmová  
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### **Statement**

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### **Acknowledgement**

I would like to thank doc. Dr. Ing. Dagmar Škodová Parmová for professional guidance and providing valuable advice that helped me in the elaboration of my diploma thesis. I would like to also thank her for her patience, willingness and all the time she spent with me during the processing of my diploma thesis.

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# 1 INTRODUCTION

Saved time and money, reduced errors, faster and more accurate processing and at the same time an employee who is never tired or sick... These are all reasons that companies lead to finding solutions that would bring them these benefits. One popular solution in recent years is robotic process automation (RPA), which allows them to improve the performance not only of their company but also of employees and move its operation one level up again. The implementation of RPA does not require any major changes in the operation of the company, only one new virtual worker will be added.

Therefore, robotic process automation is one of the latest tools for automating routine and repetitive processes. These processes take up too much time for companies and the workers who do work that is boring and not rewarding. Hiring a new virtual employee frees the employee from this not creative work and they can thus bring far greater value to the company. However, accepting such a robot into team requires a lot of thinking and at the beginning, every step is carefully guarded. This topic seems very interesting to us, moreover, it can be useful to us in our future professional life, it is the reason that we chose it for the writing of our thesis.

The aim of this work is to determine whether the robotic process automation is an innovation that fundamentally helps the company and is reflected in the effectiveness of the company. The explanation of the main object and problem also leads us to formulate research hypotheses which will be verified subsequently. We assume that RPA has a great benefit for companies, and they do not regret this agreement for automation. We also assume that the integration of the robot into the team does not have a great influence on the employees, they are happy for it and it is above all their new helper.

To achieve the desired goal, we have divided our thesis into two parts: the theoretical part consisting of two chapters and the practical part also comprising two chapters. Each of the chapters aims to introduce the reader to the issue of RPA, either from a practical or theoretical point of view. Both parts are preceded by an introduction that poses the problem and shows our personal motivation towards

the problem. It also presents the structure of the thesis and the hypotheses that must be confirmed or disproved by the results of the analysis carried out.

The first chapter of the theoretical part describes what to imagine under the term robotic process automation and what is agile team leadership. This chapter describes the individual parts that characterize RPA and that must be met by the agile team. These parts consist in bringing about the creation of RPA, its suitability for companies, pros and cons, and then the phases and deployment in production with subsequent admission to the team.

The second theoretical chapter presents the methodology of this research work. The chapter describes the research method, interview limits and recording equipment. The central point of this chapter is the description of the interviewee and the interviews themselves. The transcript of the interviews is also described in detail here.

The first chapter of the practical part is devoted to the important parts of each interview. The chapter is divided into three subchapters. The first subchapter deals with sequence analysis, which allows a more detailed look at the course of each interview. The following subchapter gives the reasons for dividing the interviews into four parts. The last subchapter discusses in more detail the important parts of the interviews that are relevant to this work.

The last chapter deals with the analysis of selected parts from the previous chapter and its comparison with the literature. This is first preceded by a justification for choosing this topic and companies for this work. First, we present an analysis of why companies have chosen robotic process automation at all. We will then analyse the overall automation, what processes were selected and why, whether everything went according to plan, and we will continue to analyse the economic part of the company, where we look at how the robot has saved time or what percentage it now occupies and how RPA has resulted in overall company performance. To conclude this analysis, we move on to the subsequent experience and work of the team with the new virtual employee.

This diploma ends with a conclusion recalling the subject tackled and summarizing the knowledge acquired in the field of RPA project management. The following is a summary, a list of references of the bibliography used in this thesis, a list

of figures and appendices containing a list of interview questions, field note of the interview and sequence analysis.

We hope in this way to provide potential readers with a comprehensible and practical tool which will enable them to properly get through the issue of project management in robotic process automation.



## **2 LITERATURE REVIEW**

Data digitization is a sign of productivity and progress. The operation of not only customer services is constantly increasing and company teams have more and more work, even with the simple transfer of data from one application to another, where they fill in the same information. Robotic process automation, abbreviated RPA, processes computer tasks that are structured, routine and constantly recurring, in addition, they are developed according to certain rules, thanks to the latest software technology. Due to the fact that this is a software development, Agile management is the most frequently used in the team. The most common methodology is then Scrum, which offers clear rules for project management, which are at the same time sufficiently flexible and adaptable. Scrum has clearly defined events and roles, so everyone knows exactly what to do throughout the project.

### **2.1 Robotic Process Automation**

Today, we encounter automated things at every turn. We use them in everyday activities, home appliances allow us to heat food, do laundry and robots can perform some work tasks for us. Automation is becoming more and more advanced every year. Thanks to it, a lot of new technologies are developed. One of the evolving fields is Robotic Process Automation. A software robot that performs rule-based tasks on a computer in interaction with other applications that people would otherwise process on a computer. The robot mimics human activities such as typing, reading, or clicking on a required place in an application, necessary to complete a given task. Robots can perform complex calculations, make necessary decisions based on data and predefined rules. The robot must learn the individual steps of the task and then just imitates the task with the mouse and keyboard. (Tripathi, 2018: 6,9)

With the words Robotic Process Automation (RPA) came an enthusiastic supporter of Blue Prism, Pat Geary, in 2012. For unincorporated people, the word RPA can be a bit confusing. Under the term robot, most people imagine a real character of a robot that is able to perform work manually instead of us and not a software program that we install on a computer. Although, like a physical robot, it performs administrative tasks in our place. (Taulli, 2020: 2-5) The robot can

process or generate natural language and has so-called computer vision, thanks to which this technology is often called intelligent automation. Verification or re-writing of data or entering data, for example from an invoice, is a daily routine process for the worker, exactly one of the exhibition tasks that the robot can perform itself. If the processed document, as an example we can mention the invoice again, contained an empty field or other content than the robot is taught to, it would mark this field as an exception and the relevant worker would later look for the missing information and fill in the data. As already mentioned, robots can communicate with applications on a computer just like humans. (Tripathi, 2018: 10) A software robot is created using steps, not code-based instructions, making RPA different from traditional automation. Therefore, even a person who has never programmed can be trained to create simple but also very complex processes in automation. (Tripathi, 2018: 11)

We can see the development of RPA in recent years also thanks to investments in its development. At the end of 2018, RPA received a large investment of approximately \$ 500 million from Softbank Vision Fund, launching its development and progress. Together with the main investor Workday (top cloud-based enterprise resource planning (ERP) operator), they have established cooperation with the RPA market leader - Automation Anywhere. A year later, UiPath came in with \$ 568 million, and in less than two years they managed to increase revenue from \$ 8 million to \$ 200 million. Companies see great potential in RPA. (Taulli, 2020: 1) Technology can bring tremendous value to an organization, not least by improving the quality of work or eliminating human error. Once a robot learn tasks, he will perform the tasks over and over again, with the same precision. (Tripathi, 2018: 11) Simply put, automation can produce goods and services with little or no human assistance. With the development of technologies, computers, and therefore also software, the way of working is also developing. Handwritten tasks, business management and communication, which took several hours, became a matter of just a few minutes. (Tripathi, 2018: 6)

Of course, not every workflow can be automated, for this to happen it has to meet several aspects. These should be, for example, repetitive steps, time-consuming tasks, high-risk tasks, tasks involving multiple people and multiple steps. The characteristics of things that should be automated are well defined and rule-

based steps, logical, an input to the task can be diverted to the software system (Tripathi, 2018: 7)

### **2.1.1 History of RPA**

One of the very first mentions of automation could be considered Homer's work The Iliad. Homer in the poem mentions Hephaestus (the Greek god of blacksmiths), who used automatons (machines) to make weapons for the gods. (Taulli, 2020: 7) The origin of the word automation can be found in the Greek word autos meaning self and motos meaning moving. It is believed that the word originated in the 1940s, when automated equipment in mechanized production lines was increasingly used at that time. (Tripathi, 2018: 6)

If we moved to the last century, when automation appeared in the real world, we would go back about 70 years. At that time, computers were in their infancy. One of the first was the Era Mainframe, a huge machine available only to large companies. Their task was to manage, for example, payroll and customer accounts, i.e., the basic functions of the company. The revolution in the industry was caused by the development of the microprocessor and the operating system. Perhaps every company could more or less automate processes, for example using word processors and spreadsheets. The downside was that the IT environment was not yet so developed. If an employee used multiple applications, he had to manually move data from the first application to the second, and this was more time consuming, and thus employee productivity would decrease. (Taulli, 2020: 8-10)

At the beginning of 2000, the first key elements for RPA began to emerge, and applications began to move data between them, which increased work efficiency. Unfortunately, RPA has still not received such attention, and investors and entrepreneurs have supported a growing cloud market. (Taulli, 2020: 8-10) The first Blue Prism product was released in 2003, and at about the same time UiPath and Automation released their products anywhere. (Mullakara, 2019) The financial crisis came and after that companies had to start reducing their costs. RPA has come to be seen as a simple and less costly way to move to digital technology. For example, in banking they were looking for a way to reduce paperwork and have better security, RPA was offered as an ideal solution. The RPA was slowly beginning to improve, and development was moving forward rapidly. Today, RPA

is one of the parts of the fastest growing software industry. RPA development spending rose 63% to \$ 850 million in 2018, rose to \$ 1.3 billion in 2019, and is expected to reach \$ 12 billion in 2023. (Taulli, 2020: 8-10)

### **2.1.2 Areas suitable for automation**

Today, RPA helps across industries. Thanks to its adaptability and constantly evolving business and technology, it has an open future, and it is very likely that its need and use will continue to expand. (Tripathi, 2018: 11)

One of the areas where RPA is widely used is insurance, where the robot manages insurance contracts or processes documents regarding reported claims. Furthermore, we can find the robot in the financial sector (banking-card activation, frauds claims), in companies providing public services (gas, electricity, water). The robot can process money transactions, meter readings, as well as invoicing and processing payments from customers. Last but not least, it is necessary to mention the area of healthcare, where, thanks to automation, for example, automatic appointment reminders are sent to patients. (Tripathi, 2018: 12) Other departments that use the robot are human resources such as letter creation, payroll, hiring, candidate management, accounting, IT: account verification, procurement: invoice processing, requisition to purchase order, robot is also used in the back office and in accounting. (Kaelble, 2018: 9)

#### **2.1.2.1 Suitable processes**

Before a company decides to automate, it should first properly consider whether automation is suitable for it, it is best to develop a plan of action where the company outlines the key priorities, goals and roles of RPA implementation, no doubt security and impact on IT should also be considered. The main thing to keep in mind is that RPA is only suitable for certain processes and should not be considered a universal solution. Questions such as what degree of automation we have in the company, what lags behind and what works or what processes are constantly repeated and are routine, how much time one process can be asked not only in the management, but also across departments (HR, marketing, IT). Companies often hold various brainstorming sessions or even several daily workshops during which they identify areas for automation. (Taulli, 2020: 77-79)

Suitable candidates for automation are processes that do not require human creativity and preferably no or little human decision-making, rules-based processes, tedious work, mundane tasks such as searching, cutting, pasting, moving data around, collating. (Kaelble, 2018: 20) Tasks that do not require much knowledge, repetitive tasks with the same steps in sequence, tasks prone to errors that may occur when entering data, an area with sensitive data that should not be fully accessible to employees. The simpler and more logical the process, the faster the implementation. In large companies, they often use many applications and software, where employees transfer data between them, so this is a task that is prone to errors and unnecessarily overwhelms the employee's working hours. The department can quickly change information that is difficult for employees to keep track of, and some information may inadvertently avoid to them. The robot can detect changes. We know that automation is suitable even if we have an irregular increase in orders, when we do not want to hire new employees and we need to strengthen the workforce only for a certain period of time. Processes that require creative thinking, brainstorming, interaction with the physical world. (Taulli, 2020: 80-82) The processes that run only a few times a month are certainly not suitable for RPA and investing in such processes might not pay off. (Luukka, 2019)

Back-office employers take up activities such as filling out forms, recalculating calculations and processing orders for up to 80% of their working time. However, these activities are essential for customer satisfaction. And these activities usually do not require human intervention, so we could call them unattended tasks (repetitive, rules driven, structured tasks). In these tasks, the robot can be activated independently and at the same time work independently, without the need for human participation. RPA usually automates complete processes that do not require human decision-making, creativity. Lots of other tasks that require minimal human intervention, the rest of the work can be done by a robot. These tasks are called attended tasks. The employee cooperates with the robot, only if the employee activates it, can create various interconnection lines between key actions and applications (repetitive, semi structured, customer facing, manually triggered tasks. (Kaelble, 2018: 6)

For example, call centre employees can deal with their client and at the same time the RPA system can handle information retrieval. (Taulli, 2020: 6) The most suitable for robots are digital and structured data (formatted data) which are addresses or social security numbers stored in relational database. However, thanks to Cognitive / Artificial Intelligence, RPA is also able to process unformatted data. Robot can extract data from images or scanned documents, he can work with videos, voicemails, audio files. (Automation Academy by WorkFusion, 2019) Cognitive technology also helps with speech recognition or natural language processing, so higher-order tasks can be processed, which previously could only be processed by people based on their perception and judgment. (Overby, 2019) Advanced image recognition and optical character recognition (OCR) helps with the processing of unstructured information from scanned documents or images. (Automation Academy by WorkFusion, 2019) After leaving the above-mentioned tasks to the robot, employees will have more time for more interesting tasks like customer focused, problem solving, value adding). (Kaelble, 2018: 7)

When searching for and understanding the processes, it is good to arrange interviews with the employee, or combine interviews with analyses, because interviews take a lot of time and people may make a mistake. Thanks to the analysis, it can be prevented. (AI Multiple, 2021) In order to automate a process, we need to know it in every detail, know what works and what does not, and what we need to improve. In the best case, it is good to use, for example, Desktop Analytics, it can combine data from our organization with data from other connected devices, which monitors the employee's screen and records individual tasks (clicking, typing, working in applications). In retrospect, we will see inefficient places and gaps in productivity. In this way we can find optimal processes for automation. (Kaelble, 2018: 14) It happens that there are two processes. The first is the official one, in which the employees describe to us how they manage everything. The second is unofficial, which reveals forgotten steps and which employees really use. (Garcia, 2018) When detecting tasks for automation, we can also use, for example, a four-quadrant matrix, where we monitor the volume of work on one axis and the number of people's connections on the other. (Kaelble, 2018: 21) After identifying the processes that are suitable for automation, it is appropriate to create

documentation that will include the reason for the process and its steps, the timeline of the project, the workers with the relevant roles affected by automation, and safety and compliance requirements. (Taulli, 2020: 80-82) It is recommended to start with a simple task that will be quickly developed and deployed, you will quickly see improvements and then we can embark on more complex tasks. (Kaelble, 2018: 21)

### **2.1.2.2 Return on investment**

After finding a suitable process, we calculate its return to find out whether automation will pay off for us. Usually, we will have to wait about a year for the return on investment. Costs may be slightly higher initially, taking into account a total cost of ownership, for example, licenses, software subscriptions, servers, hosting services, implementation labour costs, robot development, a consulting firm). In return, we monitor not only the monetary part, but also whether the quality of data, the accuracy of tasks performed and the decrease in errors are better, whether employees are satisfied, but also customers, or how fast the process is after implementation of RPA. (Taulli, 2020: 90-92)

### **2.1.2.3 The Pros of RPA**

It is popularly said that one robot corresponds to three employees who are employed on full-time (FTEs). One FTE works for eight hours a day, but the robot can work 24 hours without a break. Thus, productivity increases, the work performed is accelerated and, as a bonus, costs are reduced, the volume of performed tasks is increased. (Tripathi, 2018: 12) Other bonuses are a quick return on investment and improved work processes. (Taulli, 2020: 10) *“Barclays Bank attributes savings worth the equivalent of roughly 120 full-time employees and an annual reduction in bad debt provisions of \$250 million. Telefónica O2, which uses more than 160 robots to automate 15 core processes and nearly 500,000 transactions per month, says that its return on investment in robotic process automation has exceeded 650 percent.”* (Taulli, 2020: 11)

RPA is characterized by its simplicity, without any programming knowledge (Tripathi, 2018: 12). We do not have to worry about any complicated implementations, on the contrary, it is very easy. One does not even have to know any complex coding. (Taulli, 2020: 11) Results are seen very quickly in Return on

investment (ROI), customer service is faster, the organization receives better data quality, and improved compliance occurs. Deploying a robot is a long-term investment and in the future our virtual colleague requires only small repairs, investments, costs. (Taulli, 2020: 12) Furthermore, a study was carried out in 2018, which showed an increase in productivity due to RPA. In companies worldwide, this was an increase in productivity by 95%, while in the Czech Republic by 74%. (Deloitte, 2018)

Every employee is different, some are more hardworking, some less. In general, a robot completes a task five times faster than a human. Employees may not understand the regulations and make a mistake while completing a task. Unlike humans, a robot does not have ordinary human needs. (Taulli, 2020: 12) He can work 24 hours a day, 7 days a week without having to take a lunch break or go to bed, he is never sick or in need of vacation, everyone is equally hardworking, and his main advantage is zero error. It follows that the more we involve the robots, the fewer mistakes we make in administrative tasks and, in addition, we save the time we spent correcting these errors. (Kaelble, 2018: 10) Possible error can be quickly identified and corrected thanks to step recording. Due to the zero error rate, the quality of the data increases, the data is more accurate, and this leads to a better quality of analysis and at the same time to better decision-making. The great advantage is therefore higher accuracy and quality of services. (Tripathi, 2018: 12)

For example, mortgage processing does not have to take several days, but only a few minutes and the employee does not have to spend time working on tedious activities, robot can record the time of acceptance and completion of the transaction, based on this data the robot can predict the incoming volume of tasks and time completion. (Tripathi, 2018: 12) The robot has a very wide range of applications in departments in companies such as finance, HR, marketing, etc. Many companies need to digitize, but many companies have older systems, and their replacement would be very expensive. RPA is a very suitable, fast and less expensive solution in these cases. In particular, we can switch the robot on or off at any time, so if there is a rapid increase in demand, it will be very difficult to hire new employees quickly. However, you can only turn on the robots or expand them with new ones. (Taulli, 2020: 13)



The versatility of RPA is applicable not only in industries from small to large companies. The software robot completes a larger volume of work in less time. This is a big-time saver for company directors. If a change must be made in the task process, the robot is more adaptable than a human worker. The employee must learn the news, must be trained for a new task, and above all get used to the old habit with which he performed the task. A virtual worker works on the user interface in the same way as a human worker, so it can be implemented in existing computer systems. (Tripathi, 2018: 13) Hence, deployment of the robot is very fast, the duration of implementation is between 1 and 3 months. (Trask, 2021)

All previous benefits significantly improve the quality of services and increase customer satisfaction, as employees can also focus more on customer service and satisfaction. We come to the last point, namely the satisfaction of employees. The workers got rid of boring and constantly repetitive tasks. Now they can engage in better quality work that requires human intelligence, thinking and the ability to empathize with customer needs. The common idea is that RPA takes people out of work, but the opposite is true. Thanks to RPA, employees do not have to perform lengthy and recurring tasks but have the opportunity to participate in much more varied work and use their knowledge and skills. (Tripathi, 2018: 14)

#### **2.1.2.4 The Cons of RPA**

One of the disadvantages could be that business offers and licenses vary from seller to seller, some offer a subscription or multi-year license, others may charge fees according to the number of robots ordered. It is also necessary to train employees who will work with robots and ensure continuous maintenance of robots. At the same time, it is good to agree on future cooperation with third-party consultants who will help with the implementation. In addition, the software needs constant updates and changes, because as soon as the company's work processes change, the robot must also change or adapt. RPA therefore requires constant attention and supervision. (Taulli, 2020: 14,15)

If many robots work in a company, their maintenance is more difficult and IT cooperation must work at a high level. There is also a growing risk of property damage, as technology can cover very critical areas with sensitive information in a business. The basic point is preparation, in case of underestimation and incorrect

description of work procedures, automation becomes unnecessary, and the robot will not work properly, and the company begins to lose money. (Taulli, 2020: 16)

### **2.1.3 Project preparation and its phases**

We will ensure that we have access to all applications and determine the implementation phases. (Kaelble, 2018: 39) Before the whole process is automated, it only starts with a pilot project, where the proposed automation concept is confirmed. The first project, the so-called Proof of Concept (PoC), will therefore be made to a lesser extent. (Taulli, 2020: 90-92) Subsequently, we will start testing the processes to see if there is any deviation or inaccuracy somewhere. Before commissioning, we will train employees who will work with the robot. (Kaelble, 2018: 40) Next comes the monitoring, observing the robot, whether its deployment meets the required criteria, and we observe how the department manages changes and monitor their impact, last but not least, we find out whether the efficiency of employees has increased. (Taulli, 2020: 185)

#### **1. Analysis**

In the first phase, the client's requirements are analysed, it is decided which processes could be automated. (JavaTpoint, 2018) After finding the processes, we determine their overall complexity. (Kappagantula, 2020)

#### **2. Design**

In the second phase, we develop a Process Design Document (PDD). This document contains information about the entire automation process. The document contains defined processes for automation, test cases, data, solution design and strategies for automating specific tasks. (Auxiliobits, 2019) In this phase, the budget, the number of people involved and the time to be devoted to the project are further decided. A flowchart is created that later helps in process development. (JavaTpoint, 2018)

#### **3. Development**

In the third phase, developers develop the agreed-upon processes, using RPA tools (UiPath, Blue Prism, Automation Anywhere). (Auxiliobits, 2019)

#### **4. System Integration Testing**

The next phase tests the developed robot, its partial parts and monitors its results in the pre-production environment (Smartech Orange, 2020)

#### **5. User Acceptance Test**

Deployment of the robot in the production environment and its subsequent testing in the company environment and approval of robotic process automation. (Auxil-iobits, 2019) If the testing is successful, the robot proceeds to the next phase, if its deficiencies become apparent during testing, it is taken back to the development phase, where the developers look for bugs and fix them. (JavaTpoint, 2018)

#### **6. Handing over the robot**

In the last phase, we hand over the robot to new collaborators to automate their tasks. Checking the correct implementation and subsequent operation. (Auxil-iobits, 2019)

### **2.1.4 Supervision**

Just as we supervise employees to do their job properly, it is important to control also the robot in this way. The control room, which contains the RPA solution, collects data on completed tasks, at the same time monitors their time requirements and, above all, controls their livelihood. People supervising the control room monitor how the robots work and, in the event of a problem that requires attention, thy system alert the supervisor. (Kaelble, 2018: 11) Automated processes can be planned, preferred among themselves, and stopped, started, or even paused at any time. (Kaelble, 2018: 12)

#### **2.1.4.1 Errors**

Everyone can make mistakes even the best employee of the company. However, a mistake costs us money, time - before the mistake is corrected and during which other work could have been done. The mistake can damage the customer's satisfaction and the reputation of our company. A robot can also make mistakes, but other than humans. They do not forget to do a certain task while developing other tasks. They can only fail if something unknown appears, but even then they can trigger an alert and alert employees that they need help and do not know how to

handle the task. Unknown things are exceptions for a robot that can occur in the process. These are, for example, slow internet or invalid information (email address, wrong format), missing information (customer identifier, address). (Kaelble, 2018: 50) Technical exceptions like human error when the employee clicks the mouse or presses a button on the keyboard during the process and thus disrupts the robot's work. Another case could be when an employee changes passwords in the company, but no longer reprograms the robot for proper adjustment and the whole thing leads to data loss. (Boulton, 2018) The robot could also mind the open window of the application, which is normally closed and the robot does not know what to do with it now. (Kaelble, 2018: 51)

#### **2.1.4.2 Safety**

We should still not forget about security due to the sensitive data that the robot can work with. The robot can have access to Customer relationship management (CRM), Enterprise Resource Planning (ERP) and other enterprise systems, where there is information and data that the robot can process with high risk and can be vulnerable to cyber-attacks. (Tauli, 2020: 186)

#### **2.1.5 Integration a robot into a company**

Every change in a well-established system is difficult and all the more difficult when we tell employees that their tasks will be newly performed by robots and require them to start trusting robots. People may not like the changes, even though we know it's a matter of improvement. They may not even be aware of it, because they know the old system and think that they do the tasks as best they can. It is true that the robot moves the cursor to the link, copies or confirms the information, just like a human, but a little faster. Employees must be convinced that a robot brings great improvement and help not only to the company, but above all to them, that the robots actually free them and help them from boring work and bring them a far more interesting job. Simply put, they must know that they do not replace them. (Kaelble, 2018: 23) For better integration, it is good to start with only one robot and then gradually expand it to other departments and the whole company. One other way to bring the robot into the company is to invite a guest from a company that already uses RPA and has good experience.

Employees will hear the true story and gain the impression of greater trust. (Taulli, 2020: 128, 184)

A new employee arrives, introduces himself to new colleagues and integrates into the work process. Robot is also a new employee, so it's a good idea to give it a name, like a real new employee. For example, if you introduce a new robot named Joe to a new colleague and explain to him that Joe is here to help him with tedious tasks and he can do far more fun and diverse tasks, Joe is integrated much better than when we introduce only new software in computer. More or less robots can work with employees as their digital collaborators. (Kaelble, 2018: 8) Transparency should be maintained with the team before, during and after the implementation of RPA. If employees are involved in automation from the beginning, they will better understand the technology and better accept the robot. (Pyramid Solutions, 2019)

It is important to realize that there is still and will be space for improvement and that RPA is only a small part of the improvement, but above all it also provides an opportunity to analyze current activities and plan and monitor future ones at the same time. (Kaelble, 2018: 24)

### **2.1.6 Creating an RPA team**

When we find a suitable process and the company decides to automate it, it should ask itself which team will create the automation. Whether we create our own automation team in the company or we will outsource work. (Kaelble, 2018: 17)

#### **2.1.6.1 Consulting company - outsource work RPA**

Hiring a qualified consulting company may be a bit more expensive. We have to pay for consulting during the entire automation and implementation cycle. The advantage is that the consulting team has experience, knows the whole implementation cycle, knows what to expect and what to look out for. We do not have to deal with the organizational costs associated with setting up and maintaining an internal Centre of Excellence (CoE). The team can advise the company and can help train employees. (Taulli, 2020: 80-82) In addition, speed can sometimes

be important and hiring a professional team can be faster than creating a new one at home. (Kaelble, 2018: 18)

#### **2.1.6.2 Own automation team**

Creating our own team within the company is definitely cheaper for us, we build knowledge and expertise right from the start. Creating such a team, however, can take longer, and the level of quality does not have to be as high. It very much depends on the area in which the team will work. The team should definitely include people who are close to IT and business, and especially the people involved in the process. (Kaelble, 2018: 18-19)

#### **2.1.6.3 Center of Excellence (CoE) and consulting firm**

At best, of course, it is a good idea to make a compromise where we create a CoE in the company and the company's internal team learns from hired experts. The team calculates potential cost optimization and return on investment. In line with all the objectives set, it measures overall improvement, thanks to RPA. (Boulton, 2018) Therefore, both teams work on development and at the same time the company team gains new experience and can further develop it in the company. The CoE is the brain behind the company's automation, overseeing the right course and helping to identify potential automation projects. We can imagine it as an office with a team, with expertise and skills. Having a CoE means having access to the knowledge needed to achieve proper automation. (Kaelble, 2018: 19, 36)

#### **2.1.6.4 Robot as a Service**

In this option, the overall operation of the automated service is provided by the service provider. This type of service is most suitable for small and medium-sized enterprises, where companies do not have to invest in their own infrastructure and can thus work with the same tools as large companies. A company that leases a robot and related services does not need to invest in hardware infrastructure or have its own robot management team. The company only prepays the robot and all the costs that the robot carries. The company no longer takes care of additional maintenance fees or possible updates, all this is done by the service provider. (Smartech Orange, 2020)

### 2.1.7 RPA Platforms

We should consider the choice of service provider very much, given that the market is constantly evolving and becoming more and more financed, and therefore we can meet several RPA suppliers in the market. There are already over 70 vendors. Because not all process automations can be reused by another vendor on another platform, the cost of the change will be very high. (Taulli, 2020: 90-92) The most famous are Automation Anywhere (California), UiPath (Romania) or Blue Prism (Great Britain). The course of this work is focused on work in UiPath. (Tripathi, 2018: 17)

### 2.1.8 The Future of automation

Machines now perform activities that were once exclusively human, and it was not even thought that a robot could ever perform them. Over the years, there have been fears that robots could take over the work of workers and nowadays officials. However, reports show that only about 5% of jobs can be completely replaced by automation. Furthermore, only a part of the production can be replaced. It is possible that in those 5% there will be tasks that are routine, constantly repeated and predictable and so the most typical tasks for automation. With this change, however, comes the opportunity to make better use of human skills and leave work that does not require human thinking to robots. (Tripathi, 2018: 21)

The future is open to automation, and there is no doubt that it will constantly evolve and probably increasingly interfere with human life, whether we are talking about autonomous vehicles, a 3D printer or constantly evolving nanotechnology. (Tripathi, 2018: 22) „*Intelligent process automation or IPA (this may also be referred to as cognitive RPA): This is the latest generation of RPA technology, which leverages AI to allow the system to learn over time (an example would be the interpretation of documents, such as invoices). Because of this, there may be even less human intervention since the RPA software will use its own insights and judgements to make decisions.*“ (Taulli, 2020: 6)

## 2.2 Agile methodology

Agile approach is a set of methods and methodologies that help to work and think more effectively. The team shares information with each other and makes joint decisions. It is not only the manager himself who decides. Agile thinking involves open planning and thus improving teamwork. But it is all about the approach that people have in the team. (Stellman, 2015: 2) Thinking agile means a team that has an effective way of thinking and can deal with uncertainty. The team is determined to try a path that could work, get feedback, and further modify and adapt the path accordingly. (AgileAlliance, 2021)

Agile management is suitable for projects where there is no basic knowledge base for planning or we only have a rough specification for the costs and duration of the project or we know that a large number of changes will occur during the project, which will affect the scope and volume of work. (Doležal, 2016: 308) Agility allows greater assertiveness. Processes that are managed agile are more flexible and able to adapt more quickly to change, thus achieving faster visibility of the result and the team has more independence. (Warcholinski, 2020) The goal of agility is to bring the highest possible added value, even at the cost of having to leave the work done. (Doležal, 2016: 311) We therefore choose an agile approach if we know that the customer is available at all times and we can consult with him about the progress of the project. We know the customer is open to change and we have a flexible budget and / or schedule. We will use Agile mainly for a product for which we do not have an exact idea of the final version. (Kayser, 2021) The study Realization of Agile Methods in Established Processes: Challenges and Barriers points to cases where companies have taken agile measures without their knowledge often. He draws attention to the transition to agile methods, where project leaders' managers are used to leading a team, which suddenly becomes self-organized, so how they were used to managing and leading work is suddenly completely different and different rules apply. In addition, managers suddenly become leaders who have to manage multiple roles at once. They must be able to make quick decisions in a critical situation and constantly motivate and inspire a team, but at the same time they must remain an exemplary model for team workers. (Lugnet. J, 2021)



The agile approach focuses on making everyone on the team know what the other is doing, not on focusing on their own project work. Communication between members must not be missing and goals should be worked on as a team, not as individuals. Of course, everyone focuses mainly on their task, developers focus on development, project managers on task boards, refactoring, business users on planning and user stories. That's why there are retrospective and daily standups that allow team members to see things from the perspective of others. (Stellman, 2015: 39-40) It is true that the project manager in particular must have a constant overview of the colleagues in the team and their work. There is one simple reason, and that is, if the team gets into trouble and deviates from the plan so that it can adjust the plan and help face their problems. (Stellman, 2015: 3)

The key principle of agile management does not lie in the use of methods itself, but in two fundamental principles. The first is the incremental delivery, where the project products are produced gradually in smaller increments and the team always focuses on only a small part of the project. One increment equals the independently functional unit of the project. The second principle is the iterative procedure, where individual tasks are scheduled into stages of the so-called time-box during which a specified number of increments is created. (Doležal, 2016: 311) Therefore, software development is gradual. One of the iterative procedures is, for example, Scrum, or Kanban, or Extreme Programming. (Kayser, 2021)

### **2.2.1 Adoption of Scrum methodology into a team**

If the team is not used to working agile, it is good to involve a mentor who has extensive experience with this methodology. (Stellman, 2015: 109) Not all tasks are planned at the beginning of the project, nor at the beginning of the sprints, nor is it an overall pretext to come up with a final list of all tasks. As it often happens that a new task often appears during the project, another task will eventually take less or more time, but we still try to have an up-to-date list of tasks, make all decisions at the right time, and therefore at the last responsible moment. (Stellman, 2015: 114) No one is more important in the project than the other, juniors or seniors. The Product Owner should spend enough time with stakeholders to understand everything needed and then help the team get the same overview as he has, so each sprint can focus on issues and at the end do a

retrospective to see if they agreed with the expectations of all involved and improve new things in the next sprint. (Stellman, 2015: 120) Lugnet et al. in their study "Realization of Agile Methods in Established Processes: Challenges and Barriers" describe a case where an agile coach was hired to help introduce agile methods to the company. However, a problem arose because the hired expert was used to improving agile methods in an environment where agility already worked in some way, but could not cope with an environment that was just taking over agility. The study recommended that the company take an agile approach when the company's organizational culture is transported. Thus, employees are able to self-organize, there is trust between them and real support for teamwork is introduced. (Lugnet. J. 2021)

Values are very crucial for agility. The left value is always more valued than the values on the right (Maximini, 2015: 28) Agile methodology aims at better organization of work, it concerns not only developers but also management. (Knesl, 2009)

- Individuals and interactions over processes and tools

A team where members work together has a better chance of success than a team where everyone develops their own process. The tools should still be used, but we should only use those that really help us achieve a good result. (Šochová, 2014: 14) At the same time, it is important to constantly realize that people have their own emotions, ideas, preferences, so the team must be open and honest with each other. (Stellman, 2015: 34)

- Working software over comprehensive documentation

People buy products and they want to try the product and not be surrounded by documentation. Documentation is important for the product itself, but it should primarily serve as an opportunity to find an answer to a question in areas that are not easy to understand. Internal documentation can later be used to preserve knowledge of product architecture, but it must be concise and contain key information. (Šochová, 2014: 15)

- Customer collaboration over contract negotiation

It is better to still communicate with the customer during development than to deliver an unsatisfactory product at the end. Although at the beginning the

customer does not really know exactly what he wants and during the development he can change his opinion. Of course, the conclusion of a contract is necessary, but we can count on the fact that the scope of work may eventually differ, but even so, the contract must be as close to reality as possible. (Šochová, 2014: 16)

- Responding to change over following a plan

Technology is evolving at an incredible rate, as is the world and customers, and it is possible that at the end of the project, the customer will come with a big change, which is important for him in the further use of the product, as innovations have appeared on the market. The team must be able to react quickly, otherwise the customer will not buy the product. (Šochová, 2014: 17)

### **2.2.2 History**

Around the 1960s, there was talk that software development was broken. In the 1970s, Winston Royce, a Lockheed engineer, published a software development model that was popular but ineffective, later in the 1980s this method was known as the Waterfall process, the predecessor of Agile. He required that the whole software development process be described right at the beginning of the project, which was often not possible, and changes took place during the project. (Stellman, 2015: 26-27) The previous course of the project lacked freedom, there were many corporate rules that did not give creativity enough freedom and there was a lot of bureaucracy around, the general dissatisfaction with the Waterfall process led to the creation of The Manifesto for Agile Software Development. (Warcholinski, 2020) The Agile Manifesto, created by 17 people in 2001, contains four values and twelve principles. (Stellman, 2015: 33)

### **2.3 Scrum**

This methodology uses a short period of time called Sprint, at the end of which we can see a part of the finished and serviceable product that can be handed over to the customer. (Doležal, 2016: 314) In the Scrum team there are three roles Scrum Master, Product Owner and Development Team, three artifacts which are Product Increment, Product Backlog, Sprint Backlog, all these artifacts are mandatory in Scrum and must be transparent, ie anyone should have access

to them. To these are added five events Sprint, Sprint Planning, Daily Scrum, Sprint Review, and Sprint Retrospective. The number of people in a team should never exceed nine, this is because too large a group spends more time discussing individual things than subsequently doing them. Alternatively, we divide the team into sub-teams. If we can even put together a team only from internal people, it is always better in the context that we already have experience with them and we know that we can rely on them rather than people who are from the third-party suppliers. (Maximini, 2015: 29, 108)

*“Scrum in itself does not raise productivity automatically. It just makes problems transparent and allows the organization to solve them. This in turn does indeed raise productivity. “ (Maximini, 2015: 303)*

Transparency is very important for Scrum. Transparency applies both to the developing process and to the team that performs the work, as well as to those for whom the product is being developed. Because if transparency is low, there is a risk of misunderstanding and the value of the product may decrease. Transparency means inspection that adds value to a product. value and informativeness. (Schwaber, 2020: 3-4)

The team and sponsors create the product backlog, which is a list of tasks and functions that must be performed to create a product. Furthermore, a sprint backlog is performed, where tasks are scheduled according to priorities and logical continuity for approximately one month. Sponsors will see team results at the end of the month. The daily stand-up meeting is a daily five- to ten-minute meeting with information about the status of each member, what he did yesterday and what he plans to do today, at the same time informs about possible obstacles. The Scrum Master (leader and coach) tries to remove these obstacles or delegates the removal of the obstacle to the relevant person. Product owner creates and procures a product backlog. The team also has timeboxed month-long sprints, during which they try to meet all the requirements of each task from the sprint backlog. These sprints are two or four weeks long. (Stellman, 2015: 42-43)

### **2.3.1 History**

Scrum was introduced at Object-Oriented Programming, Systems, Languages & Applications (OOPSLA) conference in Texas in 1995 by two IT professionals, Ken

Ken Schwaber and Jeff Sutherland. Both men have already worked as software developers or as a project and line manager. In 2002, the Alliance was founded, which provided training and certification. Eight years later, they published the Scrum Guide, which contains official definitions of Scrum. (Maximini, 2015: 27-28)

## **2.3.2 Events in Scrum**

### **2.3.2.1 Sprint**

The Product Owner builds outstanding tasks according to priorities before starting with the team and Scrum Master to plan the entire sprint. Tasks are selected and compiled so that at the end of the sprint, the team can show a demonstration of the software. Sprints can vary in length, usually 30 days, but we can also meet with two-week sprints, depending on how the team adapts them. (Stellman, 2015: 89-90) However, it should not exceed one month. The calendar with sprints should be scheduled six to twelve months in advance. The sprints follow each other, there is no time gap between them. (Maximini, 2015: 109, 301)

If the development of the product is estimated for a longer period of time than the duration of the sprint, we must divide it into several components. (Doležal, 2016: 314) Sprint begins the Sprint Planning meeting and ends the Sprint Retrospective meeting, at the end of which a functional Product Increment will be created. The Product Increment will be created from the individual tasks that are in the Product Backlog. (Maximini, 2015: 29)

### **2.3.2.2 Daily Scrum meeting**

This is a planning meeting. This is a private meeting for the team only. These daily meetings are a good prevention against any risks and misunderstandings. The Daily Scrum is scheduled every 24 hours and the team replans the requirements in the Sprint Backlog. It is primarily about minimizing the risk. It is a basic feature of Scrum, if these meetings are not held, Scrum is not performed in our team. (Maximini, 2015: 29, 110, 302)

The entire team participates, including Product Owner, Scrum Master. The meeting is usually about 15 minutes long, during the meeting the brevity of each participant is required. Stakeholders may also be present during the meeting, an

advantage in that they see the product evolve over time. But Stakeholders only watches, they do not interfere in the meeting in any way. During the daily meeting, each employee should take the task from the "to do" panel and move it to "in progress" or to "done". The team should be able to talk to each other about their tasks and together choose a tasks for the next day. (Stellman, 2015: 90, 119) Everyone answers three basic questions: what they have done, what they will do today, and whether they see any obstacles. It is not a solution meeting, so if a problem occurs, it is resolved after its completion with only interested team members. (Doležal, 2016: 317)

People in the team should help each other solve possible problems, they should never be ashamed of their problem and they should be able to ask for help. The daily meeting is important so that planning is always just what is currently necessary to develop another piece of software. Colleagues in the team can advise each other on how to improve individual tasks, so every day we receive feedback that constantly improves the project. For better attention, someone else starts to answer the questions every day and the order is then further mixed. (Stellman, 2015: 110, 119)

### **2.3.2.3 Sprint Review meeting**

A sprint review meeting is held at the end of each sprint to demonstrate the functionality of the software being developed (Stellman, 2015: 90). During the meeting, the vision and the urgency are highlighted, and the evaluation of goals from the last sprint with current goals continues. (Maximini, 2015: 110) It should take approximately four hours. During which another finished function of the final product is passed. It is not possible to accept the product with any reservations or partial incompleteness, only if the whole part is finished. (Doležal, 2016: 318) He is open to anyone who wants to find out the results of the past sprint. (Maximini, 2015: 303) At the end, feedback with criticism and new ideas or opinions is required, especially from stakeholders who also attend this meeting. Any changes are included in the next sprint. (Stellman, 2015: 91)

### **2.3.2.4 Sprint Retrospective meeting**

This is the official end of the sprint and always takes place after the sprint, so that the team can look back at the work done and find out what worked during the

sprint and what could be improved. Only Scrum Team without guests is present. (Maximini, 2015: 303) During an approximately four-hour meeting, the team tries to get feedback from the past sprint and come up with experiences from which they can learn a new sprint. It is important that the team feels comfortable, because during this meeting, very sensitive topics such as delays or inaccurate estimates are discussed, but also, for example, processes or project tools. (Doležal, 2016: 318)

At the end of the meeting, we need to know the answer of what the team liked and what it would like to continue, and what it did not like and what it would like to stop, or whether they would like to introduce something new. The meeting is mainly about how each of the team felt during the sprint, what problems they encountered and how they were solved. Everyone answers the questions for himself, no one interrupts him. We can also write on pieces of paper marked with the words: "Start doing", "More of", "Keep doing", "Less of", "Stop doing", the leaves are then glued to the board. Another option is to create a timeline in the room and glue the color-coded leaves during the sprint. The moderator (can be anyone on the team, he can even change every time) at the end summarizes everything the team said. The meeting ends with scheduled actions that change or improve certain procedures. (Šochová, 2014: 71)

#### **2.3.2.5 Sprint planning session**

It is the official start of the sprint and its cycle. Before deciding, however, on the next steps, plans and vision, it is necessary to take into account the results of the last sprint and our Product Backlog (Maximini, 2015: 110). Two main points must be met during that meeting. The Product Owner and Team Development agree on what they want to achieve during the new sprint, and the second point is primarily for the Development Team, who must create tasks for the next sprint. The result of this meeting is the Sprint Backlog. (Maximini, 2015: 302)

During a sprint planning session, all team members should be active in order to feel more committed, committed not only to individual tasks, but preferably to the entire software development, and thus a collective commitment. (Stellman, 2015: 103) The goal is to determine the scope of work for a new sprint, where only a team is present and lasts approximately eight hours. The team agrees with the

Product Owner what specific part of the developed product to deliver at the end of the sprint. (Doležal, 2016: 317)

### **2.3.3 Scrum Artifacts**

#### **2.3.3.1 Product backlog**

A summary of all product delivery information, each item equals one part of the work. Anyone can add items to the Product Backlog, but only the Product Owner determines their priority, according to three main criteria. The first criterion is that the most beneficial components of the product have the greatest value, then we look at risk and we try to meet the riskiest items first, in case the project fails due to technical difficulties. The last criterion is the items that are quick to create, and we can quickly show them to the customer. (Doležal, 2016: 318, 319)

We cannot find out exactly what the Product Backlog should look like in Scrum, it is up to the team which method they choose. A very popular method is User Stories, which is described in more detail at the end of this chapter. (Maximini, 2015: 298) Thanks to it, tasks are sorted according to priorities, the most important User Stories are always at the top. (Šochová, 2014: 46)

The Product Backlog includes all development requirements and is the sole responsibility of the Product Owner. It is a transparent thing that is accessible to anyone at any time. (Maximini, 2015: 110)

#### **2.3.3.2 Sprint backlog**

The Sprint Backlog consists of tasks from the Product Backlog that were selected to complete the sprint during the Sprint planning Meeting, and these tasks should be transparent. Only a team, no one from the outside, is involved in its creation. All tasks are then divided into smaller ones, and at best, one small subtask should be completed by one member each day. (Maximini, 2015: 111) Items in the Backlog can be added by anyone and can be updated or corrected at any time, but only Product Owner determines their priority (Doležal, 2016: 319)

#### **2.3.3.3 Product Increment**

*"The Increment is the sum of all the tasks, use cases, user stories, product backlogs and any element that was developed during the sprint and that will be made*



*available to the end user in the form of Software.*" (Digite, 2021) Requirements are sorted by dependencies and business value. Long-term and short-term tasks should be the content of every sprint, because short-term ones bring results faster and long-term ones produce nothing for a long time. (Maximini, 2015: 111)

## **2.3.4 Roles in Scrum**

### **2.3.4.1 Product Owner**

This role is assigned to the person who is most interested in completing the project. The Product Owner is the one who has the greatest commitment to the company to which the product will be delivered at the end of the project. (Maximini, 2015: 113) He is responsible for managing the Product Backlog, which includes item spooling and communication. At the same time, the Product Owner must always be transparent, visible and comprehensible. (Schwaber, 2020: 6) He tries to make the team understand business goals as well as possible, because the more the team understands them, the more committed the team will be to achieving them. However, he does not manage the team or members in it, he only sets tasks and defines priorities over time, he spends most of his time with the customer, he must be able to balance his field of activity to be enough time with the customer, but to be always available to his team. (Šochová, 2014: 34)

He must try to avoid technical problems, or he must still maintain a sense of commitment in the team members, they should feel useful and important for the team and project. The Product Owner is therefore primarily the business voice of the team. It arranges for everyone to know what is to be done with a pending item (answers questions with the most accurate answers possible) and knows which items are the most important and valuable. Of course, it is the entire team that moves the top-priority tasks from the Product Backlog to the Sprint Backlog, but the Product Owner is their guide in the process. (Stellman, 2015: 95) He knows the requirements from the customer best, but he has no power to decide on them, he is not a technical expert, ie no developer or architect. His strong point is especially the communication and support of the whole team during the project. (Maximini, 2015: 291)

He must decide how the product will work, on behalf of the company. Of course, he does not have all the information, given that many users and stakeholders are involved in the project, who have different opinions and information. It is therefore up to the Product Owner to communicate with them correctly and often to obtain enough information for developers. He should try to get to the users' head to know what they have in mind with the developed software and about any possible changes. (Stellman, 2015: 140) He must know what is valuable to society. It is certain that the Product Owner will not understand all the technical details, which is fine, however, as the Scrum team consists of people where everyone has specific knowledge and skills and thus forms an ideal team. In the worst cases, the sprint may have been poorly planned or changed. The Product Owner must abort the sprint and return all outstanding tasks from the Sprint Backlog to the Product Backlog and start over. This happens, however, only in very exceptional situations. (Stellman, 2015: 104)

#### **2.3.4.2 Scrum Master**

The Scrum Master needs to find out an estimate of how much time each task will take for the whole team to work together. The best teams decide for themselves who will do which task, depending on who is less busy and has competent skills to do so. Self-organizing team works better than command-and-control teams. (Stellman, 2015: 104) Ensures that Scrum rules are followed throughout the project and seeks to remove obstacles that might prevent the team from following these rules. (Stellman, 2015: 135) Obstacles may not only be internal to the team but may also come from other company processes or purchasing, these obstacles are also solved by Scrum Master. (Maximini, 2015: 292)

His main task is to introduce Scrum, explain how it works and should therefore have the deepest knowledge. He monitors that Scrum's rules are followed and answers questions from all colleagues who ask him about Scrum. (Maximini, 2015: 111)

Scrum Master is a person who is an internal employee. Scrum Master does not need to have any technical or developer knowledge. Its main dominant should be its soft skills such as courage, openness, conflict resolution skills, negotiation and communication skills or good time management (Maximini, 2015: 293) According

to the study "Spearheading agile: the role of the scrum master in agile projects", it was found that Scrum Masters are most involved in mentoring and facilitating (69%), to a lesser extent caring for the process of adapting (31%) engaged in negotiating and protecting. All Scrum Masters who participated in the research had the role of an observer who came to the rescue only when the team needed to show the way, or a problem arose. (Shastri, Y. 2021)

He manages the project process, it should be a person with a personality, a great skill level and the team should respect it. He constantly tries to direct his people in the team to the goal of the project. (Maximini, 2015: 292)

Scrum Master shapes the team so that it is independent, effective and self-organized, motivates the team to better results, supports the team and individuals in their development, is receptive and resolves conflicts within the team. He is always available to the team. This role should not be combined with either the Product Owner or the developer, they could prefer the work of other roles over the work of Scrum Master (Šochová, 2014: 31-32)

A study "Understanding the Interactions between the Scrum Master and the Development Team: A Game-Theoretic Approach" by Karabiyik et al. focused on the interaction between Scrum Master and the development team, noted that the resulting effectiveness of the team at the end of the project depends on the effectiveness of Scrum Master leadership. (Karabiyik, T. 2020) He oversees compliance with deadlines but has no decision-making power. This is a position that the team does not have to contain, in which case, however, the team must be able to manage itself and be able to self-organize. (Doležal, 2016: 316) In the research "How agile teams make self-assignment work", the authors point out that it may happen that the self-organization of the team does not benefit at all. Team members may not feel comfortable having to choose the tasks to work on at once, this may be due to a lack of confidence or lack of practice. Managers often choose a method where the most skilful person gets the most urgent work. The authors of the research point out that it is better to ask for a volunteer to take on the task, in general, such tasks are taken only by experienced people, but thanks to this choice, they still feel that they have made their own decision. At the same time, the manager can let the team look around the tasks on their own and

let them create pairs for the tasks, for example, or so that the senior can help the junior with the selection. (Masood, Z. 2020)

#### **2.3.4.3 Development Team**

Team members, transform individual requests from the Product Backlog to a Product Increment. For each sprint they try to select the right amount, of tasks and if they fail Scum Master will help them. This one is not only about developers, but also about team collaborators who contribute to the completion of the desired result, such as architects or testers. Everyone on the team must trust and know that they can rely on each other. In order to achieve everything correctly, we must know what motivates them and what drives them, then their work will be a degree better again. (Maximini, 2015: 111-112)

The team usually has about seven members, is cross-functional, so it contains all the necessary professional activities. Team is also in contact with the customer to have the closest possible access to the assignment and expectations of the final product. (Doležal, 2016: 315) Team members should be employed full-time and preferably sit in one office, for the proper sharing of knowledge and experience, they can also help each other faster, the team builds common know-how. (Šochová, 2014: 37)

If we are composing a completely new team and we do not know how many members with technical knowledge should be included, we will take the same number of testers as programmers with an architect. If we are hiring a completely new member, it is good to have him create a presentation about his current work, which he will present to the whole team. After the meeting, a discussion will take place, where the current members have the opportunity to ask about his experience and then the whole team can decide whether to accept him or not. If he is accepted, he will be better integrated into the team, as the team chose him himself. (Maximini, 2015: 294)

The values of the Scrum team are courage, commitment, respect focus and openness.

*"Each person is committed to the project's goals."* Everyone in the team has the authority to make decisions in the planning and implementation of the project in order to achieve the goals. *"Team members respect each other."* Mutual respect

in a team is very important, not only for trust, but also for the right work. The programmer respects the Product Owner and vice versa. *"Everyone is focused on the work."* Multitasking is not suitable here each team should work on one project and have a mind focused only on it. *"The teams value openness"* Everyone in the team is regularly informed about the stage of the project and whether the project's goals are being met. This is aided by the Daily Scrum Meeting, where the individual challenges and progress are discussed. *"Team members have the courage to stand up for the project."* The most important thing for a team is to deliver valuable software and therefore knows the values and principles that help complete the project. He believes in what he creates. (Stellman, 2015: 105-107)

The Research "Interruptions in Agile Software Development Teams" points to unforeseen events or interruptions during product development in the Agile team. These interruptions can be diverse. These are mostly external influences such as emails, calls or co-workers requesting information. Research also points to team redesign, such as restaffing or onboarding, as disrupting team-work. The study shows that all these interruptions and disruptions from concentric work have negative consequences such as increased pressure on the elaboration of other tasks, procrastination, and employee performance, thus reducing the quality of the manufactured product or increasing the time for its processing. Each negativity has also its positivity, because when one worker is interrupted, the other, on the contrary, receives the necessary information or feedback thanks to him. The information in the team has a better flow and work efficiency enters. In addition, the transfer of knowledge and creativity increases, because the shift of attention stimulates other perspectives on the matter and the employee comes up with new ideas. Thus, productivity and a certain independence of the worker increase. (Wiesche M., 2021)

The research comes with an optimal solution for a team that suffers from a high rate of interruptions. It suggests setting up timeboxing, through signals or auxiliary tools that will suit the team. Each member of the team sets them according to the time of their concentration, so they will have their time to concentrate on their task and will not be interrupted. Conversely, a signal is set for cases where help is urgent and requires immediate action. (Wiesche M., 2021)

## **2.3.5 Tools in Scrum**

### **2.3.5.1 User story**

A tool that helps to get into users' heads. This is a description of how the software will be used. It is usually one to four sentences long. (Stellman, 2015: 143) This defines the individual items in the Backlog. This specification of each item tells who is the recipient of the value, what exactly the product should do, what expectations or benefits should be met. Each user story is unique in that it always addresses one expectation and at the same time benefits the customer, as it brings a certain value for him. Furthermore, it can also be estimated in order to be able to imagine the amount of work and testable, so there are criteria according to which it is possible to assess whether a given product works. (Doležal, 2016: 319-320) Conditions of satisfaction can be listed on the other side of the "card". (Stellman, 2015: 144) The advantage is that an analyst who thinks about the functionality of the product, a developer who thinks about the behaviour of functionality, but also a tester who looks for bugs and options where the product could break work from the beginning on every user story. Together, they think about error scenarios, which is very important for future development. (Šochová, 2014: 36)

Every user story should meet the word INVEST. Thus, being Independent, user stories are not interdependent. Negotiable, user story is well described and explained so that the team understands its functionality. Valuable, this is a valuable article for users, we know why this user story is being created. Estimable, because the team understands the functionality of the user story, can also evaluate it correctly. Small, team must be able to complete it in half the sprint and the last one must be Testable, we know that after testing the user story will be ready. (Šochová, 2014: 50-51) On average, it takes five user stories to evaluate two hours, but gradually it gets better one sprint usually contains five to ten user stories, the largest user story lasts a maximum of half a sprint. (Šochová, 2014: 62-63)

### **2.3.5.2 Scrum Board**

Boards with partial tasks of individual user stories and which are gradually moved from Backlog to in progress and at the end to done column. (Doležal, 2016: 320)

A group in a team or an individual always works on only one task, which he either completes or passes on. (Šochová, 2014: 55)

#### **2.3.5.3 Burndown chart**

A graph that shows how much work is already done, its pace and how much work (user stories) remains until the end of the sprint. (Doležal, 2016: 321)

#### **2.3.5.4 Story points**

Each user story gets a certain number of points. The number of points depends on its time intensity. We take the task from the Backlog and compare it with the task from the last sprint, we give it the same number of points. (Stellman, 2015: 146) Alternatively, we choose one item to evaluate as a baseline and use it to evaluate the others. Different scoring scales are used, for example story points 2-5-10 or sizes as for the clothing S-M-L-XL. (Doležal, 2016: 322) If there could be any technical challenges during the task, we increase the points. (Stellman, 2015: 147)

Furthermore, the appropriate number of story points is determined, which the team is able to process during the sprint. The final division is simple, add the number of story points and divide it by the number of sprints. (Doležal, 2016: 322)

#### **2.3.5.5 Planning poker**

Another way to rate user stories is by Planning Poker. Each team member has a deck of cards with pre-agreed values. Gradually, one user story after another is taken, each of them is briefly explained what it is about, what the result should be and its possible complications, during which each of the team can ask for another information. The poker itself then consists in the fact that everyone evaluates the user story according to the difficulty by their card from their deck. Then all the cards are revealed at once and the team members with the highest and lowest values explain their choice. This is followed by a discussion where the team agrees on the difficulty and value or repeats it again. (Doležal, 2016: 323)

### **3 METHODS**

This chapter presents the research methodology that was used to analyze the data of this work. First, the research method is described, their limits, then the recording equipment and, last but not least, we can find there the description of the interview. This chapter also includes a description of the interview settings and the interview flow.

#### **3.1 Research method**

The aim of this work is to find out whether robotic process automation is an innovation that fundamentally helps the company and is reflected in the effectiveness of the company. After considering possible ways to obtain the most authentic information and data from companies that have undergone robotic process automation, we finally decided on qualitative research, where data collection takes place through a semi-structured interview. This form of interview allows us to prepare questions for the individual providing the interview in advance, which helps to better manage the interview. At the same time, it allows us to ask additional questions during the interview to help complete the interview. To find out the goal of this work, three interviews were conducted. Two interviews are from companies that have undergone or are currently undergoing RPA, and the third interview was conducted with a consultant from a company that helps companies with automation. All interviews were conducted with Czech companies, one was conducted in person, the other two were conducted online using the Microsoft Teams application. Only one interview was interrupted because of the weak internet signal for about a minute, otherwise there were no technical problems during the interview. The interviews were very positive and friendly despite the fact that we met with the companies for the first time and two interviews were conducted online. In addition to answering the questions, I tried to look at body language, in case the questions could become too sensitive to answer, after all, it is sensitive data of the company, which is guarded by each company. The questions were selected on the basis of a search of professional literature. They have been compiled to help us answer our research question, whether RPA is an innovation that fundamentally helps companies and will be reflected in the effectiveness of the



company. The interviews were one-round, we received all the answers in the first round of interviews and therefore the interviews did not have to be repeated. The interviewees were very open to cooperation and answered all the questions asked. All the conversations were very open and honest. All questions were agreed, and none were excluded from the original question list.

### **3.2 Interview limits**

As part of this research, it was planned to conduct interviews with companies that have already completed automation. The first difficult task was to find such companies at all. Several companies that were contacted did not even respond. That is why, in the end, we were happy for the company where the automation is currently underway, and we realized that thanks to this, we are actually gaining a different perspective, which the other two interviews cannot provide us with.

### **3.3 Recording equipment**

Concerning interview audio recording equipment, as two interviews were conducted online and only one in face-to-face form, no professional recording equipment was used. For a face-to-face conversation, a mobile phone was used for recording, and for online conversations, recording was started in the Microsoft Teams application. In the online form of the interview, a mobile phone was still used for guarantee, for the case that the recording of the interview did not start or the interview was not saved correctly in the online storage. Before the interviews were recorded, the mobile and online communication platforms were always tested. Before each interview was started, the reason for the interview was explained once more and the permission to record the entire interview was confirmed.

### **3.4 Interviewees**

As already mentioned, three interviews were conducted together. Two interviews were from companies that were approached on recommendation, and the third interview was conducted with a consultant who helps with automation in

companies. Due to the sensitivity of the data, all interviewers wished to remain anonymous.

The first company focuses on the sale of microcomputer technology, their range also includes robotics, the ability to print on a 3D printer according to the range offered. The company has grown very quickly in recent years and automation should help it manage further growth more comfortably. The company is in the process of automation and it has mapped processes for automation. The interview was conducted with the owner of the company.

The second company operates in the field of insurance. Automation was performed across departments. Two and a half years have passed since the first automation. So they have the ability to look back and see the results of automation. The interview was conducted with the director of the IT department.

The third interview was conducted with a consultant of a company that has been dealing with robotic process automation for several years. He has many years of experience both with the automation itself and with consulting for companies that, for example, already have an automation team, but need to supplement their knowledge. The consultant also conducts various trainings for complete beginners and for those who want to learn more about the topic of robotic process automation.

These three interviews were chosen, given that each of them has a different view of RPA and it will be interesting to compare these three views. The first company, as already mentioned, is in the process of automation, so it knows what RPA will bring, what it entails and already has some experience with RPA. He still has expectations and an assumption about how the automation will take place in the end and how it will help the company. On the contrary, the second company has already completed automation, so it has experience with both process analysis and automation itself, as well as with subsequent commissioning, and can thus describe its several years of experience with RPA. We get a third look from a consultant who sees RPA from a professional point of view. He has experience with the introduction of RPA in many companies and knows what leads companies to automation in general, how automation takes place across companies and

how companies are subsequently satisfied with RPA, how robots were actually accepted into companies at all.

### **3.5 Interview settings**

As for the recording equipment, the interview was done once directly in the company when a mobile phone was used to record. The conversation between the company and the consultant took place online, using the Microsoft Teams application. All interviews took place within two weeks of June.

Although this work is written in English, the interviews were conducted in Czech and subsequently translated. Due to the fact that these are Czech companies, it was easier for them to communicate in their native language. In the first company, where we met with the owner, we conducted an interview in a meeting room for the convenience of the interview, where no one disturbed us. The online calls were made from home, where I knew that there would be suitable conditions for the conversation, ie silence, a stable internet connection and no one would be interrupted by the conversation. For each conversation, both parties tried to find a quiet place where no one would disturb us, but there were some disturbances. For example, interviewees were interrupted by an incoming call or a colleague from work who needed advice, for a while we also lost the internet connection, or the quality of the microphone was not so high, and therefore the sound was not so good. All scheduled interviews were successfully conducted and the necessary data were obtained for qualitative research of this work.

### **3.6 Interview flow**

All the conversations flowed very naturally and in a friendly spirit. Their duration did not differ much. They lasted various times from about 15 minutes to an hour. As for my role as an interviewer, I tried to listen to the interviewee and not interrupt them. I tried to focus on a non-evaluative attitude, above all I tried to listen and be neutral at all costs. I was actively involved, especially when we moved on to the new question.

During the interviews, I focused only on the interviewee, I did not write any notes next to the paper, nor did I record any thoughts. So, I could only focus on our interview and pay full attention to the interviewee.

Regarding the interview flow itself, I prepared the questions in advance. Since I knew that the interviews would be held in Czech, they were prepared only in Czech.<sup>1</sup> Two versions have been prepared. The first version was for companies that have gone through or are going through automation. The second set of questions has been modified for the consultant as he sees things from a second perspective. However, as this is a semi-structured interview, mainly pre-prepared questions were used, but if the situation required, additional questions were added during the interview. The interview was divided into four categories. The first category focused on the company's transition to RPA, the second category contained issues specifically in terms of automation, the third part was the economic or economic side of RPA and the company and the last category focused on subsequent experience with RPA. These four areas were the same for both the company and the consultant, only the wording of the questions differed.

I always started the interview so that the interviewee could reconsider the answer to the first question. The interviewee had time to better share his experiences and opinions, or to think about prediction, in the case of a company that was in the process of automation. The first was an interview with a company that is in the process of automation, then with a company that has already automated, and finally with a consultant.

### **3.7 Transcription**

The Folker transcription tool was used to transcribe the interview, which was introduced to us during the Methodology of Qualitative Research lessons, where we also learned the basics of working with GAT 2 transcription conventions. Folker is a tool that was developed at the Institute for German language and uses GAT transcription conventions and allows us to correctly rewrite the interview (Schmidt & Schütte, 2010). The English version was used to rewrite the interviews. I first transcribed the interviews in Czech and then translated them into

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<sup>1</sup> You can consult the English version of the interview questions in annexes

English. Due to the extensiveness of some of the interviews, I decided not to rewrite the entire interviews, but only selected parts that are suitable for our qualitative analysis.

Figure 1: GAT 2 transcription conventions

|                                    |              |   |
|------------------------------------|--------------|---|
| <b>Sequential structure</b>        | [ ]          | Overlap or simultaneous talk                                    |
| <b>In- and outbreaths</b>          | °h / h°      | In- / outbreaths of appr. 0.2-0.5 sec. duration                 |
|                                    | °hh / hh°    | In- / outbreaths of appr. 0.5-0.8 sec. duration                 |
|                                    | °hhh / hhh°  | In- / outbreaths of appr. 0.8-1.0 sec. duration                 |
| <b>Pauses</b>                      | (.)          | Micro pause, estimated, up to 0.2 sec. duration appr.           |
|                                    | (-)          | Short estimated pause of appr. 0.2-0.5 sec. duration            |
|                                    | (--)         | Intermediary estimated pause of appr. 0.5-0.8 sec. duration     |
|                                    | (---)        | Longer estimated pause of appr. 0.8-1.0 sec. duration           |
|                                    | (0.5)/ (2.0) | Measured pause of appr. 0.5/2.0 sec. duration                   |
| <b>Other segmental conventions</b> | ah, eh, oh   | Hesitation markers, so-called “filled pauses”                   |
| <b>Laughter</b>                    | haha, hihi   | Syllabic laughter   |
|                                    | ((laughs))   | Description of laughter   |
|                                    | <<laughing>> | Laughter particles accompanying speech with indication of scope |
|                                    | <<:-)> so>   | Smile voice   |
| <b>Continuers</b>                  | hm, ehm      | Monosyllabic tokens   |
|                                    | hm_hm, ye_es | Bi-syllabic tokens  |
| <b>Other conventions</b>           | ((coughts))  | Non-verbal vocal actions and events                             |
|                                    | (xxx)        | One or two unintelligible syllables                             |
|                                    | ((...))      | Omission in transcript  |

(Selting, 2011)

In order to differentiate the speaker in the interview, I used abbreviations F1 for the first company that is currently undergoing automation, F2 for the second company that has already undergone automation and C for a consultant who helps companies with automation. Below you can see a sample interview transcript.

*{0:32} C overloaded teams lack of new people on the market poor hiring or °h of course looking for some financial savings*

*{01:20} F1 it is like rewriting data from one software to another*

*{2:28} F2 and the process was probably processing that incoming mail*

## 4 RESULTS

This chapter discusses sequence analysis. It further analysis and interprets selected parts of the interview in subchapters.

### 4.1 Sequential analysis

To analyse and interpret the interview, I first rewrote important parts of the interview using the FOLKER program mentioned above and then continue with sequence analysis. Since I did not rewrite the whole interview, I tried to elaborate the sequence analysis in as much detail as possible. For sequence analysis, I created a table in Word with eight columns that present: phase, sequence, sub-sequence, time, speakers, content, memo, relevance for the research question + annotations.<sup>2</sup>

The first column "*phase*" indicates which part of the interview it is: questioning or the concluding phase. The next column contains the "*sequences*" section. In the sequential section, the interview was divided into five sequences. The following two tables show the shortest and longest sequences for each interview.

Table 1: The longest interview sequences

| Interviewee | Sequence                              | Length of sequence |
|-------------|---------------------------------------|--------------------|
| C           | Subsequent experience with automation | 17:55              |
| F1          | Economic part                         | 6:51               |
| F2          | Automation                            | 14:12              |

Table 2: The shortest interview sequences

| Interviewee | Sequence   | Length of sequence |
|-------------|------------|--------------------|
| C           | Final talk | 0:06               |
| F1          | Final talk | 0:05               |
| F2          | Final talk | 1:46               |

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<sup>2</sup> You can consult the detailed sequential analysis in annexes

The side column contains subsequences, the number of which differed only slightly in each interview. The number of sequences is shown in the following table.

Table 3: Total number of sub-sequences per interviews

| Interviewee | Number of sub-sequences |
|-------------|-------------------------|
| C           | 31                      |
| F1          | 26                      |
| F2          | 27                      |

The next column "*time*" shows the length of each individual subsequence. The next column indicates the speaker to see who is speaking in that subsequence. There is also a "*content*" section where the main theme and ideas of each subsequence are explained. The penultimate column is a "*memo*" that indicates points of interest or remarks that occurred during the interview. "*Relevance for the research question + annotations*" is the last column that lists other possible research questions and notes.

As already mentioned, there are a total of five sequences in the sequence analysis. The first sequence is "*The company's transition to RPA*", where companies explain why they switched to RPA and where the consultant explains what leads companies to transition to RPA most often. The second sequence is "*Automation*". This sequence contains information about how the automation took place and how the processes were selected for automation. The third sequence is the "*Economic part*", where companies discuss the economic part of automation, how the saved time and money increased and when the return on investment occurred. The penultimate part deals with "*Subsequent experience with automation*". The company (F2) and a consultant described the subsequent experience after automation, how satisfied the companies are and whether they are going to automate further. The second company (F1) is in the process of automation, so in this part it was rather estimated what everything will look like after automation. The last sequence was "*Final talk*", when I thanked the interviewee for the interview and said goodbye. The initial phase of "*Initiation with the Introduction talk*" sequence is omitted, because before the recording started, we finished the introductory information and slowly moved on to the first question.



## 4.2 Selection of categories

After finishing the sequence analysis, I continued to the selection of categories. The interviews were divided into four categories in order to be well-analysed and interpreted. The categorization into these categories is done in the way, which represents the most correspond parts for my research question. The categories are as follows: 1) The company transition to RPA, 2) Automation, 3) Economic part, 4) Subsequent experience with automation.

## 4.3 Analysis and interpretation of categories

The subchapters will describe in more detail the above-mentioned categories, which will be analysed and interpreted. Excerpts from all three interviews will show the interviewee's experience, perceptions and opinions. The interviews were conducted in Czech, but due to international understanding, the excerpts of the interviews were translated into English. The translation was done as authentic as possible in order to preserve the meaning of the message and to get a correct understanding of the resulting work.

### 4.3.1 The company's transition to RPA

Most often, companies are led to automate a lack of people or the need to speed up processes. If a company develops quickly, often does not catch up with its work, it needs time savings. In other cases, it is about saving money or it is about improving customer service or creating more varied and fun work for employees.

*{0:32} C overloaded teams lack of new people on the market poor hiring or °h of course looking for some financial savings*

*{00:44} F2 we wanted to speed up the processes improve the quality of the outputs and especially [eh] what we were burning as much so it was a lot to move the process to a more professional way because as it was before there were a lot of manual things and colleagues [eh] did a lot of different errors*

*{00:10} F1 we have several separate systems as we gradually grew rapidly which can not talk to each other there was a constant rewriting of data from one software to another just so that another system could work with it from another system to another system and so we looked for some connection between those systems*

Because RPA is very versatile, it can be applied across different departments. It is mostly used in the finance and HR departments, where the work is most automatic. However, we can also see the software robot in the operational or IT department or in the system across the company.

*{1:38} C it is usually finance or HR and then it gets to some kind of operations or IT but it is mostly human resources because there is just a lot of routine work or finance where you work with numbers*

*{2:11} F2 it is actually one department that cares – it is a filing room that handles all the incoming things (.) but then it has an impact on different departments because it goes to about five or six departments*

*{00:50} F1 We are trying to find RPA solve those places (.) across the spectrum of the company there is no one specific point that we will address*

In the companies in which the interview was conducted, it was the process that processes incoming mail and further transcription of data between software that is used across departments.

*{01:20} F1 it is like rewriting data from one software to another*

*{2:28} F2 and the process was probably processing that incoming mail*

Sometimes it happens that the company has a well-thought-out process that it would like to automate, but as stated by C, during the analysis it is found that the whole process cannot be automated, and smaller units of the process are selected. F2 was surprised by a check box with which the robot could not fully cope. This company had a proof-of-concept done before the start, so that the hired company would first show them how all the automation actually works. Another obstacle now for F1 and F2 is the instability of the appearance of invoices or received files. However, each process was eventually automated, although in the end some whole was omitted.

*{2:40} F2 we did the proof-of-concept first that we chose a company that was able to show us if it worked or not at all*

*{4:32} F2 the tools can not handle the ticks*

*{5:14} F2 there is a pile of documents that someone scan and put it in pdf he may be scanning it with a phone or something or a scanner with something not entirely good quality ((...)) it is crooked or it is poorly scanned, so it is grey all over there are some streaks across it*

*{1:40} F1 i think there will be a big problem with deliveries invoices we wanted to automatically process invoices which will not be a problem within the country but when we talk about abroad because we work a lot with european countries, but also with china, japan, we have partners there and new zealand and they all have some format of invoice everything they denote differently (.) and it is very difficult to teach the robot to be able to work with every invoice from every supplier of which we have dozens (.)*

*{2:21} C it happens in the third case that it is found that the whole process as the client originally wanted to automate or simply had a wish so that it does not make sense for example smaller units (.) are chosen from it as if the situation is not happening or i have not encountered it as if we came to the conclusion that the whole process does not make sense*

The transition to RPA is very fast. From the very beginning, when the company decides to automate, to the analysis until the sharp deployment into operation, it takes from half a year to a year, when the company has a robot integrated into its infrastructure.

*{4:45} C depending on the size half a year to a year when the technology seems to be fully integrated into the unit*

*{5:20} C half a year to a year before it gets into some of their migration plans and some others as a follow-up infrastructure within the company*

### **4.3.2 Automation**

The number of processes for automation varies from company to company. We can see one to several process units that are automated in companies. Companies often look at it, but according to the consultant, they look more at the hours saved, which is in the thousands.

*{10:48} F2 so far the one [eh] that is in the filing room then there is the second process it was again that a particular colleague in a department receives some of this sorted mail to their department so she spreads the emails to another twenty-five colleagues again there was one lady who did it full-time every day and we also replaced that and now the robot scatters it like this*

*{2:36} F1 ten of those key processes for receiving goods processing documents processing complaints (.) some simplified order processing return*

*{5:43} C the number of processes is a terribly variable number and does not really mean anything mostly they look at it through the lens of the clock how many hours all the processes we have in operation has been saved and that's in the thousands*

After a company decides to automate and has mapped the processes that go through automation, it starts with the one that is most easily automated in terms of technology. Or, conversely, the process that will help the company the most from overload.

*{6:07} C if the company does not have anything yet we are starting a process that °h will be as easy to automate as a technology*

*{3:17} F1 we will just process those withdrawals from the contract and those complaints which is the interconnection of the retino system which handles complaints very comfortably for that user it is for paired with that e-shop but it is not paired with accounting so it is not paired with that shipping system*

The number of robots to be deployed also varies. The F2 company started with only one, but as the volume of work grew, more were gradually added.

*{14:15} F2 in the beginning there was [eh] only one we gradually added the agenda, so we bought another robot (.) now we have three robots because the volume of that work is growing and we absolutely use the time of that robot (.) [eh] to use it as efficiently as possible*

Both companies approached automation in a similar way, each of them first hired a consultant who trained them and who helped them create their own team, which will then take care of the robots. C also states that there may be a way when the part is automated internally and the part externally and gradually only the transition to internal automation. It always depends on what the company needs the most. Primarily it is the experience and knowledge of the consultant and at the same time the speed of deployment of automation in the company.

*{18:32} F2 we have just one colleague here who is full-time hired and has another colleague on his behalf and he solves it and then we have the outsourced technical support team*

*{4:04} F1 now it will be through a senior advisor who will help us here [eh] and teach us how to work with those processes where are the places we can process and train us here*

*{10:40} C most of the external forces °h are automated partly internally partly externally but for the most part it is usually always external in those early stages it means that you have I do not*

*know, maybe two thirds to one you do one third internally and you do two thirds externally and slowly flip the ratio up to one third internally, for example as an extreme two thirds internally*

*{11:09} C primarily the company reaches for those externalists even for more money for the reason that of course as a much-anticipated experience knowledge and this at work will always shorten the time of adaptation within the company*

Automation itself has various disruptions and almost never goes exactly according to plan. Just like company F2, she was surprised by check boxes that the robot could not handle. According to the consultant, however, the biggest problem is the human factor. That is, people's thinking that needs to change and an explanation that a robot is helping them and not the other way around.

*{19:42} F2 just the clicks but we found out before that was in the proof-of-concept so we prepared for it in the realization*

*{12:50} C it almost never goes according to plan ((coughs)) but it gets better over time*

*{13:04} C mostly the biggest problem out there is the thinking of those people it is usually the biggest problem you will face I think the technology can be deployed anywhere*

The automation plan is not disrupted by running out of money or miscalculating, because technology can be used everywhere, but the human factor plays the biggest role.

*{15:04} C usually in terms of money when a company starts doing automation it does not end and packs other things other technologies*

### **4.3.3 Economic part**

Saving money is big, we can talk about tens of thousands, hundreds of thousands to millions, depending on the process. At the same time, saving time is also revolutionary for companies. Work that previously lasted two or three days is now processed in minutes, hours at most. In total, in a matter of days and weeks, we get to units of hours. This is almost half the time saved by one employee.

*{15:33} C it is hard to say from the table like that because the money comes from time and that is based on some hour rate too some hour rate from the average wage within a segment which [eh] is just like millions hundreds of thousands*

*{20:20} F2 the sorting (.) took 2-3 days before the team of people processed it and then the robot did it in minutes hours at most*

*{22:25} F2 from units of days to sort we got to units of hours and (.) from units of weeks perhaps two or three weeks of extraction for that data we got to a few hours in that process*

*{5:16} F1 we can talk about tens of thousands per month. I think the savings will be 30,000 - 40,000 crowns*

*{16:59} C I have seen processes where the savings were quietly 50% which was like a lot but they were processes that were really machine-driven in the sense of just creating some kind of reporting and similar things that are really machine-related*

*{17:19} C But let's say from 50% to 30%*

The robot can take up to 98% of the work of a process previously performed by humans. Furthermore, in reality, a robot can help a person with 80% of his work. So, it is realistic that a robot can do the work of one worker, ie work fourty hours a week.

*{17:57} C we are just dealing with a process where the robot takes up 98% of the process that humans originally did*

*{20:31} C from the original estimate it must be 80% 70% of what is then really automated*

*{4:43} F1 in certain positions, it may be 30% - 40% of a person's work*

*{5:47} F1 i think it is realistic that one worker will actually be available for extra activities*

Deployment of the robot does not affect the salary of employees. It does not increase or decrease in any way. Rather, it is really a matter of employees doing different work, more creative and interesting. They will start doing more valuable work for the company.

*{20:46} C it does not affect me. Usually, even those employers see very well that they will take those employees two hours and those two hours he will do something more creative something more interesting he will communicate more with the client he will look for new opportunities*

*{22:47} F2 We did not cut employees' salaries.*

*{06:15} F1 Certainly not, it is more open to them to do things where they are more valuable and where their potential can be shown and of course that salary can grow*

After automation, there were no redundancies in any of the companies. They just did not hire new employees, in one company two people retired, so they just did

not hire new ones and in the other they cannot even hire at the moment because they do not have enough work-space. The consultant himself never encountered a case where an automation took place in a company and employers laid off employees.

*{22:04} C i have never encountered it*

*{23:10} F2 about two or three people retired they were no longer recruiting new ones (.) so the team was reduced by retiring and then some employees got a completely different job*

*{06:30} F1 we are really growing year on year so I am still dealing with how much we increase so we probably will not increase as much in such a short time (.) and which is good for us too because we do not even have a place to give those people anymore*

Expenditure is stable for each company, there was no surprising increase in expenditure.

*{23:29} F2 it costs us the two million in four years that is the expense, that it costs us*

*{07:21} F1 sure but it is not at the expense of downsizing here we want to move those people upside down to build that value for the business*

As for sales, in F1 the company was the basic goal, to increase them. At F2, these were parameters rather than sales due to its non-commercial focus.

*{24:17} F2 somehow our sales did not increase it was more about those parameters*

*{7:40} F1 that is the goal of the business of course*

*{22:35} C the benefit is then long-term at the time the fact that they do not hire so many new employees thus reducing their wage costs*

The cost of running a robot consists of hiring an external consultant to help build a team and bring knowledge and then license the robot. The composition is stable and does not increase in any way in the future.

*{25:51} C it could be that we do the analysis i get the licenses*

*{26:17} C usually we are talking purely about the work of that externist that is a developer analyst an architect a consultant*

*{24:33} F2 the biggest part was the implementation (.) and now we have the operating costs we pay (.) that is some tens of thousands a month every year one robot costs fifty thousand without*

*tax like the license we have three so one hundred and fifty thousand a year plus there are some operating costs of the order of tens of thousands per month for that technical support (.) so the price is relatively low*

*{7:54} F1 i think for now it will be enough for us the free capacity within that robot that we do not assume that there will be the maintenance fee so rather there will be costs in units of less than hundreds of thousands (.) let's say 200,000 - 300,000 crowns we will pay to learn how to work with it*

Automation and continuous deployment of robots in the company, in no case had any significant effect on the operation of the company. Her performance has not changed in any way, at most the team or department tends to be a bit busier than usual. It's all about planning your automation at the right time. For example, the F1 company planned it for the summer season, when they have a slightly looser regime than around Christmas.

*{27:03} C i would say no that °h you will not actually stop the whole department, the whole team, the whole company you stop some part of a team or unit or you stop or you do not stop you make a team temporary more workload*

*{26:02} F2 company performance certainly did not slow it down (.) on the contrary*

*{9:12} F1 we planned it for the summer when we have such a slow regime in terms of those customer sales for us christmas is (.) the most intense but i do not think it will definitely get us stuck of course it will take us some extra time (.) it is always there but i think the intervention will be minimal*

The return on investment in RPA is very fast, we can expect it after half a year. The F1 company states that the return need not only be seen in money, but also in that its employees will create additional value for the company and thus the return will accelerate.

*{27:57} C half a year to a year mostly*

*{26:16} F2 so it paid off in half a year back the cost (.) maybe a little faster*

*{8:40} F1 i think it has been about a year or so*

*{8:53} F1 if we take this purely we can also consider here that the person will create some additional value increase sales so of course the return will accelerate with this*



The biggest benefit for companies is the zero-error rate, which both companies praise and this is one of the reasons why they resorted to automation. The consultant himself claims that the robot cannot even make a mistake. Flawlessness has a clear consequence in further speeding up the processing of documents, because it is no longer necessary to search for where the employee made a mistake.

*{28:13} C the robot will make no mistake*

*{10:23} F1 those mistakes are one of the main points that the robot should break down because those mistakes will inadvertently make a terrible mess*

*{24:08} F2 in my opinion the biggest benefit is that the error rate has decreased and the speed has increased significantly*

The work of a robot varies from company to company, some of it loads it to the maximum to work really twenty-four hours a day. F2 thus had two robots totally occupied, and subsequently decided to buy a third, which is already working on 60% of its capacity. Companies want to make full use of the potential of robot, working twenty-four hours, seven days a week. Although the robot will work at the company in F1, suddenly, when he is needed, he will always be at hand and ready to perform his tasks even after working hours.

*{28:54} C surely it is in the order of 18-16 hours at least because if you take the robot they usually deploy some process [eh] that takes maybe 8 hours and add some smaller ones to it*

*{26:52} F2 now we have two robots few months ago we bought the third they were driving all the time they were basically overloaded and they were running twenty-four times seven then we needed to buy the third one which meets for example 60%*

*{10:58} F1 we want to make full use of it so i hope that he will be able to fill that capacity (.) but i think it will always be more of a sudden moment when some invoices for processing and delivery notes arrive*

The robot can work continuously, but only when the job arrives, it receives an email or a form and it queues and processes it.

*{11:36} F1 it would be ideal for me if the robot was waiting somewhere for the stimulus for example that he received the email or the form and he queued it*

#### 4.3.4 Subsequent experience with automation

C sees the disadvantages in automation mainly in the fact that companies often let in someone external into their internal and sensitive information, they have to show their know-how and subsequently for these things the person will not be responsible, but a thing, a robot. So, the biggest problem may be in the trust of the company and after the inclusion of the robot in its new hierarchy.

*{29:38} C it means that you transfer part of some know-how knowledge of some processes some activities in that company into the hands of something other than the standard as it used to be*

*{31:31} C some processes are simply sensitive in principle because they contain some employee or client data or financial data and at some point you have to actually trust one of the RPA team of course this is supported by the fact that there is an addition to the fact that these people have access to data*

Automation also has disadvantages, F1 states that people will subsequently stop being able to understand those processes and could stop understanding what they are doing. The general problem is otherwise only inclusion, where each worker is afraid for their chair. At company F2, they promised from the beginning that they would not fire the employee. F2 sees that it will take some time for people to learn to work with the robot and begin to reach its full potential.

*{27:30} F2 people were afraid of it from the beginning (.) because of course everyone is afraid for their chair on the other hand we have declared that we will not dismiss that we will use people for something else (.) and now basically those people are happy for the robot.*

*{12:05} F1 there is a risk that first people will stop know the processes °h will stop seeing a little in them which may result in °h not fully understanding what they always do*

*{12:35} F1 maybe the only thing that will take some time for those people to learn to work with it and use that robot's potential*

In order, for the company not to regret it at the end of automation, it is necessary to set the right expectations right at the beginning. Then the companies and the hired consultant understand each other and they both know what to expect in the end. It never happened to a company that once started automation would subsequently regret it. C states that if expectations breaks up, it is not about interrupting

automation, but about finding the right way to go, whether to expand the process or another part of the agenda.

*{33:09} C i would not say he would regret it [eh] there it is very important to set expectations at the beginning what the person or the team or the manager director sponsor expects ° h because if you set it well as we understand from the beginning we know what to expect at the end of the automation*

*{33:30} C once started you automate till today*

*{33:37} C i would not say he regretted or that it happened (.) it happened a few times that we actually came across it that it did not bring what was expected and it was not like that they regretted it, but it was more like looking for a way to get to what we expected from it, and it is like extending the process to another part of the agenda or another part that will be more interesting*

C has its tactics for better integration of the robot into the company, so just name it. The company F2 RPA presented at the meetings, stated the reason for automation, and how such automation will take place at all. F1 has a young team of technicians, so they do not see any big problem in adopting RPA, even though it was the first or second thought of some colleagues. It is very important to correctly explain what RPA is.

*{34:30} C it is easy [eh] to name it*

*{28:37} F2 i have always presented the topic of why we do it how we do it at a management meeting i motivated my colleagues to provide their own ideas for the processes we want to automate and somehow we succeeded*

*{12:46} F1 i do not so °h we are now quite a young team of technically capable people so i do not think so*

*{13:03} F1 maybe even such a 1st or 2nd idea was that some colleagues was afraid (.) but i think that if it is explained to them well it is not a threat for them they will accept it well*

When it comes to helping with automation and integration, what the company itself expects, depends very much on the company's initiative. Whether C only has to complete the assignment on the robot or give them their own opinion and assess whether what they are doing makes sense.

*{35:18} C a lot depends on how proactive there the people are or what they expect from that collaboration there are collaborations when they expect from it that not only i will show them*

*everything, i will say that the process is ok, i will give an opinion at least on whether this is what they do or are going to do makes sense, because i have some practical experience that they do not have or just expect from it that they give me the assignment and i will just make it even if i give them the opinion that i might not do it like this, but i will make it like this anyway*

The acceptance of a robot, according to C, depends on several factors. In the age group of people, where younger people tend to have a minor problem with this, but older people are very sceptical until they see with their own eyes how a robot helps them at work. In the end, they are actually very excited because they see the robot clicking on them on the computer itself. This is also confirmed by the F2 company, where people, when they saw in reality that the robot was helping them, accepted it very quickly and were very happy for it.

*{36:02} C often there is often resistance in the beginning and a lot depends on the age group of people [eh] younger people usually do not have a problem with that right from the start and they usually seem interested older people tend to have a problem with this until you show them how it works (.) then they stop being afraid*

*{36:29} C when they first saw what it is that he is clicking on instead of them working for them and then they were left with only some of the cases and he was supposed to deal with the rest so they were actually excited*

*{29:22} F2 eventually people saw how the robot worked and they accepted it (.) he helps them on different fronts*

The integration of robots is not specified in any way, several of them can be deployed at once, but they are practically deployed, in the process as they are developed. One thing is the deployment of the robot and the other its operation. Otherwise, the robot can behave in the development environment and otherwise in production. These differences are then fine-tuned in live operation.

*{37:58} C continuously as it comes (.) it is not a problem to deploy several of them at once but in fact as they are developed you immediately deploy and throw them into production because °h the switching or deployment the migration to that production brings with it a lot of other problems pitfalls ((coughs)) because you see it in a different environment than it then works*

After deploying the robot in the team, the work of the team does not change. Rather, these people do a different job than before, managers know before

automation what the new content of people will be, who will lose their jobs thanks to the robot. At F2, the team was expanded by hiring colleagues to take care of the robot. Given that F1 is in the process of automation, it assumes that thanks to this, employees will be more involved in the development of the company and will be able to cooperate more with the team.

*{39:45} C usually it happens very quickly that [eh] the team is dealing with the capacity in the sense that the managers know what to do with that capacity actually they meet those people and explain the fact that they will do different work for two hours and the old work the robot will do because the employee will have time for new work (.) but it is mostly spontaneous it automatically moves on to what the employee did not catch up with until then*

*{29:55} F2 we just arrived a colleague who deals with it 100% (.) it was actually the only change to the team and another colleague who represents him in those operational matters*

*{13:45} F1 i think it will allow us more to get those people involved in the development of the company in a new direction to create new value*

*{14:03} F1 it gives them more opportunity to cooperate with the team that is de facto building that progress for the future*

As for the principle of team leadership, it usually remains the same. F2 used the waterfall method during the first implementation and only later switched to Scrum.

*{40:20} C i have not noticed any other principle yet maybe once i experienced somewhere that these people were assigned to another team but it was more extreme than what usually happens*

*{30:13} F2 every development team has a different approach someone is going to scrum someone is going to waterfall (.) this is more like scrum because these are such smaller things that are used of course the first implementation by the external company was waterfall*

Before automation begins, companies have some ideas and expectations. At F2, expectations have been even exceeded, and at F1, everything is going as planned. Companies know they can expect some savings, but they often do not really know how big. It is important to continuously validate the results and then adjust the automation path

*{41:45} C the transformation is ongoing sometimes more intense sometimes more gradual but in the end you always achieve that goal just by continuously validating the results*

*{42:42} C it is a bit of a fact that the company does not know at the beginning what to expect from it like how big the savings are they know they have to expect the savings but they do not know how much the savings will be*

*{31:17} F2 we significantly exceeded expectations*

*{14:15} F1 so far this fits everything as you imagined*

In the end, they are very surprised how much savings they eventually made. That it is not just a few hours, but a few tens, hundreds to thousands of hours.

*{43:11} C usually the company or people expect less savings than you eventually generate in the beginning they do not know how much to expect even if it is just an hour so you are actually successful they are of course tens hundreds thousands of hours*

Companies see how automation helps them, how they save time and how they relieve employees from work. This leads them to further automations in the future. F2 is now just going through a system update, when there is currently priceless to automate. However, as soon as the system stabilizes, further automations are planned. F1 also sees the future in this. People have to work and think about it and not rewrite tables from one to another.

*{32:20} F2 definitely (.) once the CORE system we are implementing now stabilizes there will be in my opinion a number of other stimuli to automate again*

*{15:35} F1 I am sure other processes will come i think the trend is set in this way around the world these people think more do not to click from table a to table b data*

The benefits may vary, depending on the size of the company. Smaller companies primarily want to increase their work capacity. One employee no longer has to do everything, but he can focus mainly on one particular thing and does not have to hire a new part-time worker, for example. For large companies, it is also about time, but it is more about saving money.

*{44:30} C you do not look for that benefit in those smaller companies as much in the money as in the saved capacity where everyone is used to plus or minus doing everything and suddenly i can do something completely different what would we have to hire a temporary worker for*

*{44:52} C even with a big company it is about time but he looks a lot more at the money*

The last question was the same for everyone, I wanted to know what they themselves see as the greatest benefit. C sees the greatest benefit in more efficient use of employee capacity. The knowledge of senior employees and their know-how will be used in the development of the company, which is the most valuable for every company and, of course, employees do more meaningful work and bring greater benefits to the company. F2 sees a new technology that helps free their hands from routine mouse clicks. The company F1 is pleased that he can offer its employees a job that makes sense, and that in this century, this boring job is not done by humans, but by robots.

*{45:30} C for me the biggest sense i always see there is that you are actually making more effective use of the senior experienced people you already have there than to get rid of them because the most valuable thing every company actually has is actually know-how the experience of the people who create and do the work there °h if i allow them to use their seniority in something more meaningful in my opinion this is the long-term benefit*

*{46:25} C i can do more meaningful work as an employee and actually bring more value to the company in what I do*

*{32:39} F2 we got a new technology in the company that really helps (.) this is the future of freeing our hands with work that has a greater benefit say of a mental nature than just those manual works that do not move us anywhere but we have to make it so this frees our hands and we can move elsewhere and closer to client for better communication*

*{14:32} F1 i like that just the people i am employed here will not do work that does not make sense to them the work that the robot can replace*

*{15:17} F1 i see the great benefit of being a little free we can modify the robot ourselves and at the same time teach the systems to work together (.) and so people will not do the unnecessary activity that a computer should do in the twenty-first century*

## 5 DISCUSSION

In this chapter, I would like to comment and critically evaluate my qualitative research. I analysed the interviews and compared their agreement or possible disagreement with the available literature and available articles.

Regarding the methodology for answering the research question of this work *"Is the robotic process automation an innovation that fundamentally helps the company and is reflected in the effectiveness of the company?"* Qualitative research was conducted based on interviews with two companies. One of them is over two years after the implementation of RPA and the other is just during the implementation and the third interview was conducted with a consultant who implements RPA in companies and educates their employees.

I chose the topic of this work based on my internship, which took place in the field of robotic process automation. First, thanks to the Faculty of Economics of the University of South Bohemia, I learned about a possible internship in the South Bohemian Science and Technology Park, and then I followed up on an internship in a company that provided training for participants during the internship. Working with the company showed me new possibilities of automation and increased the awareness that routine and fun can be done in the 21st century by robots and not humans. My company manager was a very open person who explained everything to me carefully and helped me understand how software robots work and help people. The knowledge that I gathered in the company subsequently helped me to solve the problem of this thesis. I could see it first from the page where I tried to program the robot myself, but then also from the office and control side. Thanks to this experience, I was able to have a more critical and objective view of the whole work, overall, I can judge that the experience not only of mine, but also of the interviewees was suitable for this qualitative research.

The purpose of this work was to receive several opinions, experiences and views from companies, or consultants who have already undergone, are undergoing or have daily experience with robotic automation. A semi-structured interview type was performed to obtain the necessary data. This type of interview allowed me to prepare questions in advance and at the same time change their order or add additional questions, for a more detailed answer. I would say that this type of



interview was well suited to this research, as I would not have to get such detailed information from other forms of interview, and I could lose some important answers.

Regarding the conduct of the interview, since the two interviews were conducted online, the MS Teams tool was used, the third interview was conducted on the basis of a meeting, so it was recorded on the phone. MS Teams was a very ideal tool due to the general availability and great technical support, where it is available to more or less anyone with a link and the quality of interviews is high. If I could meet all the interviewees in person, the atmosphere of the interview would certainly be a little different again. Even so, I believe that MS Teams, or an online form of interview, allowed me to obtain the quality data I needed.

Two other companies were contacted for the interview, which unfortunately did not respond back to the email requesting an interview. I received contacts for companies based on recommendations. Once the companies responded, it was easy to make an appointment, the longest was waiting for the first response. Finding a company that would be willing to have someone outside look into their internal affairs without a non-disclosure agreement was somewhat difficult, even though all interviews are anonymized, and the results are intended for school purposes. Mainly Czech companies were addressed. Due to the fact that even in the Czech Republic it was difficult to find respondents for the interview, even on the basis of recommendations from known contacts, I can not imagine looking for respondents abroad. Thanks to the fact that companies could speak in their native language, I think that the respondents could have been all the more open and honest than if they spoke a foreign language and were constantly looking for a suitable vocabulary.

Regarding the transcription of the interviews, due to the large amount of data and extensive answers, the entire interviews were not transcribed. Only relevant sections were selected and used later for qualitative analysis. As for the language of the transcribed excerpts from the interview, they were first transcribed into Czech and then translated into English for international understanding. The translation was done as authentically as possible to avoid losing its meaning in the translation. As the entire interviews were not translated, the emphasis was all the more

on sequence analysis, which contains deeper details from the interviews and will provide readers with a better insight into the interviews.

The following four main categories were selected for the analysis and interpretation of all interviews: The company's transition to RPA, Automation, Economic part, Subsequent experience with automation. The interviews were divided into these categories so that the information from the interviews was passed on clearly. The questions were arranged to cover the whole topic. It started with general questions, progressed deeper into the experience of companies and more sensitive questions about the economic side, the interview let the interviewee express their own opinion on the whole automation and summarize their knowledge, feelings and impressions. Each category contains several questions, which will be discussed in the following paragraphs and compared with the literature.

The following paragraphs present each of the above categories, which represent interesting parts of each interview. As already mentioned, the categories will be compared with the literature and available articles. It should be noted that robotic process automation is still a new topic, enough professional literature is fleeting and research has been on the order of the last few years, sometimes even missing.

Regarding the first category, called "*The company's transition to RPA*", all the interviewees rated their company's transition to RPA very positively and it can be stated that they all had a common goal. The interview showed that frequent reasons for automation are overloaded teams, lack of new people in the market, improvement and acceleration of processes. Thus, the shift to higher professionalism, minimization of errors and deprivation of employees of repetitive and routine work. This finding can be confirmed in the Taulli literature (2020). However, the interviews pointed out that automation can be implemented both in a specific spectrum of the company and across the company, where the processes involve several departments.

Most often, however, we see robotic process automation in departments such as HR or finance. These departments also mentions Taulli (2020) in his book. Thus, these are processes where data are automatically rewritten from one software to

another or documents are automatically sorted, and Kaelble (2018) deals with this and other findings in his work. In order to avoid selecting processes that ultimately cannot be automated, proof-of-concept is often done, as did one of the interviewee, who, thanks to this, then knew what to prevent during automation and was not surprised by anything. Processes that should have been automated from the beginning can be automated. The same findings are reported by Taulli (2020). In addition, the company's transition to RPA is very fast. The duration varies from the complexity of the processes and is about half a year to a year. However, the net deployment of RPA in production is in the order of one to three months. The data from Trask (2021) agree with the findings from the interviews.

Regarding the second category, dedicated to "*Automation*", all inquiries agreed on the benefits of automation. The number of processes that were designed for automation varied from company to company, varying according to the size of the company. But companies look more at the number of hours saved, or how much work a robot replaces a human. Tripathi (2018) also writes in his work on saving hours as the bonus, which companies rely on. As for the process itself, our inquiries usually began to automate a process that was in a hurry or the simplest. JavaTpoint (2018) lists this step as the first phase, and so find the client's requirements and decide which processes should be automated.

My interviews showed that of all the possible options for creating own RPA team, the most popular is just one, and that is to hire a consultant who will bring knowledge to the company and teach internal people from the company how to automate. So, companies will gradually build their own team. Boulton (2020) and Kaelble (2018) also mentioned this possibility in their article and literature. This is a logical process, as all the acquired knowledge remains in the company into the future and can thus be further developed. As for the automation plan, there is always some disruption, but usually the biggest problem is in people's thinking, otherwise the robot can be deployed anywhere. The worst is when the robot is deployed in a production environment, and something goes wrong. In that case, it takes back and evolves, as described by JavaTpoint (2018).

The third category, called "*Economic part*", concerns the economic part of companies. All respondents pointed out that RPA in this section always brings higher results than expected. In addition, thanks to RPA, the company achieves better

results very quickly. The most important point, thanks to which most companies decide for RPA, is saving time, as confirmed by the interviews conducted in this work. The process, which took days, is now completed within hours, saving money in the hundreds of thousands and millions, a similar example is given in the book by Taulli (2020). The percentage of the robot at work varies in different positions, it can be 30-40% of human work, but when it comes to the process dedicated to automation, it can take up to 98% of the process. Kaelble described similar percentages in his literature (2018).

During the interview, the question was also raised about the reduction or increase of salaries after the deployment of RPA. All respondents agreed that the deployment of the robot has no effect on the salary of employees, at most in the future it may increase due to the savings that RPA has brought. Unfortunately, due to the novelty of the topic, there are not enough and relevant professional materials available to substantiate these answers. I would say, however, that this is a very interesting and appropriate question for further research. As for the dismissal of employees, in none of the cases did the respondents encounter anything like this, rather, on the contrary, their permanent workforce was always used for more necessary and creative work. These statements agree with the text from Kaelble (2018).

Expenses and sales are one of the other reasons why companies choose robotic process automation. The expenses are more or less the same for each company, namely software licenses and payment of a consulting company that will bring knowledge to the company. This knowledge fits beautifully into the article presented in by Smartech orange (2021), which deals with the comparison and costs of individual methods of automation. As for sales, they are seen mainly in the long term, when they are gradually increasing, it is also one of the main benefits that companies choose for RPA. As described by a study by Deloitte, which reports percentage productivity in its survey, after the application of RPA in the world and in the Czech Republic. Furthermore, if we talk about the deployment of the robot in the company and its performance during the deployment, all respondents agreed that the deployment of the robot had no effect on the operation of the company. At most, employees were a bit busier than usual, as described by AI Multiple (2021), interviews with employees take a lot of time.

If we focus on return on investment, this is an important point for companies why to choose RPA. As the return on investment, as confirmed by all respondents, is within half a year to a year, so very quickly, so does Taulli (2020), who mentions a period of about a year in his literature. In terms of error reduction, one more major bonus, each interview confirmed that reducing error is the biggest benefit, because the robot will never make a mistake. These knowledge are also written in the book of Kaelble (2018), which describes that a robot makes a mistake only on the basis of human error and therefore that certain information is not correctly passed to it. The robot is otherwise an almost unstoppable worker, both companies are trying to make full use of it in one, even two robots are running just twenty-four hours, seven days a week. Kaelble (2018) deals with the fact that robots do not need a break or are never sick. It confirms that robots do not need a lunch break or go to bed and is still very powerful, so it can work around the clock.

As far as the fourth category, which deals with "*Subsequent experience with automation*", respondents more or less agree on the pros and cons of RPA. Although some disadvantages were found, the pros always outweighed them, and companies did not regret their decision for RPA.

The biggest disadvantage that the interviewers mentioned is that people can gradually forget the processes that the robot does, and when it breaks, there will be no one to do those processes. However, this disadvantage has not been mentioned in any literature yet. I would say, however, that this is could be also a very interesting and appropriate question for further research. The second disadvantage is that people are afraid that they will be replaced by robots. Of course, if everything is explained correctly, people will not be afraid. Pyramid Solutions (2019) also comes up with this knowledge about transparency. Incorporating a robot may seem like a science, but it is enough to name it as a new employee and explain to employees correctly what the robot's task will be, that they will still have enough work to do. It also depends on the age group of people, where young people accept it better than older people, who are just afraid of their place in the company. Of course, when they see how a robot helps them and relieves them of routine work, they are very happy for it. The same problems and solutions are given in the literature by Kaelble (2018).

As for the leadership of the team, after the deployment of the robot, there is more or less no change, new colleagues are sometimes accepted to company, they will take care of the robot. Existing employees can be more involved in the development of the company and do more creative work that is more fun for them, as also Taulli (2020) writes. Regarding the project management method, Scrum is used more, because these are smaller things that are used, Scrum is the most advantageous for them, as Stellman (2015) writes, because tasks can arise unexpectedly during the project, and it is necessary to be able to react quickly to them.

The idea from reality often differs. However, the perception of RPA interviewers has been significantly exceeded or as described by the consultant, it is always important to set the right goals at the outset and with the right ongoing validation, which Scrum can help with, according to Stellman (2020) articles. Kaelble (2018) writes about setting goals correctly at the beginning. Regarding future plans, companies agree that they will continue to automate, as they see the future, great help and, above all, better use of employees. Tripathi (2018) shares this view, and therefore that this change brings a lot of possibilities and work that does not require human thinking can remain with robots.

The consultant was asked about the differences in benefits for small or large companies. The answer was that small companies look mainly at the time, large companies also, but they are more inclined to save money. This statement cannot be refuted or confirmed due to the lack of expert research and articles, but it is an opportunity for a new research question. Personally, I agree with consultant, because there is still lack of time in small companies and start-ups. In general, everybody usually does everything, even though it is not his job. The last point of this category is the benefits that the interviewers themselves saw, based on their previous experience. The interviewee sees the point in the fact that superiors can make better use of the experience of their people, cultivating the know-how of company, that they have a new technology in the company that really helps and thus frees employees' hands from boring and routine work. At the same time, work gives employees meaning and helps create new value for the company. These are all bonuses that the authors of the professional literature Taulli (2020), Tripathi (2018) and Kaelble (2018) agree with.

## 6 CONCLUSIONS

The aim of this diploma thesis was to find out whether "The robotic process automation is an innovation that fundamentally helps the company and is reflected in the effectiveness of the company? "

To achieve this goal, we divided the thesis into theoretical and practical parts. In the theoretical part we first described what robotic process automation (RPA) is, its benefits and disadvantages, the correct choice of processes and subsequent integration into the company among employees, the chapter also contains details about Agile project management and Scrum, which is widely used in the world of technology, then we described the research methodology of this work. In the practical part, we analysed the various parts of the interview in terms of the use of RPA in companies.

Based on the results obtained by qualitative research, i.e., the analysis of interviews with companies that have implemented RPA, are currently implementing or implementing RPA is their daily work, we have reached the following conclusions.

Companies are opting for RPA as they look for ways to save time, money or reduce process errors. Their teams are often too busy, but for various reasons their superiors do not want or cannot hire new employees. A virtual worker takes up no space, is never tired and helps with tasks that used to take several days, but now only take a few hours.

The process to be automated must follow certain rules. It has to be constantly repetitive, routine and not requiring human thinking, as stated by our interviewee, who had a robot for sorting incoming mail or rewriting data from one software to another. However, these processes must be well thought out in advance so that there are no misunderstandings in the process and everyone is satisfied in the end. If the process is well thought out, it can be helpful not only in one department, but also across the company.

The robot can be fully loaded and work twenty-four hours, seven days a week, without breaks. It can thus replace the work of several employees, sometimes it can take over most of their workload and they can thus devote themselves to far more important and more meaningful tasks for the company.

RPA also pays off for companies from an economic point of view, the return on investment is usually up to half a year to a year and the deployment of the robot is similar. The employer costs the robot at the beginning of its creation, possible acquisition of knowledge and then only a license, usually even in the contract from the manufacturing company a few hours for a possible repair of the robot are included. Employers will use the money saved either for bonuses for senior employees or to expand the company's scope. The initial fear of the employees for their place, after a correct explanation of what an RPA is and how the robot will help them again, will slowly disappear. True acceptance occurs when a frequently named robot, a new virtual colleague, is involved in the operation and employees see how much it helps them and frees their hands from routine work. Expectations are often exceeded, and the company does not regret the new technology.

The analysis of all interviews confirmed both hypotheses. At first, we proceeded from the hypothesis that RPA has great benefits for companies, and they do not regret the automation. This hypothesis has been fully confirmed. The benefit was seen in the companies immediately after the deployment of the robot. The robot could work around the clock, not needing a sleep or a lunch break. What ordinary employees did in a matter of days, he managed in a few hours. The time and money saved were seen very quickly. Consequently, companies did not regret automation either in terms of a new addition to the team or in terms of economics, because thanks to the saved capacity, employers were able to use existing employees for new and more important tasks. Employees were able to involve their creativity and participate more in the development of the company. The return on investment always manifested itself very early.

The second hypothesis was that the integration of the robot into the team does not have a great influence on the employees, they are happy for it and it is above all their new helper. In the beginning, perhaps every employer has to fight the initial distrust of employees in the new technology and the idea that their work should now be done by a robot. They need to reassure them that they will always have their job and that they will only have new tasks, so they may be able to engage their creative thinking and their work will be more fun for them.



In the end, all employees were very happy for this news and accepted the new virtual colleague with joy. When they saw the robot clicking on the computer behind them and they no longer have to fill in and rewrite the same data every day, they were very excited. They name their new colleague and take him among themselves as a new helper. Thus, integration has no effect on employees and, if so, very positive, as they are exempt from lifeless tasks. The robot will almost become a full-fledged colleague, who has become their new assistant in the department. It should be mentioned that no one was fired from the company due to the deployment of RPA. This hypothesis was also confirmed.

The interviews revealed a lot of new information to us, which is why a sequence analysis was performed, which allows us to look more into the interviews. You will find this section in the annexes. As well as interview questions and field note of the interview.

This research not only provided an answer to our research question, but also raised new questions for further research, such as how effective RPA is in reducing or increasing salaries or comparing benefits and efficiencies for small and large companies. For companies that are currently opting for RPA, this work can be a good summary of the pros and cons. So a good helper in deciding whether to decide for RPA, whether they have suitable processes and automation would pay off for them.

In conclusion, we can see that RPA is really an innovation that helps companies and in the efficiency of the company, it can be seen very soon. It helps them to have more satisfied employees, because their workload is valuable, developing and thus helping the company to develop more and move to a higher level. RPA also helps companies with their economic part, saving them not only money, but also time and increase sales. It reduces the error rate of employees and thus improves the quality of the work of the entire company. RPA is a relatively new innovation, which, however, is gaining more and more companies with its profits.

## 7 SUMMARY

The aim of this diploma thesis is to find out whether the robotic process automation is an innovation that fundamentally helps the company and is reflected in the effectiveness of the company. These findings are created on the basis of a theoretical framework and analysis of several interviews.

The work is divided into theoretical and practical part. The theoretical part first deals with what robotic process automation is. Introduces readers to details of new virtual colleagues in companies. Furthermore, the chapter deals with agile team leadership and introduces the Scrum methodology. The next chapter describes the methodology of this work. Conducting interviews and research is described in more detail.

In the practical part, a sequence analysis is first introduced, which discusses each of the interviews in more detail. The chapter also presents a selection of categories that divide the interviews into several parts. These categories are then analysed in detail in the chapter and selected excerpts from the interviews are rewritten. The last chapter of this work is a discussion that compares the literature and articles with excerpts from the interviews. It confirms or refutes their veracity and allows insight into the theoretical and practical part of robotic process automation.

The work is completed with a conclusion. It is followed by a summary, references and appendices, which contain a list of questions from the interviews, a field note of the interview and a sequence analysis.

**Keywords:** Robotic Process Automation, Scrum, software, automation, robots, agile, virtual colleague, RPA

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## ANNEXES

### Annex 1: English version of the interview questions for companies

#### Category 1: The company's transition to RPA

|   |   |
|---|---|
| <b>Prepared question:</b>   | <p>What led you to RPA? (At what point did you start thinking about automation?)</p> <p>In which department did the automation take place?</p> <p>Did you have a process that was supposed to be automated, but in the end, it was not automated for some reason?</p> |
| <b>Extra questions asked during the interview with F1 and F2:</b> | X   |
| <b>Prepared possible extra questions:</b>                         | What process was automated?   |

#### Category 2: Automation

|   |  |
|---|--|
| <b>Prepared question:</b>   | <p>How many processes have you automated in the company?</p> <p>What automation method did you choose? (creating your own team, outsource team, RaaS, CoE)</p> <p>Did the automation go according to plan?</p> |
| <b>Extra questions asked during the interview with F1 and F2:</b> | Will you have your own team to take care of robot in future?   |
| <b>Prepared possible extra questions:</b>                         | <p>Which processes did you start?</p> <p>How many robots were used in total?</p>   |

#### Category 3: Economic part

|                           |  |
|---------------------------|--|
| <b>Prepared question:</b> | <p>How big was the time, money saving?</p> <p>How much % of the job does the robot?</p> <p>Has there been an increase / decrease in the salary of employees?</p> <p>Have employees been laid off?</p> <p>What is the current composition of the robot's operating costs?</p> <p>How did RPA affect the company's cost and performance structure? (Has automation slowed down the company / quick start?)</p> <p>How long after automation did you have a return on investment?</p> |
|---------------------------|--|

|   |   |
|---|---|
|   | Has your error rate in a workflow that has been automated reduced?                      |
| <b>Extra questions asked during the interview with F1 and F2:</b> | Will it be a robot that works alone, or will the employee always have to turn robot on? |
| <b>Prepared possible extra questions:</b>                         | Has spending increased?<br>Has sales increased?   |

**Category 4: Subsequent experience with automation**

|   |  |
|---|--|
| <b>Prepared question:</b>   | How many hours a day does the robot work?<br>Do you see any disadvantages after automation / currently?<br>How did the robot integrate into the company?<br>After deploying the robot, has there been a change in team leadership?<br>What did you promise from automation?<br>Are you planning further automation in the future?<br>What do you see as the biggest benefit in the end?  |
| <b>Extra questions asked during the interview with F1 and F2:</b> | Won't the employees think the robot will take their job and you fire them?   |
| <b>Prepared possible extra questions:</b>                         | Were there any negative consequences after automation? (Economically, culturally)<br>Did you have any tactics for its inclusion?<br>How was the robot finally accepted by employees?<br>Did you integrate the robots at once or gradually?<br>Does Scrum have a problem in leading the team?<br>Has another project management method been used?<br>Were there any negative consequences after deploying a robot in the team?<br>There was an agreement on the idea vs. reality? |

## Annex 2: English version of the interview questions for consultant

### Category 1: The company's transition to RPA

|   |   |
|---|---|
| <b>Prepared question:</b>   | <p>What leads companies to automation most often?</p> <p>How often do you find out during analyses that the process that companies want to automate in the end cannot be automated?</p> <p>How long does it take to switch to RPA on average?</p> |
| <b>Extra questions asked during the interview with F1 and F2:</b> | X   |
| <b>Prepared possible extra questions:</b>                         | Which departments are most often automated and which processes are most automated?  |

### Category 2: Automation

|   |  |
|---|--|
| <b>Prepared question:</b>   | <p>How many processes are automated in companies?</p> <p>What kind of way of automation do they most often choose? (creating their own team, outsource team, RaaS, CoE)</p> <p>Is automation always going according to plan?</p> <p>Did something unexpected disrupt the implementation process?</p> |
| <b>Extra questions asked during the interview with F1 and F2:</b> | So, is it more simply the human factor that disrupts the implementation process than that the money runs out, that the cost of automation is calculated incorrectly?   |
| <b>Prepared possible extra questions:</b>                         | <p>Do you have a procedure for choosing which processes to start with?</p> <p>How many robots were used in total?</p>  |

### Category 3: Economic part

|                           |   |
|---------------------------|---|
| <b>Prepared question:</b> | <p>How big is the saving of time, money?</p> <p>How many % of work does the robot most often take?</p> <p>Is there an increase / decrease in the salary of employees?</p> <p>Have employees been laid off for automation?</p> <p>Do you have an overview of the economic part of companies?</p> <p>After how long is the return on investment?</p> <p>Is there always a 100% reduction in the error rate of the process?</p> <p>How many hours a day does a robot usually work?</p> |
|---------------------------|---|

|   |  |
|---|--|
| <b>Extra questions asked during the interview with F1 and F2:</b> | <p>What is the percentage of time saved?</p> <p>I have employees and I deploy a robot to help an employee, so how much% of that work will the robot take?</p>  |
| <b>Prepared possible extra questions:</b>                         | <p>Has spending increased?</p> <p>Have sales increased?</p> <p>What is the composition of robot operating costs?</p> <p>How did RPA affect the company's cost and performance structure? (Has automation slowed down the company / quick start?)</p> |

#### Category 4: Subsequent experience with automation

|   |   |
|---|---|
| <b>Prepared question:</b>   | <p>What are the possible disadvantages after process automation?</p> <p>Do companies have any tactics to properly integrate a robot into a company?</p> <p>After deploying the robot, is there a change / disruption in team leadership?</p> <p>There is a consensus among companies' idea vs. reality?</p> <p>Given the size of the company, can the benefits vary?</p> <p>What do you see as the biggest benefit for companies?</p> |
| <b>Extra questions asked during the interview with F1 and F2:</b> | <p>Can a company face any disadvantages after automation?</p> <p>Do companies sometimes be surprised at how big the savings were?</p>   |
| <b>Prepared possible extra questions:</b>                         | <p>Have you ever saw that companies regretted of automation?</p> <p>Do you also help them with integration?</p> <p>How is a robot accepted by employees?</p> <p>Are robots integrated all at once or gradually</p> <p>Could you see another method of team leadership?</p> <p>Could you see any negative consequences?</p>  |

### Annex 3: Field note of the interview with F1

|  |                   |
|--|-------------------|
| <b>Interviewer:</b>  | Tereza Kastnerová |
| <b>Date of interview:</b>  | 10/06/2021        |
| <b>Time of interview start:</b>  | 15:29 pm          |
| <b>Interviewee's name:</b>   | F1                |
| <b>Interviewee's nationality:</b>  | Czech             |
| <b>Location of interview:</b>  | České Budějovice  |
| <b>Permission to use the audio-record:</b>   | Yes               |
| <b>Permission for usage for university purposes:</b>   | Yes               |
| <b>Themes that emerged, memorable quotes, anything that stood out:</b> <ul style="list-style-type: none"><li>- According to F1, RPA is the technology of the future that frees hands from routine work</li><li>- F1 explains that their company is relatively young and still does not have all the processes in place, RPA could help them with that</li><li>- The interviewee sought an RPA solution as its employees rewrote data from one software to another every day</li><li>- F1 has adopted RPA as a solution to free its employees from routine work and it can give them much more important work</li><li>- According to F1, the salary of employees may increase over time, as their work will be more valuable</li><li>- F1 knows that it will be a problem to process some invoices that are unique, often from other continents, because they have a completely different format</li><li>- RPA is not in this company for employees to be fired</li><li>- F1 sought out RPA because it lacks space for new employees and wants existing employees to enjoy their work</li></ul> |                   |
| <b>What worked:</b> <ul style="list-style-type: none"><li>- The interview went smoothly</li><li>- F1 answered all the questions</li><li>- Good location, quiet place without any distractions and background noises</li><li>- The Interview confirmed what I found in literature</li></ul>   |                   |
| <b>What didn't work:</b> <ul style="list-style-type: none"><li>- The interview was occasionally interrupted by the interviewee's incoming calls</li></ul>  |                   |
| <b>Areas for possible follow-up or further exploration:</b> <ul style="list-style-type: none"><li>- Combination of RPA with other new technologies</li></ul>   |                   |

#### Annex 4: Field note of the interview with F2

|  |                   |
|--|-------------------|
| <b>Interviewer:</b>  | Tereza Kastnerová |
| <b>Date of interview:</b>  | 11/06/2021        |
| <b>Time of interview start:</b>  | 10:02 am          |
| <b>Interviewee's name:</b>   | F2                |
| <b>Interviewee's nationality:</b>  | Czech             |
| <b>Location of interview:</b>  | MS Teams          |
| <b>Permission to use the audio-record:</b>   | Yes               |
| <b>Permission for usage for university purposes:</b>   | Yes               |
| <b>Themes that emerged, memorable quotes, anything that stood out:</b>   |                   |
| <ul style="list-style-type: none"><li>- F2 sees RPA as a new opportunity to improve work and customer care</li><li>- According to F2 RPA, it shifts processes to higher professionalism, as it has zero error rate</li><li>- F2 makes full use of two robots, these robots work twenty-four hours, seven days a week</li><li>- F2 thinks more robots will be added in the coming years</li><li>- No one was fired in this company due to RPA, on the contrary, a new employee was hired to take care of the robot</li><li>- Process processing in this company has been reduced from days to hours.</li><li>- The adoption of the RPA had no effect on staff salaries</li><li>- The employees in the company were afraid of new technology, in the end they were enthusiastic about it</li><li>- The expectations that were at the beginning from RPA were significantly exceeded at the end</li></ul> |                   |
| <b>What worked:</b>  |                   |
| <ul style="list-style-type: none"><li>- The interview went smoothly</li><li>- We had a lot of time, and we were not in a hurry, so the conversation was done calmly</li><li>- F2 answered very openly</li><li>- F2 answered all the questions</li><li>- It was clear that F2 is very interested in RPA and is excited about this technology</li></ul>  |                   |
| <b>What didn't work:</b>   |                   |
| <ul style="list-style-type: none"><li>- Interviewee tended to lead the interview</li><li>- The internet connection was interrupted for a while</li></ul>   |                   |
| <b>Areas for possible follow-up or further exploration:</b>  |                   |
| <ul style="list-style-type: none"><li>- The impact of employee errors on the company's performance</li></ul>   |                   |

### Annex 5: Field note of the interview with C

|   |                   |
|---|-------------------|
| <b>Interviewer:</b>   | Tereza Kastnerová |
| <b>Date of interview:</b>   | 21/06/2021        |
| <b>Time of interview start:</b>   | 10:00 am          |
| <b>Interviewee's name:</b>  | C                 |
| <b>Interviewee's nationality:</b>   | Czech             |
| <b>Location of interview:</b>   | MS Teams          |
| <b>Permission to use the audio-record:</b>  | Yes               |
| <b>Permission for usage for university purposes:</b>  | Yes               |
| <p><b>Themes that emerged, memorable quotes, anything that stood out:</b></p> <ul style="list-style-type: none"> <li>- C sees that RPA is deployed mainly in companies where is a shortage of people or companies want to save money</li> <li>- According to C, automation is most common in the finance and HR departments</li> <li>- C explains that it can take half a year to a year for RPA to be fully integrated into the company, as is the return on investment</li> <li>- RPA can save you up to thousands of hours</li> <li>- According to C, the biggest problem is in people, convincing them that the robot should help them and not take their job</li> <li>- C has never encountered people being released because of RPA</li> <li>- C explains that a robot will never make a mistake unless we count the exceptions he cannot handle because he is not programmed for them</li> <li>- C did not encounter a case where the company would regret the automation, of course they has to set the right expectations at the beginning</li> <li>- According to C, it is good to name the robot so that he is better accepted by employees</li> <li>- C explains that the benefit for smaller companies is mainly in the saved time, for large companies rather in the saved money</li> </ul> |                   |
| <p><b>What worked:</b></p> <ul style="list-style-type: none"> <li>- The interview went smoothly</li> <li>- The Interview confirmed what I found in literature</li> <li>- C answered very openly</li> <li>- C spoke very fast, but each sentence was very instructive</li> <li>- C answered all the questions</li> <li>- We had a good internet connection without any distractions and background noises</li> </ul>   |                   |
| <p><b>What didn't work:</b></p> <ul style="list-style-type: none"> <li>- No problems at all</li> </ul>  |                   |
| <p><b>Areas for possible follow-up or further exploration:</b></p> <ul style="list-style-type: none"> <li>- Difference in the use of RPA in small and large companies</li> <li>- Suitability of RPA for self-employed person</li> </ul>   |                   |

**Annex 6: Sequential analysis of the interview with C**

| Phase             | Sequence #                      | Subsequence #  | Time              | Speakers | Content   | Memo | Relevance for the research question + annotations |
|-------------------|---------------------------------|--|-------------------|----------|---|------|---|
| Questioning phase | The company's transition to RPA | Reasons that lead companies to automation                        | 0:00<br>–<br>1:28 | C / T    | <ul style="list-style-type: none"> <li>- Looking for a way to solve their problems</li> <li>- Companies have overloaded teams, few people, want save money</li> <li>- Looking for a way to save, reduce costs</li> <li>- May not hire as many new employees</li> </ul>                                |      |   |
|                   |                                 | Departments in companies where automation most often takes place | 1:28<br>–<br>2:09 | C / T    | <ul style="list-style-type: none"> <li>- HR department, finance department, operational departments, IT</li> <li>- Routine activities, where work with numbers, invoice processing</li> <li>- What is easy to process so that it can be easily described, defined, analysed for automation</li> </ul> |      |   |
|                   |                                 | Finding out the process that is not possible to automate         | 2:09<br>–<br>4:03 | C / T    | <ul style="list-style-type: none"> <li>- Often the process is not automated as it was originally intended, but only some units</li> <li>- Company really look for the biggest problems and they will be automated</li> <li>- Focus on the worst problem first</li> </ul>                              |      | How to properly analyse processes for automation? |
|                   |                                 | Adoption by RPA  | 4:03<br>–<br>5:29 | C / T    | <ul style="list-style-type: none"> <li>- It depends on how much it is a priority for the company</li> <li>- Depends on the extent of automation</li> </ul>  |      |   |



| Phase | Sequence #        | Subsequence #   | Time               | Speakers | Content  | Memo  | Relevance for the research question + annotations            |
|-------|-------------------|---|--------------------|----------|--|---|--|
|       | <b>Automation</b> | The number of processes that are automated in companies | 5:29<br>–<br>5:55  | C / T    | <ul style="list-style-type: none"> <li>- The number of processes is a variable number</li> <li>- It depends more on the number of hours</li> <li>- Automation can save up to 1000 hours</li> </ul>   | There was a longer pause, the interviewee considered the answer |  |
|       |                   | Procedure for selecting processes to start with         | 5:55<br>–<br>7:13  | C / T    | <ul style="list-style-type: none"> <li>- It starts with the ones that are most easily automated</li> <li>- The barrier must be torn down so that even in their company, automation will work</li> <li>- It starts with a smaller part, of a larger process</li> <li>- They have to show that the technology has some meaning</li> </ul>  |   | How to properly show that technology will work in companies? |
|       |                   | Ways of automation                                      | 7:13<br>–<br>12:44 | C / T    | <ul style="list-style-type: none"> <li>- Person with executive power, wants to try a new technology</li> <li>- Time often plays a role, so it is easier to hire someone external</li> <li>- Workshops are needed to expand know-how</li> <li>- People's eyes must be opened so that they are not afraid of it and do not resist it</li> <li>- It is automated internally and externally and gradually switches to internal automation as much as possible</li> </ul> |   | How to properly collect automation options?                  |

| Phase | Sequence #           | Subsequence #                     | Time                | Speakers | Content   | Memo | Relevance for the research question + annotations                    |
|-------|----------------------|-----------------------------------|---------------------|----------|---|------|--|
|       |                      | Ways of automation                | 7:13<br>–<br>12:44  | C / T    | <ul style="list-style-type: none"> <li>- The company hires external expert because of experience, knowledge and because it shortens the time, the adaptation of the company</li> <li>- The expert will show them how they will develop it in the studio, how to collect opportunities, how to identify them, evaluate them</li> </ul> |      | When is the right time to hire an expert?                            |
|       |                      | Automation goes according to plan | 12:44<br>–<br>14:58 | C / T    | <ul style="list-style-type: none"> <li>- Automation almost never goes according to plan</li> <li>- The biggest problem is people's thinking</li> <li>- Technology can be deployed everywhere</li> <li>- People are afraid of their work or think they are better than robot and the robot cannot replace them</li> </ul>              |      | How to prevent automation breaches?                                  |
|       |                      | Human factor                      | 14:58<br>–<br>15:26 | C / T    | <ul style="list-style-type: none"> <li>- In terms of money, the company has no problems</li> <li>- RPA is the glue of everything, once it gets to the middle, it is hard to get rid of it</li> </ul>  |      | How can RPA help companies?  |
|       | <b>Economic part</b> | Time and money savings            | 15:26<br>–<br>17:49 | C / T    | <ul style="list-style-type: none"> <li>- Money is hard to tell from the table because it comes from time</li> <li>- Time savings depend on the type of process</li> <li>- The process can still be fine-tuned for half a year</li> </ul>  |      | How long does it take for a company to see the money and time saved? |

| Phase | Sequence # | Subsequence #                                    | Time                | Speakers | Content   | Memo                       | Relevance for the research question + annotations   |
|-------|------------|--|---------------------|----------|---|----------------------------|---|
|       |            | The percentage of how much work a robot can take | 17:49<br>–<br>20:36 | C / T    | <ul style="list-style-type: none"> <li>- Up to 98% of what people did can do the robot</li> <li>- Usually only a part of the employee's work is selected for automation</li> <li>- It is often calculated on the employee's capacity, ie on the FTE, or it is calculated on the whole team</li> <li>- From the original estimate it is usually 70 - 80% of what is then realistically realized</li> </ul> | We started talking at once |   |
|       |            | Reduction or increase of employees' salary       | 20:36<br>–<br>22:01 | C / T    | <ul style="list-style-type: none"> <li>- It does not affect the salary of employees</li> <li>- Employers tend to address the value of the work they pay for</li> <li>- Employers already know what new tasks employees will have</li> </ul>   |                            | <p>What do employers value most about employees?<br/>When are employees most valuable to the company?</p> |
|       |            | Layoffs of employees                             | 22:01<br>–<br>22:16 | C / T    | <ul style="list-style-type: none"> <li>- Layoffs are perhaps never a reason for automation</li> </ul>   |                            |   |
|       |            | Overview of the economic part of companies       | 22:16<br>–<br>23:26 | C / T    | <ul style="list-style-type: none"> <li>- There is long-term benefits as the companies keep adding automation</li> <li>- The biggest benefit is that they do not have to hire new employees in the long run, so their wage costs are reduced</li> </ul>  |                            | <p>What are the long-term benefits for a company that has automated?</p>                                  |

| Phase | Sequence # | Subsequence #                        | Time                | Speakers | Content  | Memo | Relevance for the research question + annotations                   |
|-------|------------|--------------------------------------|---------------------|----------|--|------|---|
|       |            | Robot operating costs                | 23:26<br>–<br>26:44 | C / T    | <ul style="list-style-type: none"> <li>- The company pays for an external customer who helps them with automation</li> <li>- The company needs to secure licenses</li> <li>- An automation tool must be selected</li> </ul>                            |      | Which tool is most convenient for automation?                       |
|       |            | Implementation of RPA in the company | 26:44<br>–<br>27:48 | C / T    | <ul style="list-style-type: none"> <li>- The company, department or part of the team is never completely stopped, they are only temporarily more busy</li> <li>- Employees have their work to do and have to talk to an external specialist</li> </ul> |      |   |
|       |            | Return on investment                 | 27:48<br>–<br>27:57 | C / T    | <ul style="list-style-type: none"> <li>- The return on investment is half a year to a year</li> </ul>  |      |   |
|       |            | Reduction of error rates             | 27:57<br>–<br>28:37 | C / T    | <ul style="list-style-type: none"> <li>- The robot makes no mistakes</li> <li>- The robot cannot solve everything, it is usually considered exceptions rather than errors</li> </ul>   |      | Robot exceptions that it cannot solve and other possible solutions. |
|       |            | Robot working hours                  | 28:37<br>–<br>29:20 | C / T    | <ul style="list-style-type: none"> <li>- Robot works at least always 16-18 hours</li> <li>- Companies usually deploy a process that takes 8 hours and add some smaller ones to it</li> </ul>   |      |   |

| Phase | Sequence #                                   | Subsequence #                   | Time                | Speakers | Content  | Memo  | Relevance for the research question + annotations                              |
|-------|--|---------------------------------|---------------------|----------|--|---|--|
|       | <b>Subsequent experience with automation</b> | Disadvantages of automation     | 29:20<br>–<br>33:27 | C / T    | <ul style="list-style-type: none"> <li>- Companies know-how and process knowledge, sensitive information will be revealed to an external person</li> <li>- The things that a man did will be done by a robot</li> <li>- Trust must be placed in things and not in people</li> <li>- A disadvantage may be a new element in the hierarchy, as long as the team was used to operating</li> <li>- It is important to set expectations at the beginning</li> </ul> | The interviewee explains the theory on real cases | Is a working robot more reliable than a human worker?                          |
|       |  | Dissatisfaction with automation | 33:27<br>–<br>34:18 | C / T    | <ul style="list-style-type: none"> <li>- Once the company starts, it continues to automate to this day</li> <li>- When it happens that it does not bring what is expected of it, a way is sought to get to what was expected of it</li> </ul>  |   |  |
|       |  | Tactics for robot integration   | 34:18<br>–<br>35:13 | C / T    | <ul style="list-style-type: none"> <li>- It is good to name the robot</li> <li>- It takes time for the robot to become an integral part of the team</li> </ul>   |   | How to ensure that the robot is received by the employees as best as possible? |
|       |  | Help with integration           | 35:13<br>–<br>35:50 | C / T    | <ul style="list-style-type: none"> <li>- Sometimes companies want complete help from the consultant</li> <li>sometimes their opinion is enough</li> </ul>  |   |  |

| Phase | Sequence # | Subsequence #  | Time                | Speakers | Content   | Memo                       | Relevance for the research question + annotations |
|-------|------------|--|---------------------|----------|---|----------------------------|---|
|       |            | Adoption of a robot by staff                                 | 35:50<br>–<br>37:22 | C / T    | <ul style="list-style-type: none"> <li>- In the beginning, there is usually resistance from employees</li> <li>- Integration of robot depends on the age group of employees</li> <li>- Younger people do not have a problem, they rather ask questions, older people accept it only when they see that it really helps them, that it works instead of them</li> </ul> |                            | Can a robot replace all human labour?             |
|       |            | Deployment of robots in the company                          | 37:22<br>–<br>39:32 | C / T    | <ul style="list-style-type: none"> <li>- It is deployed gradually as it comes</li> <li>- It is not a problem to deploy everything at once</li> <li>- Deployment in production, brings a lot of other pitfalls, because it develops in a different environment than it then works</li> </ul>   |                            |   |
|       |            | Change in team leadership, after the deployment of the robot | 39:32<br>–<br>40:29 | C / T    | <ul style="list-style-type: none"> <li>- Managers solve with employees that if he loses two hours thanks to a robot, he will do something else</li> <li>- Often people do not catch up and automatically switch to work that they did not catch up to until then</li> <li>- At most people can be transferred to another team</li> </ul>                              | we started talking at once |   |
|       |            | Negative consequences in the team                            | 40:29<br>–<br>40:53 | C / T    | <ul style="list-style-type: none"> <li>- These are usually temporary things that can be resolved quickly</li> <li>- The result was always positive and satisfied</li> </ul>   |                            |   |

| Phase | Sequence # | Subsequence #  | Time                | Speakers | Content   | Memo | Relevance for the research question + annotations       |
|-------|------------|--|---------------------|----------|---|------|---|
|       |            | Match of idea and reality                                  | 40:53<br>–<br>43:28 | C / T    | <ul style="list-style-type: none"> <li>- The benefits are evaluated over time and the next steps are often adapted accordingly</li> <li>- It depends on the beginning, on the choice of what demonstrates a good benefit</li> <li>- At the beginning, the company does not know what to expect from it, so at the end it is often surprised how much the savings are</li> <li>- In the end, it is tens, hundreds, thousands of hours saved</li> </ul> |      |   |
|       |            | Differences in benefits according to the size of companies | 43:28<br>–<br>44:57 | C / T    | <ul style="list-style-type: none"> <li>- It is about value</li> <li>- A large company already has its processes, bureaucracy, but small companies have very flexible teams</li> <li>- Small businesses count every minute</li> <li>- The benefit of smaller companies is rather sought in the saved capacity</li> <li>- The benefits for large companies are primarily money saved</li> </ul>   |      | Comparison of saved savings in small and large business |
|       |            | The biggest benefits according to the interviewee          | 44:57<br>–<br>47:15 | C / T    | <ul style="list-style-type: none"> <li>- No one wants to lay off workers, but rather want to make more efficient use of the capacity they have there</li> <li>- More efficient use of senior people</li> </ul>  |      |   |

| Phase                  | Sequence # | Subsequence #                                     | Time                | Speakers | Content   | Memo | Relevance for the research question + annotations |
|------------------------|------------|---|---------------------|----------|---|------|---|
|                        |            | The biggest benefits according to the interviewee | 44:57<br>–<br>47:15 | C / T    | <ul style="list-style-type: none"> <li>- The most valuable thing for a company is the know-how, the experience of people who work there for a long time</li> <li>- The employee can make more meaningful things</li> <li>- In the beginning, 5 - 6 years ago, everyone was looking for a way to save money and time</li> <li>- Today, most people say that they will be able to make better use of these people, not something more interesting, people will be happier and employees will bring better benefits</li> </ul> |      |   |
| <b>Concluding talk</b> | Final talk | Final talk  | 47:15<br>–<br>47:21 | C / T    | - Thanks for the interview  |      |   |



**Annex 7: Sequential analysis of the interview with F2**

| Phase             | Sequence #                      | Subsequence #  | Time         | Speakers | Content   | Memo  | Relevance for the research question + annotations                                  |
|-------------------|---------------------------------|--|--------------|----------|---|---|--|
| Questioning phase | The company's transition to RPA | Reasons that lead company to automation                    | 00:00 – 2:02 | F2 / T   | <ul style="list-style-type: none"> <li>- The company wanted to speed up processes, improve approaches</li> <li>- Move processes towards greater professionalism</li> <li>- The staff made a lot of different mistakes</li> <li>- RPA could save resources they do not have</li> </ul>   |   |  |
|                   |                                 | Departments that have undergone robotic process automation | 2:02 - 2:26  | F2 / T   | <ul style="list-style-type: none"> <li>- The process took place at a filing office that processes incoming mail</li> <li>- It has an impact on different departments because it works through other 5 - 6 departments</li> </ul>  |   | How big is an impact of error rate of employees in work processes for the company? |
|                   |                                 | Automated process  | 2:26 – 2:29  | F2       | <ul style="list-style-type: none"> <li>- Incoming mail processing</li> </ul>  |   |  |
|                   |                                 | Finding out the process that is not possible to automate   | 2:29 – 6:13  | F2 / T   | <ul style="list-style-type: none"> <li>- Before they started automating, they had proof-of-concept done</li> <li>- They were unpleasantly surprised by a check mark that the robot could not handle</li> <li>- It took 2-3 weeks for the document to be written to the system, now the robot will process it in a few hours and without errors</li> </ul> | The interviewee explains what documents were extracted and the problem with their quality |  |

| Phase | Sequence #        | Subsequence #  | Time                | Speakers | Content   | Memo   | Relevance for the research question + annotations                                    |
|-------|-------------------|--|---------------------|----------|---|--|--|
|       | <b>Automation</b> | The number of processes that were automated in companies | 6:13<br>–<br>6:43   | F2 / T   | <ul style="list-style-type: none"> <li>- One process was automated</li> <li>- Incoming mail has started to be scanned so that the robot can sort everything</li> </ul>  |  |  |
|       |                   | General information on automation in the company         | 6:43<br>–<br>14:16  | F2 / T   | <ul style="list-style-type: none"> <li>- A company was hired to do free proof-of-concept</li> <li>- The tender was announced, the company that submitted a bid for 2,000,000 crowns won</li> <li>- Company plans to implement further automation</li> <li>- Company is currently changing the system, waiting half a year and discovering new manual processes for automation</li> </ul>          | The interviewee searches for a document with detailed information. Interviewee tends to lead the interview |  |
|       |                   | Number of robots used                                    | 14:16<br>–<br>15:59 | F2 / T   | <ul style="list-style-type: none"> <li>- In the beginning there was only one robot</li> <li>- After expanding the agenda, a second robot was added</li> <li>- Now they have 3 robots, because the volume of work is growing, and the company is trying to make absolute use of robot time</li> <li>- The advantage of the robot that it does not need a break, vacation, is never sick</li> </ul> |  | What are the advantages and disadvantages of a robot compared to a classic employee? |

| Phase | Sequence #           | Subsequence #                     | Time          | Speakers | Content  | Memo  | Relevance for the research question + annotations |
|-------|----------------------|-----------------------------------|---------------|----------|--|---|---|
|       |                      | Way of automation                 | 15:59 – 19:31 | F2 / T   | <ul style="list-style-type: none"> <li>- Two people taking care of the robots were hired</li> <li>- Within the contract, the hired company guarantees implementation and technical support for a period of four years</li> <li>- The team worked on it for about half a year</li> <li>- Company have two colleagues trained</li> <li>- In addition, they have an outsource team that handles technical support</li> </ul>  |   |   |
|       |                      | Automation goes according to plan | 19:31 – 19:59 | F2 / T   | <ul style="list-style-type: none"> <li>- Automation went according to plan</li> <li>- There was just checkbox issue</li> </ul>   |   |   |
|       | <b>Economic part</b> | Time and money savings            | 19:59 – 22:46 | F2 / T   | <ul style="list-style-type: none"> <li>- It took 14 days than the documents entered to the system</li> <li>- Sorting took 2-3 days before the team of people processed it and now the robot does it in a matter of minutes, hours at most</li> <li>- The robot finds out what type it is, sorts it, gives it some sign and then tries to extract it, on average this process takes the robot 42 seconds, the shortest time was 8 seconds</li> <li>- From units of days for sorting they got to units of hours and from units of weeks we got to several hours</li> </ul> | The interviewee searches for information in documents |   |

| Phase | Sequence # | Subsequence #                              | Time                | Speakers | Content  | Memo                        | Relevance for the research question + annotations            |
|-------|------------|--|---------------------|----------|--|-----------------------------|--|
|       |            | Reduction or increase of employees' salary | 22:46<br>–<br>23:00 | F2 / T   | - The salary of employees did not decrease   |                             | How much savings does RPA have in small and large companies? |
|       |            | Layoffs of employees                       | 23:00<br>–<br>23:25 | F2 / T   | - There were no redundancies in the company<br>- About two people were just retiring so no new people were hiring<br>- Some employees got a brand new job  |                             |  |
|       |            | Increase in spending                       | 23:25<br>–<br>24:15 | F2 / T   | - It costs the company 2,000,000 in four years<br>- Within the saved space, a colleague into IT was hired<br>- The biggest benefit was the reduction in error rates<br>- The momentum decreased and the processing speed increased |                             |  |
|       |            | Increase in sales                          | 24:15<br>–<br>24:21 | F2 / T   | - Sales did not increase in any way  | It is not a trading company |  |
|       |            | Robot operating costs                      | 24:21<br>–<br>25:06 | F2 / T   | - Annually the robot (license) costs 50,000 crowns without tax<br>- The company has 3 robots, so 150,000 crowns a year   |                             | How do robots prices move in the market?                     |

| Phase | Sequence #                                   | Subsequence #   | Time                | Speakers | Content  | Memo   | Relevance for the research question + annotations |
|-------|--|---|---------------------|----------|--|--|---|
|       |  | Manifestation of RPA in the cost structure of the company | 25:06<br>–<br>26:04 | F2 / T   | <ul style="list-style-type: none"> <li>- The reaction process accelerated very quickly</li> <li>- Automation did not slow down the company at all, there were people who did it analytically and prepared processes</li> </ul> | The interviewee did not let me finish the question |   |
|       |  | Return on investment                                      | 26:04<br>–<br>26:27 | F2 / T   | <ul style="list-style-type: none"> <li>- The investment returned in half a year</li> </ul>   |  |   |
|       |  | Reduction of error rates                                  | 26:27<br>–<br>26:49 | F2 / T   | <ul style="list-style-type: none"> <li>- The error rate has decreased</li> <li>- At the beginning it is difficult to estimate what it will bring to the company</li> </ul>   |  |   |
|       | <b>Subsequent experience with automation</b> | Robot working hours                                       | 26:49<br>–<br>27:24 | F2 / T   | <ul style="list-style-type: none"> <li>- Two robots work all the time, 24 hours a day, 7 days a week</li> <li>- The third robot is busy for 60%</li> <li>- Company will need more robots in the future</li> </ul>              |  |   |
|       |  | Disadvantages of automation                               | 27:24<br>–<br>28:29 | F2 / T   | <ul style="list-style-type: none"> <li>- People were afraid of it at first, then they were happy for it</li> <li>- The robot broke down, did not run for two days and people found out how it suddenly helped them</li> </ul>  |  |   |
|       |  | Tactics for robot integration                             | 28:29<br>–<br>29:08 | F2 / T   | <ul style="list-style-type: none"> <li>- At the management meeting there was a presentation of why it will be automated</li> <li>- Colleagues provided suggestions</li> </ul>  |  |   |

| Phase | Sequence # | Subsequence #  | Time                | Speakers | Content  | Memo   | Relevance for the research question + annotations |
|-------|------------|--|---------------------|----------|--|--|---|
|       |            | Adoption of a robot by staff                                 | 29:08<br>–<br>29:46 | F2 / T   | <ul style="list-style-type: none"> <li>- People saw how it works, how it helps them, so they accepted it</li> <li>- It was good that there was support for automation from the head of management</li> </ul>   |  |   |
|       |            | Change in team leadership, after the deployment of the robot | 29:46<br>–<br>30:41 | F2 / T   | <ul style="list-style-type: none"> <li>- A colleague who is 100% concerned and one colleague representing him have been accepted</li> <li>- Each development team has its own approach, this is solved more by Scrum</li> <li>- The first implementation was performed by the waterfall method, because the quality was decisive and not time</li> </ul> |  | Is Scrum suitable for introducing new technology? |
|       |            | Match of idea and reality                                    | 30:41<br>–<br>32:13 | F2 / T   | <ul style="list-style-type: none"> <li>- Expectations were greatly exceeded</li> </ul>   | The internet connection failed for few seconds |   |
|       |            | Further automation in the future                             | 32:13<br>–<br>32:31 | F2 / T   | <ul style="list-style-type: none"> <li>- When the system that is being updated is stabilized, a new process for automation will be sought</li> </ul>   |  |   |

| Phase                  | Sequence # | Subsequence #                                     | Time                | Speakers | Content  | Memo | Relevance for the research question + annotations |
|------------------------|------------|---|---------------------|----------|--|------|---|
|                        |            | The biggest benefits according to the interviewee | 32:31<br>–<br>33:25 | F2 / T   | <ul style="list-style-type: none"> <li>- There is a new technology in the company that helps</li> <li>- The company can move closer to the client, have better communication</li> <li>- Creative activities were created, routine things were left to the robot</li> </ul> |      |   |
| <b>Concluding talk</b> | Final talk | Final talk  | 33:25<br>–<br>35:11 | F2 / T   | <ul style="list-style-type: none"> <li>- Thanks for the interview</li> <li>- Interviewee wants to read this thesis</li> <li>- Interviewee was interested in further interviews with companies</li> </ul>   |      |   |

**Annex 8: Sequential analysis of the interview with F1**

| Phase             | Sequence #                      | Subsequence #   | Time        | Speakers | Content  | Memo  | Relevance for the research question + annotations          |
|-------------------|---------------------------------|---|-------------|----------|--|---|--|
| Questioning phase | The company's transition to RPA | Reasons that lead company to automation                     | 0:00 – 0:40 | F1 / T   | - Company has lots of systems that cannot talk to each other<br>- Data had to be manually overwritten from one system to another   |   |  |
|                   |                                 | Departments that have undergone robotic process automation  | 0:40 – 1:09 | F1 / T   | - It is an automation that intervenes in several departments<br>- Company tries to find processes in the whole spectrum of the company, where the human factor can fall off and be replaced by a robot |   | In which departments can time save the most thanks to RPA? |
|                   |                                 | Automated process   | 1:09 – 1:30 | F1 / T   | - Data rewriting from one software to another is automated   |   |  |
|                   |                                 | Finding out the process that is not possible to automate    | 1:30 – 2:21 | F1 / T   | - The problem will be processing invoices from abroad that have different invoice formats  | I interrupt him several times by doing "ehm " |  |
|                   | Automation                      | The number of processes that will be automated in companies | 2:21 – 3:00 | F1 / T   | - 10 key processes for automation<br>- Robot will handle for example, the receipt of goods, processing of documents, processing of complaints, simplified processing of orders, returns                |   |  |



| Phase | Sequence #           | Subsequence #                           | Time              | Speakers | Content  | Memo | Relevance for the research question + annotations |
|-------|----------------------|---|-------------------|----------|--|------|---|
|       |                      | The order of processes to automate      | 3:00<br>–<br>3:48 | F1 / T   | - Now withdrawals from the contract and complaints will be processed, which is the connection of the Retino system with the system for complaints  |      |   |
|       |                      | Way of automation                       | 3:48<br>–<br>4:26 | F1 / T   | - Senior consultant helps with the delivery of knowledge to the company and teaches how to work with processes<br>- The consultant will train people and a team will be formed, which will then take care of the robot             |      |   |
|       | <b>Economic part</b> | Time savings                            | 4:26<br>–<br>4:56 | F1 / T   | - Time savings can be up to 30-40% of a person's work<br>- The worker in the accounting office must process the returns, which the robot will be able to process and thus the employee will be able to solve more important things |      |   |
|       |                      | Money savings                           | 4:56<br>–<br>5:17 | F1 / T   | - Money savings range in the tens of thousands per month   |      |   |
|       |                      | Percentage of the robot in the workload | 5:17<br>–<br>5:52 | F1 / T   | - The robot will fully take the work of one worker, i.e., 40 working hours per week  |      |   |

| Phase | Sequence # | Subsequence #                              | Time        | Speakers | Content  | Memo | Relevance for the research question + annotations |
|-------|------------|--|-------------|----------|--|------|---|
|       |            | Reduction or increase of employees' salary | 5:52 – 6:12 | F1 / T   | <ul style="list-style-type: none"> <li>- It will not be reflected in the salary now</li> <li>- Employees will do things that are more valuable, where they can show their potential</li> <li>- Thanks to the added value for the company, the salary of employees can also increase</li> </ul>                                 |      |   |
|       |            | Layoffs of employees                       | 6:12 – 6:51 | F1 / T   | <ul style="list-style-type: none"> <li>- Redundancies will not occur because they still have a lot of work to do and need new labour, but they have no work-space</li> <li>- They are constantly adding new offices and they are still small</li> <li>- The company will hire new people, but does not hire so many</li> </ul> |      |   |
|       |            | Increase in spending                       | 6:51 – 7:14 | F1 / T   | <ul style="list-style-type: none"> <li>- Expenditure will increase, but it is not at the expense of reducing stocks here</li> <li>- We want to move people to work that will be more valuable for the company</li> </ul>   |      |   |
|       |            | Increase in sales                          | 7:14 – 7:31 | F1 / T   | <ul style="list-style-type: none"> <li>- They expect an increase in sales</li> </ul>   |      |   |
|       |            | Robot operating costs                      | 7:31 – 8:15 | F1 / T   | <ul style="list-style-type: none"> <li>- So far, free capacities are enough of robot, only a consultant is paid</li> <li>- At the moment knowledge costs money</li> <li>- Software and robots will cost them money the moment they get even wider</li> </ul>   |      |   |

| Phase | Sequence #                                   | Subsequence #   | Time          | Speakers | Content   | Memo | Relevance for the research question + annotations |
|-------|--|---|---------------|----------|---|------|---|
|       |  | Return on investment                                      | 8:15 – 8:43   | F1 / T   | <ul style="list-style-type: none"> <li>- The return should be within one year</li> <li>- Employee also creates additional value and increase sales and thus accelerate the return on investment</li> </ul>  |      |   |
|       |  | Manifestation of RPA in the cost structure of the company | 8:43 – 9:53   | F1 / T   | <ul style="list-style-type: none"> <li>- Automation is planned for the summer, when the company has a calmer mode than at Christmas</li> <li>- It will take some extra time, but the intervention will be minimal</li> <li>- Approximately 300 hours will be invested in automation within the company</li> </ul> |      |   |
|       |  | Reduction of error rates                                  | 9:53 – 10:25  | F1 / T   | <ul style="list-style-type: none"> <li>- Mistakes are one of the main things a company wants to break down because it makes a big mess</li> <li>- Fault finding can take up to half a day</li> <li>- Reducing the error rate is one of the main ideas why RPA</li> </ul>  |      |   |
|       | <b>Subsequent experience with automation</b> | Robot working hours                                       | 10:25 – 11:24 | F1 / T   | <ul style="list-style-type: none"> <li>- The company wants to make full use of the robot and wants to fill its capacity as much as possible</li> <li>- The use of the robot will be rather sudden, it will start working the moment invoices or delivery notes arrive</li> </ul>                                  |      |   |

| Phase | Sequence # | Subsequence #  | Time                | Speakers | Content  | Memo | Relevance for the research question + annotations |
|-------|------------|--|---------------------|----------|--|------|---|
|       |            | Disadvantages of automation                                  | 11:24<br>–<br>12:13 | F1 / T   | <ul style="list-style-type: none"> <li>- There is a risk that people will forget the processes that the robot will do</li> <li>- It will take some time for people to learn to work with the robot and use the potential of the robot</li> </ul>   |      |   |
|       |            | Adoption of a robot by staff                                 | 12:13<br>–<br>13:01 | F1 / T   | <ul style="list-style-type: none"> <li>- It should not be a problem to integrate a robot, the company has a young team of technically proficient people</li> <li>- The first or second idea was that the robot would take their job, but if it is explained well, there is no danger, the company still has a lot of work</li> <li>- The robot will do repetitive tasks and more lively tasks will be left to the employees</li> </ul> |      |   |
|       |            | Change in team leadership, after the deployment of the robot | 13:01<br>–<br>13:37 | F1 / T   | <ul style="list-style-type: none"> <li>- The company will be able to involve more employees in the development of the company</li> <li>- Employees will not have a stereotypical activity, they will be able to cooperate more with the team</li> </ul>  |      |   |
|       |            | Match of idea and reality                                    | 13:37<br>–<br>13:48 | F1 / T   | <ul style="list-style-type: none"> <li>- So far, everything corresponds to ideas</li> </ul>  |      |   |

| Phase                  | Sequence # | Subsequence #                                     | Time                | Speakers | Content   | Memo | Relevance for the research question + annotations |
|------------------------|------------|---|---------------------|----------|---|------|---|
|                        |            | The biggest benefits according to the interviewee | 13:48<br>–<br>14:54 | F1 / T   | <ul style="list-style-type: none"> <li>- People will not do work that does not make sense</li> <li>- The company can customize the robot itself</li> <li>- Systems learn to work together</li> </ul>                      |      |   |
|                        |            | Further automation in the future                  | 14:54<br>–<br>15:07 | F1 / T   | <ul style="list-style-type: none"> <li>- The company is already considering further automation, it sees the future in that</li> <li>- People have to rethink, form does not click through between excel tables</li> </ul> |      |   |
| <b>Concluding talk</b> | Final talk | Final talk  | 15:07<br>–<br>15:12 | F1 / T   | <ul style="list-style-type: none"> <li>- Thanks for the interview</li> </ul>  |      |   |