Robotic Process Automation in Financial and Accounting Processes in the Banking Sector

A qualitative study with experts in the field

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Contents

Abstract

Digitalisation is becoming increasingly important in the banking sector. One of the more recent tools to further digitalise internal processes is Robotic Process Automation. This thesis provides new insights about the implementation of RPA in financial and accounting processes within the banking sector, since the use of RPA in the Belgian banking sector has not been studied before. In this qualitative study, respondents from both banking and non-banking companies are interviewed. The results indicate that the implementation of RPA improves financial and accounting processes in the banking sector as it enables these processes to be run at a higher level of speed and improved quality. This has two major consequences for employees: they will be able to focus on more complex tasks and processes on the one hand, but this will call for a change in skills and profiles on the other hand.

1   Introduction

This thesis deals with the evolution of digitalisation in management accounting and control. More specifically, it aims to provide new insights about the use of Robotic Process Automation, or shortly RPA, implemented in financial and accounting processes within the Belgian banking sector and to provide a clear, consistent basis for further research within this topic. Since several years, a structural change has appeared in the business world (Bygren, 2016). This change can be seen as the fourth industrial revolution which forces multiple companies to rethink and reorganise their strategies (Capgemini, 2019). More manual tasks have been taken over by digital alternatives. Digitalisation has come up and the need for new requirements rises (Kumar, 2018). This makes it possible for companies to create new types of business models, value chains and new ways of organising activities. According to Kumar (2018), digitalisation has the possibility to change whole markets. Digitalisation, and more specifically RPA, already plays a very important role within a lot of companies. However, as the banking sector is a rather slowly developing sector which is more inexperienced with different aspects of digitalisation, this sector will be studied in this thesis.

Digitalisation in the banking sector is a rather new phenomenon that mostly appeared as a reaction on the crisis of 2008 (Voinea & Anton, 2009). From then, banks have been looking for alternatives to adapt to innovative changes in order to generate new sources of value. By using RPA, banking companies are able to continuously redesign their strategies (Capgemini, 2019). Previous research has already pointed out that digitalisation can offer multiple advantages (Truong & Plansky, 2014). In this thesis the role of digitalisation within the banking sector is further examined in order to provide new insights. More specifically, the use of Robotic Process Automation within the banking sector is examined. Robotic Process Automation is a virtual workforce that can be used as a software program and that can take over some manual tasks of the employees within a company (EY, 2016a).

Robots are already used to take over some administrative tasks, but taking over financial and accounting processes is less frequent in the banking world. Therefore the implementation of RPA is investigated in the financial and accounting processes of a banking company which leads to the following research question:

"How can RPA improve financial and accounting processes in the banking sector?".

The use of RPA in financial and accounting processes within the banking sector has not been examined before within Belgian banking companies. The financial and accounting processes of a company can in general be split up into two parts, on the one hand the financial reporting, which includes the financial closure, balance and income statements, and on the other hand the financial analysis which can be referred to as the ratio analysis (Vanstraelen, 2004). This last part includes horizontal and vertical analysis as well as the calculation of multiple ratios. Further, the financial and accounting processes also involves tasks such as financial planning, decision making and invoicing (Ciborra & Willcocks, 2006).

To start this thesis, a literature review is given in which the different aspects, definitions and explanations of digitalisation and RPA are provided. This paragraph ends with an overview of three propositions that are investigated in this study. This thesis mainly focuses on these propositions in order to test whether they are valid. Thereafter, the method that is used for this study is briefly explained. To provide consistent results that are relevant for the analysis, multiple experts in the field are interviewed which implies that several business people of different banking and non-banking companies are interviewed to ask for their opinion and experiences with RPA. These interviews make it possible to discuss different points of view in terms of benefits,

challenges and opportunities of using RPA in the banking sector. The answers of the different respondents are then compared and discussed. On top of that, by interviewing different respondents from multiple banking and non-banking companies it is possible to give a brief overview of why banks use RPA and how they implement it in their financial and accounting processes. After the analysis, a discussion follows in which the results of the interviews are compared with the existing academic literature as described in the literature review which is followed by a brief conclusion.

2   Literature review

This literature study has been split up into several paragraphs discussing the different aspects of the research question, which are mainly digitalisation in the banking sector and Robotic Process Automation. Digitalisation enables companies to be innovative and to keep up with the changing technologies. There are a lot of different ways to digitalise, such as machine learning, artificial intelligence and Robotic Process Automation. Since RPA seems to be the lesser known tool, it will be further investigated in this thesis. The first section is about how and why digitalisation is used in the banking sector. This part involves the financial crisis of 2008 and the risks of digitalisation. In the second section a clear definition is given of what Robotic Process Automation includes. The third part of the literature study discusses the implementation of RPA in financial and accounting processes. To end this section, three propositions that are based on the literature review are provided.

2.1   Digitalisation in the banking sector

The latest years, banking companies are looking more and more for new ways to improve their efficiency and productivity in order to reduce their overall costs (Porter, 1985). This need for innovative solutions and technologies is mostly caused by financial constraints of the investment budget and as a consequence of the financial crisis (Revellino & Mouritsen, 2009). In particular, the financial crisis of 2008 has caused a lot of financial problems to the financial services sector which has created the need to minimise costs (Dirican, 2015). Financial services are therefore moving towards a more consistent use of technology to reduce their costs and to achieve a high level of customer satisfaction (Mehta, 2017). Focussing on digitalisation is the most beneficial way to become more innovative and cost-effective.

Digitalisation has come up and changed radically over the last years (Voinea & Anton, 2009). It seems that manual banking systems cannot follow the fast changing business environment anymore and therefore banks need to start focussing on digitalisation of several internal processes (Daru, 2015). As the design of the firm's strategy is a crucial aspect within the company, it is necessary to follow up the use of digitalisation very closely and to keep control over the process. The start of digitalisation took place in the 1990s with the beginning of computer banking. In what follows, both the financial crisis in the banking sector and the role and risks of digitalisation are briefly explained.

2.1.1   Financial crisis

2007 was the year that can be referred to as the beginning of the financial crisis (Voinea & Anton, 2009). The origin of the financial crisis took place in the United States, caused by a crisis in the subprime mortgage market. Several investment banks offered loans to subprime lenders without asking for collateral, which meant that these were people with a high risk profile and that there was a chance that some of the lenders could not be able to pay back their loans. When the interest rates started to increase, the lenders could indeed not pay their loans and their houses were confiscated by the investment banks. The banks now had a large amount of houses to sell, which led to a severe fall in the house prices. This caused a large systemic risk because of a worldwide loss of trust in the whole banking system (Earle, 2009). Hence, there was need for new, high regulations in the banking sector (Truong & Plansky, 2014). The need for these new regulations in combination with the fact that companies started to invest more in equipment and technology

instead of workers can be seen as the beginning of digitalisation in the banking sector (Brown, 2012).

2.1.2   Role of digitalisation

As banking companies are operating in a rapidly changing business environment, it is important that they keep searching for new methods and systems to make sure they get consistent information (Kloviene & Gimzauskiene, 2015). According to a research of Dirican, it is important for companies to manage changes in terms of business and ways of doing business as consistently as possible as these changes can impact the business life and therefore also the global economy (Dirican, 2015). Furthermore, it seems that all technological and business changes can have a positive impact on the banking sector as these improve and stimulate the development of all kinds of accounting methods and systems (Khazanchi, 2005).

According to Deutsche Bank, digitalisation can be defined as followed: "Digitalisation is about taking control of your customer-experience ecosystem by managing your entire business from your customers perspective and rethinking your legacy business model" (Forest & Rose,2015). Since the financial services and insurance were already the most digitalised sectors in Europe in 2012, it is clear that digitalisation is an increasing phenomenon (Truong & Plansky, 2014). Currently, the financial sector is even called the frontrunner of digitalisation. The implementation of digitalisation in a company is important because of several reasons (Truong & Plansky, 2014). Due to the increasing demand for products and solutions and the complexity of economic systems, there is a higher need for digitalisation. By using digitalisation, companies can focus more on a better customer experience and more cost-effective operations.

Truong and Plansky (2014) mention that there are four different ways of value creation due to digitalisation. First of all, digitalisation may increase the connectivity between the bank and its suppliers and customers because the employees of the bank will have more time to focus on personal contact. Secondly, digitalisation can refine the decision making process, which will make it easier and a lot faster to make important decisions. Thirdly, the internal processes can be automated which lowers the chance of human mistakes. The last way of value creation is that digitalisation will foster the innovation process of a company. By focussing on these four ways of value creation, banks can improve their overall performance and gain higher profits (Daru, 2015).

2.1.3   Challenges of digitalisation

Nevertheless, there are also several potential risks linked to digitalisation. According to The Irish Times (2017) a very important risk that is mentioned by multiple banks is the fear of problems in online consumer protection. Banks are responsible for confidential information of their clients and a leak of this information would damage the reputation of the worldwide banking sector. Digitalisation will also make services more facilitated and easier to use, which can lead to impulsive buying behavior by clients and eventually abuse by the loan advisor itself (Avrotros, 2016). Furthermore, digitalisation could also make it more difficult for companies to keep up with fastly-developing changes in technology and IT (Andersen, 2005).

A study of PwC (2015) describes a third risk of digitalisation, called digibetism, which can be explained as "the lack of necessary skills to deal with digital information". It is possible that some employees do not want to or cannot work with new technologies. A solution that is provided by PwC to overcome this risk is employagility which is defined as "the ability of employers and employees to respond quickly to changes in order to continue delivering added value". Since the implementation of digital software is very costly and also time intensive, the employagility is a very important aspect. Employees need to be motivated to take the time to learn to work with the software (Daru,2015). Implementing digitalisation in small companies can be rather difficult

because of the need for high investments. Employers should take all these challenges into account and they need to anticipate on it.
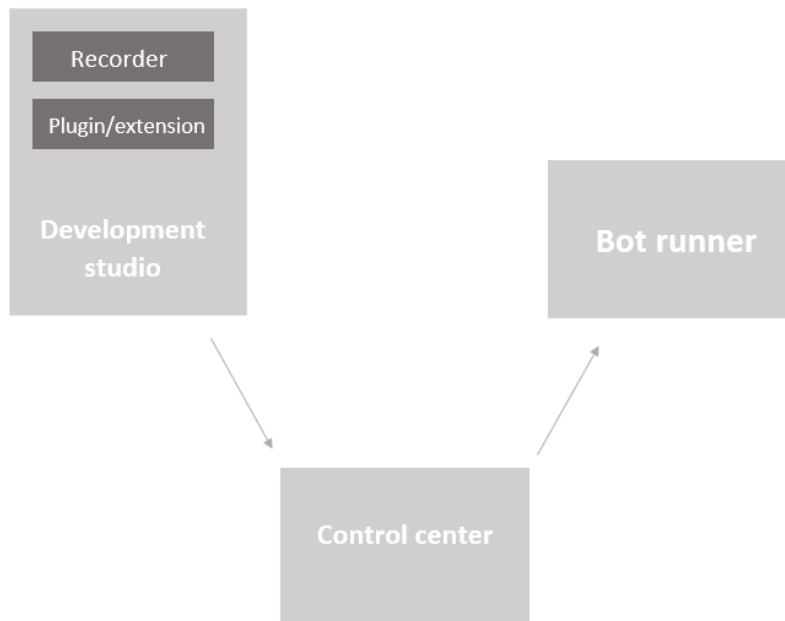
2.2 Robotic Process Automation

RPA, which stands for Robotic Process Automation, is a virtual workforce that is controlled by the operating team of a company (EY, 2016a). This technology is used within companies to take over several standardised and rule-based tasks and processes (Lacity & Willcocks, 2016). It allows the company to give some tasks away and to focus more on human related tasks. The term automation in RPA is related to "technology that deals with the application of machines and computers to the production of goods and services" (Tripathi, 2018). Tripathi defines the term robot as "software programs that mimic human actions". Also important to mention is that there are some differences between RPA and traditional automation processes (Tripathi, 2018). RPA is created to deal with complex calculations and to take over a part of the decision making while the traditional methods use instructions that are based on codes. Secondly, RPA is also able to deal with dynamic and fast changing circumstances.

The use of RPA within a company will have an impact on both the employees and on the company itself (Fernandez & Aman, 2018). Therefore, the company needs to clearly communicate with all stakeholders in order to help them understand the different aspects and consequences of RPA (Lacity & Willcocks, 2016). The impact of RPA on the employees can be seen as a two-sided approach. On the one hand, there are situations in which employees are happy with the rise of robots, as explained in the research of Lacity and Willcocks. Their research shows that jobs within the investigated company were more developed and expanded after the implementation of RPA, instead of fully automated. The employees within the company were not scared for the robots, but they felt appreciated for getting new opportunities combined with higher responsibilities. The authors of the study also mention that combining robots with humans could lead to better services and jobs that become more interesting as employees can focus on more difficult and complex tasks. These results are supported by a study of Fernandez and Aman, which mentions that employees should be happy to work with robots as robots will never be able to take over all tasks of a human being and using robots for more boring, repetitive tasks will reduce the error rate caused by human mistakes (Fernandez & Aman, 2018). On the other hand, there are also situations in which employees fear the presence of robots within the company. As the focus of employees moves to more complex tasks, there will be a call for new profiles due to new, highly-skilled jobs, which will cause several job losses (Perez & Martin, 2018). Furthermore, employees may be demotivated by the presence of a robot which may decrease the level of human productivity (Fernandez & Aman, 2018). At last, some employees find it difficult to deal with changes in their work environment, so the company needs to take this challenge into account and anticipate it in order to remain competitive on the market.

2.2.1 Components of RPA

As can be seen in figure 1, the RPA platform is the basis upon which the robot is developed and this platform is built upon several components (Tripathi, 2018). First of all, the development studio is used for the configuration and training of the robot, which implies setting up codes with instructions and some decision-making logic. The development studio consists of two components, namely the recorder, which is responsible for the configuration of the robot, and the plugin/extension, which simplifies the development of the robot. The aim of the control center is to control and monitor the different operations of the robot within a network (Tripathi, 2018). The last part of the platform is the bot runner, or simply called the robot that performs the processes involved

Figure 1 Components of RPA

2.2.2 Competitive advantages provided by RPA

According to EY (2016b) the use of Robotic Process Automation provides three competitive advantages, that are cost efficiency, keeping control of the tasks and value creation. By replacing human workforce by robots, cost cutting can be realised which can lead to a more efficient financial management and also operation time could be lowered. This fact is supported by a study of Anagnoste that argues that RPA is a solution for high error rates and a high amount of manual, repetitive tasks that are only adding a low level of value (Anagnoste, 2017). The use of RPA leads to a reduction of costs, an increase in the overall quality and a faster processing time. Other advantages of RPA mentioned in Anagnoste's study are that a robot is able to work 24/7, to identify exceptions in processes and therefore can perform more complex processes and tasks and to create new high paid jobs. On top of that, another article, in which the effects of RPA in a Lithuanian company were examined, has pointed out that the quality of the accounting methods and knowledge of the company involved have increased after implementing RPA (Kloviene & Gimzauskiene, 2015).

Since RPA can easily be applied to existing applications without changing the IT landscape, unnecessary costs can be avoided (EY, 2016b). RPA is also a business project instead of an IT project which lead to more flexibility and control. On top of that, RPA can be used as an alternative to outsourcing or offshoring of financial and accounting processes and operations. By giving away some tasks to the robot, companies can focus more on increasing the quality and the customer satisfaction. At last, RPA can add value to the company by providing complex analysis and conclusions. On top of that, the study of Lacity and Willcocks explains that companies that are using Robotic Processes Automation to improve the company's strategy will achieve larger overall gains compared to companies that are using RPA while focussing on only one specific goal, such as cost reduction, as they will then miss opportunities (Lacity and Willcocks, 2016).

2.2.3   Challenges of RPA

Since Robotic Process Automation is a new and developing phenomenon, there are still a lot of challenges, risks and commonly made mistakes (EY, 2016a). The most common mistake is that companies immediately implement RPA in highly complex processes. It is important to start implementing RPA in low-value tasks and only use it for very complex tasks when the company is RPA-mature. A second challenge implies that there are no clear regulations about what a robot may or may not do and that the existing regulations differ between countries (Anagnoste, 2017). In addition, there are also some challenges that refer to the consumers of banking companies. Some consumers fear issues of accuracy and reliability as they may think that robots are taking over all human tasks and that robots could easily be hacked (Mehta, 2017). Consumers are therefore also scared that introducing a robot within a banking company could cause a lot of technical problems.

Companies also need to keep in mind that RPA is not made to take over all of the tasks within an organisation (EY, 2016a). The technology is mostly developed to automate manual and repetitive tasks, which means that RPA is created to become a helper, since there will always be tasks that need to be done by humans, such as personal contacts (Aberdeen Group, 2017). The best solution is to use a combination, which implies humans who are able to use computers (Brown, 2012). A perfect combination, according to EY (2016a), would be 70% of automation and a human workforce of 30%.

2.3   Implementing RPA in financial and accounting processes

According to a study of Juniper Research (2018) the banking and financial sector is momentarily one of the major markets for the implementation of RPA. They even predict that this sector will grow further to 34% of the worldwide RPA market by 2022. The main reason for the use of RPA in financial and accounting processes is the need of managing the growing volume of transactions (Aberdeen Group, 2017). Implementing the RPA platform seems to improve the accuracy and efficiency of the financial and accounting processes within an organisation (Aberdeen Group, 2017). By using RPA, the time that is needed to finish the financial close can be reduced by 60%. Also, the automation of accounting-related processes like payments and transactions will lead to more efficient and precise statements and reports. Within financial and accounting processes, there are several tasks where RPA can be implemented most effectively (EY, 2016b). RPA provides the best efficiency and accuracy in financial and external reporting, general accounting and budgeting (EY, 2016b).

An example of a bank that has implemented Robotic Process Automation in their financial and accounting processes can be found in a British bank (Capgemini Consulting, 2016). Before the implementation of RPA, every single transaction had a transaction time of 30 minutes where after the British bank decided to use RPA in order to minimise this transaction time. The bank hired a Robotic developer to program the robot and to set up the whole process. By implementing RPA, the bank's transaction time had been reduced to 10 minutes per transaction and they also achieved a return of investment of 80% within six months.

2.4   Propositions

Based on the existing academic literature and referring to the research question, three propositions are proposed. First of all, the study of Anagnoste (2017) that was done in Romania discovered that Robotic Process Automation in general is able to perform more complex tasks and processes and that RPA is able to identify exceptions within these processes. Keeping this in mind and while focussing on the banking sector, the first proposition is proposed:

- Proposition 1: Robotic Process Automation will increase the overall efficiency of a banking company as it can perform more complex processes.

Secondly, research has pointed out that RPA can effect employees both in a positive and in a negative way. These two perspectives are investigated in the studies of Lacity and Willcocks (2016) and Fernandez and Aman (2018). Furthermore, the study of Perez and Martin (2018) mentions that introducing RPA within a company will create the necessity for a change in skills and profiles of employees. As these results are based on studies in non-banking companies and in countries different from Belgium, it is interesting to test whether these results also hold for Belgian banking companies. Based on these international studies, the second proposition is as follows:

- Proposition 2: Implementing Robotic Process Automation will have a significant impact on the current jobs in a banking company as RPA will call for a change in skills and profiles of current employees.

The third proposition refers to the research question of this thesis and is based on the study of Kloviene and Gimzauskiene (2015). The Lithuanian company that has been investigated in this study showed an increase in the overall quality of the accounting methods within the company after implementing RPA. To examine whether this effect is also noticeable within the Belgian banking sector, the third and last proposition is proposed:

- Proposition 3: The implementation of Robotic Process Automation in financial and accounting processes will improve these processes within the banking company.

3   Method

As this thesis mainly focusses on the how and why of implementing RPA, this paragraph briefly explains how these more specific insights are investigated by using in-depth, face-to-face interviews. To examine the research question "*How can RPA improve financial and accounting processes in the banking sector?*", a qualitative research is conducted. More specifically, multiple interviews with experts in the field are undertaken. By doing this kind of study, it is possible to do an in-depth analysis of the how and why this specific phenomenon RPA appears. As this study contains a small and unique sample size, it is possible to collect data about motivation, perception and values towards a phenomenon or event (Ciborra & Willcocks, 2006).

Another reason to choose for this kind of study is because of the complexity of the subject. Since RPA is a complex and dynamic process in a realistic context, it is beneficial to choose for multiple interviews with experts who can clearly explain the relevance, benefits and challenges of RPA instead of any other method for qualitative research (Otley & Berry, 1998). On top of that, this research method is the most obvious method to examine sensitive internal and/or confidential business information (Ferreira & Merchant, 1992). To come up with consistent results multiple cases in the form of one-by-one interviews are conducted, analysed and compared. Since this thesis examines financial and accounting processes within the banking sector, only one person per company is interviewed focussing on one specific level of the company, focussing on the financial department. In table 1 a short overview of the respondents is given.

Table 1 List of respondents

Respondent	Function	Company	Duration contact
Guy Guldentops	Head of Center of Excellence Robotics	BNP Paribas Fortis	76 minutes
Céline Thooris	Head of Artificial Intelligence & Robotics	Belfius Bank	29 minutes
Wouter Maas	Road Manager RPA	ING	24 minutes
Olivier Duron	Prudential affairs officer	Febelfin	25 minutes
Michel Haesendonckx	Global Solution Owner Financial Performance & Accounting/Management	SAP	68 minutes
Damien Dieryck	Principal of Gapgemini Invent	Capgemini Invent	35 minutes

For the one-by-one interviews, semi-structured interview questions are used. This type of interview gives the interviewer a predefined order but still the freedom to skip questions and go more in-depth to specific answers. It is also possible to leave some questions out if the interviewer feels that they will not be relevant for the analysis. During the interviews, there is inquired to the personal opinion of different business people on the use of RPA. The aim of the interviews is to get an overview of the different challenges and opportunities for RPA, but most of all examining why using RPA and how implementing it in financial and accounting processes within the banking sector. The questions of the interviews can be found in appendices 1 and 2.

All interviews are recorded in order to fully transcribe them afterwards. This transcription is important to assure the reliability of the research. This way the interviewer can prove that he or she did not let some information out and the full transcript is also necessary to compare the answers of different respondents during the analysis-phase of the study. After writing out the

interviews, all full transcripts are coded by using the software program Nvivo. This program makes it possible to analyse and classify different parts of the transcript by using pre-programmed categories that are called nodes. By using these nodes, the interviewer can make a simple as well as a detailed coding scheme. The nodes that are used are based on the previously mentioned propositions, but also on more detailed aspects such as how, why and the future of RPA. The coding scheme that is used to code and analyse all transcripts is given below in figure 2.

Figure 2 Coding scheme
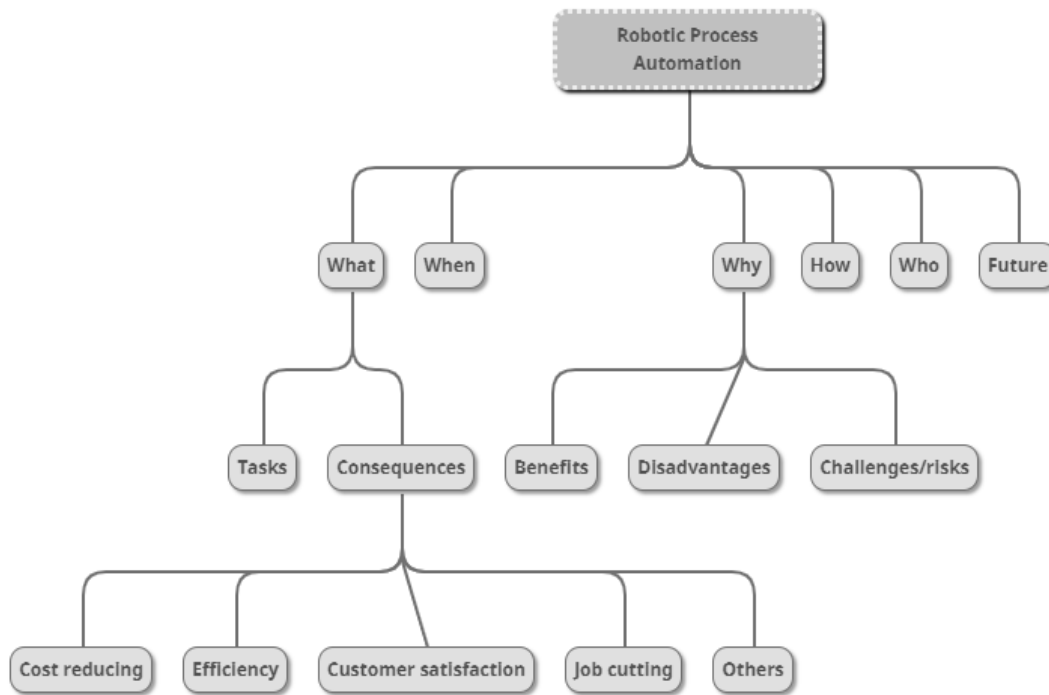
For the interviews, two different scenarios for the banking companies are assumed. The fist scenario is that the company uses RPA and the second scenario contains a banking company that does not use RPA. The coding scheme implies codes for both scenario's. The different codes are based on the W-questions. The interview first inquires to the reasons why the company uses RPA or why they have chosen not to use RPA with a focus on its benefits, but also on possible challenges or risks and disadvantages. In case the company does not use RPA, there is room to discuss possible alternatives. The second category is about how RPA is implemented in the company. The what-question, then, forms the basis for the third category and entails the tasks of RPA and the possible consequences of using it. Possible consequences are based on the consequences mentioned in the literature review and therefore include cost reduction, efficiency, customer satisfaction and job cutting. The fourth category is about who, which implies the departments and the type of employees that are frequently using RPA within the company. The fifth category, 'when', is aimed at finding out when someone came with the idea to implement RPA and since when RPA is used in the banking company. The last category is about how the respondents see the future of RPA. For the coding of the transcripts and for the interviews of the respondents of SAP, Capgemini Invent and Febelfin, both scenarios will be taken into account. They will be asked to give arguments for both implementing and not implementing RPA, followed by the questions about what, who, when, possible alternatives and their view at the future.

When all transcripts are coded, they are analysed according to the different nodes. To improve the quality of the analysis and to take the validity of the research into account, two types of comparison are used. First of all, the answers of all respondents are compared to each other. By using the nodes, it is possible to compare the results of the different respondents by classifying the answers into nodes. Thereafter, a comparison between the results of the interviews and the

existing literature is provided in the form of a discussion. On top of the transcripts, several documents will be used in order to ensure the triangulation of the analysis. These document are received from multiple respondents and contain internal research and studies as well as newspaper articles about the use of RPA within the banking sector. A list of the consulted documents can be found in table 2.

Table 2 List of archival documents used for analysis

	Document type / content	Related to (company)	Date received
1	Explanation of corporate functions and implementation of RPA	Capgemini	04/02/2019
2	Discussion document	Capgemini	04/02/2019
3	Project example	Capgemini	04/02/2019
4	Use of RPA from the perspective of Capgemini and ACORD	Capgemini	04/02/2019
5	Study about the use of robots in the business processes in the back office	Capgemini	21/02/2019
6	RPA solutions for financial services	Capgemini	21/02/2019
7	Newspaper article	Fortis	28/02/2019
8	Interview Wien De Geyser	Febelfin	01/03/2019
9	Newspaper article	Febelfin	04/03/2019
10	Discussion paper on automation in financial advice	Febelfin	05/03/2019
11	EBA report on the impact of FinTech on incumbent credit institutions' business models	Febelfin	07/03/2019

4   Analysis

This chapter provides an analysis by comparing the answers that were given in the interviews combined with the documents that are mentioned in table 2. To start, a general overview of the six respondents is provided. After, the definition of Robotic Process Automation and the tasks it takes over are briefly explained. Next, the different consequences of using RPA that were investigated during the analysis are provided. Thereafter, the core aspect of this research paper is explained which focuses on how and why banking companies chose to implement RPA and most importantly how RPA can lead to an improvement of the financial and accounting processes within the banking sector. To end the analysis, an overview of the future of RPA within the banking sector according to multiple banking companies, is provided.

4.1   Introducing respondents

For the interviews, respondents from banking as well as from non-banking companies have been interviewed. Via personal contacts three respondents from different banking companies are chosen. These respondents are Guy Guldentops, Head of Center of Excellence and Robotics from BNP Paribas Fortis, Céline Thooris, Head of Artificial Intelligence and Robotics from Belfius Bank and Wouter Maas, Road Manager RPA from ING. Guy Guldentops is practicing his function at BNP Paribas Fortis for almost two years, Céline Thooris and Wouter Maas are practicing their function within their bank for one year. It is already striking that the interviewees have only been practicing RPA-related functions for a rather short time, which shows how recent these functions - and by extension RPA - are in the banking sector. By interviewing these respondents a clear opinion about how and why using RPA in banking companies is provided. In order to get a general overview of the implementation of RPA within the entire banking sector, an interview with Olivier Duron, Prudential Affairs Officer of Febelfin, also took place.

Thereafter, Michel Haesendonkx from SAP was interviewed. He is Global Solution Owner in Financial Performance and Accounting/Management. Since SAP is a worldwide software corporation, the company is familiar with the implementation of all different types of software solutions such as machine learning and Robotic Process Automation in multiple sectors (SAP, n.d.). The last respondent is Damien Dieryck, Principal of Gapgemini Invent, a business line of Gapgemini Group that deals with digital innovations. As Damien Dieryck has already done several RPA projects, both in Belgium as in France, he can provide new insights from the perspective of consultancy companies that helps other companies with the implementation of RPA.

4.2   Definition and tasks of Robotic Process Automation

Banking companies nowadays are moving away from the traditional approach towards a more agile approach, which means that there is more flexibility within the company and that employees from different departments are working together in a multidisciplinary team. In this way, the hierarchical boundaries are fading. Robotic Process Automation is a recently upcoming phenomenon within this agile approach, since most banking companies started to implement it two to three years ago. In this section, the definition and most common tasks of RPA are explained. An overview of these findings is given below in table 3.

Table 3 Overview of definition and tasks

Company	Definition and tasks	Start of implementation
BNP Paribas Fortis	- Rule-based and repetitive processes that are not going straight-through - Robot is a team member - Replicates the actions of a human being - Not using RPA for text extraction and classification	2016
Belfius	- RPA is just a help - Fast and cheap solution	2016
ING	RPA is incorporated within risk management	2017
Febelfin	RPA is a competitive tool	
SAP	- Aim of RPA is linking pieces of information - Not using RPA in case of fraud detection	
Capgemini Invent	- Robot can support employees - Automate tasks and processes that are not too complex - Duration of 5-30 minutes - Finance and Accounting - Focus on processes that add little value	

<u>Source</u>: Based on interviews

To calculate and avoid surprises or possible problems, RPA is incorporated within risk management. RPA is part of FinTech, Financial Technology, which supports the innovation of financial institutions to result in a change of business models. Since RPA provides the opportunity to work faster and more efficient, it is also a very important competitive tool within the banking sector. Therefore, according to the respondent of Febelfin, banking companies are not discussing their working-methods based on RPA with each other, as they use RPA to be competitive and to build a strong market position. RPA can be seen as a team member within the banking company as it is a virtual worker that replicates what a human being is doing. As the respondent of Belfius has said: "*The goal is that RPA does not need to be as stable as other applications within the company because it only requires a minimal investment and is a fast solution as there is no need to change the underlying IT systems*". According to the respondent of SAP the concrete task of RPA is to link different sources of information in order to automate a full process. These processes are the more simple, rule-based and repetitive tasks that are not going straight-through and have a structured input, such as an excel file. This means that RPA is mostly used to support the back office and to act as a helper. RPA suits best for processes that have a high volume and do not need human decision making while running the process.

The back office processes that are frontrunner for the use of RPA are Finance and Accounting. The respondent of Capgemini Invent explained this fact as follows:

> *If you look at finance and accounting, the processes are mainly very standard. If you look at accounting, you follow standard templates, you follow specific rules, and this offers a good process automation candidate. If you look at the subprocesses of finance and accounting, you see accounts receivable for example, so really standard processes.*

This implies that the tasks within these processes are mostly tedious, repetitive and include standard templates that need to be followed. They are also not too complex and have a duration of five to thirty minutes, which means that these processes can be developed very fast. With the use of RPA, a banking company can automate calculations in terms of expenses and margin

interest. It is possible to reconcile data, move it across different systems and compare the data with data that comes from other sources. Moving financial assets from one account to another is also a processes that can be done by RPA.

Previous examples are all tasks and processes that only add little value to the banking company. When tasks or processes become too complex for RPA, the return on investment will be much lower. Examples that are too complex for RPA are text extraction, classification and fraud detection. Frauds are always very fast in finding new methods to commit fraud. Therefore it is necessary to think beforehand for ways to fight this. By building a robot step by step, the frauds will always be one step ahead, which makes it irrelevant to use RPA in this case since RPA is not able to think the same way as a human being does. Other tools that can think and evolve better than a robot does, such as Machine Learning, would suit better in this case.

4.3   Consequences of RPA

Overall, most banking companies expect Robotic Process Automation to lead to a reduction of costs, an improvement of quality, process speed up and better compliance. However, the end result of implementing RPA depends on the strategy of the company and the broader context. The consequences of RPA are briefly summarised in table 4 and then briefly explained.

Table 4 Overview of consequences

Company	Consequences	
	+	**-**
BNP Paribas Fortis	• RPA can help at peek load periods which can lower the overall workload • Faster service for customers • Efficiency is most important driver for RPA • Robot has a higher protection level • A robot does not make mistakes	• Challenge if robot is defect • Need for more complex and technical profiles
Belfius	• Reduce costs of the team • Time-consuming to improve maturity level • All information stays internal	• Employees are scared to be replaced by a robot
ING	• Reduction of labour costs • A lot of uncertainty • Customers care about privacy • Constant level of quality	• Several jobs will disappear
Febelfin	• Using RPA to increase productivity • Creation of new jobs	• Losing control could cause reputational damage • Change in profiles • Difficulties with trying to find a balance between in- and outflow of people • Early retirement or refresher course needed
SAP	• People can focus on more value adding tasks	• Some jobs will disappear • People need to take refresher courses
Capgemini Invent	• RPA has a higher protection level than a human being • No errors if robot is well designed • Increasing compliance	• People are afraid to lose their job • Job cutting depending on the company's strategy

<u>Source</u>: Based on interviews

In terms of cost reduction, it is clear that Robotic Process Automation can lead to a reduction of labour costs when the banking company automates the right processes. The respondent of Capgemini Invent mentioned: "*It is possible to save four full time equivalents by using RPA as robots can work 24 hours per day, seven days per week*". In this way, there are less employees needed to handle the same workload and employees that are still in the team can focus on other more value adding tasks, which will lead to an increase of the quality of these tasks and processes. When RPA takes over more simple tasks, there is need for employees that are able to deal with the more complex tasks and to control the robot, by checking its output for example. This will call for a change in skills and profiles. New jobs that are more technical and more complex are replacing the old jobs that can now be done by a robot. In this way, several jobs will disappear, but other jobs within finance will be created. Banking companies try to find a balance between employees that are leaving the company and new employees that are coming. Since this balance

will never be 100%, there are still several solution for the employees that leave the company. The more older employees could chose for an early retirement, employees that really want to stay in the banking company could take a refresher course or employees could appeal to specific organisations that help with a carries switch to make people future proof.

In terms of change management and in terms of people, the rise of robots can be quite scary. This, in combination with the fact that the level of working people within the banking sector is already decreasing over the last years, makes people think they will lose their job. This fear is not completely well founded because a robot could never do all compulsory learning that a human has and it could never take over someone's full job. Just as the respondent of Belfius said: "*In the end, RPA is a simple script and is not very intelligent*". Robots need to be seen as a part of the team and need to assist the employees by doing tasks that most humans do not want to do. However, the concrete impact of RPA on jobs depends on the strategy of the company. If the objective or the requirement of the company is to cut down several full time equivalents, RPA can be used as a solution to do so.

The implementation of RPA only requires a low investment that is combined with a short-term payback in terms of a high return on investment. It would be more costly to upgrade all current IT systems than to implement RPA. Since a robot does not make any mistakes, if it is developed correctly, the costs that are related to human errors will decrease after implementing RPA. According to several banking companies, RPA is able to achieve a cost reduction of 20% to 50%. Nevertheless, some business cases will not have a positive outcome and will therefore not lead to a cost reduction. This can happen due to not choosing the right processes to automate. If a banking company tries to automate too many processes or processes that are too complex for RPA, the automation could fail which can be very costly for the company. Further, it is also possible that a company loses too much time on improving the maturity level of the RPA set-up. If employees have no faith in what the robot is able to do, it could take some time for the company to learn to work with it and to accept the robot within the company. The more time it takes to become mature with the implementation of RPA, the more it will cost for the company.

Since a robot can work 24 hours per day, seven days per week, banking companies can provide 24/7 customer access to financial services which means that customers will receive their services much faster. At the peek load periods customers will still receive a faster service as the use of robots leads to a lower workload for employees. In this way, employees have more time to focus on customer satisfaction and customer care. However, it is important that the employees within the company not only focus on customer satisfaction, but that they also focus on keeping control over the robot. Losing control over the robot and wrong automation could lead to a reduction of market confidence and could highly damage the reputation of the banking company, which will have a highly negative impact on the customer satisfaction.

Today, there is still a lot of uncertainly around the implementation of RPA and customers are very sensitive in terms of privacy and data protection. Further, it seems that a lot of customers are scared that robots could be hacked, although this fear is not really necessary. As a robot is doing exactly the same as a human being did before, it is almost impossible to generate additional privacy problems. The respondent of ING explained that RPA is incorporated within risk management to calculate risks and to make sure that risks such as privacy problems are managed in a way that the chance of this risk to happen is as low as possible. On top of that, a robot has a higher protection level than a human being as a robot has only access to the systems that it needs to realise a task, while employees have access to all systems, also the ones that they do not need. A second explanation for the higher protection level was given by the respondent of Belfius: "*All information stays internal, it is not leaving the bank. All our RPA software and infrastructure is in the same infrastructure as the rest of the bank. So it doesn't touch anything.*"

Due to a cost reduction, banking companies can provide several financial services to the customer at a lower price. This will not only lead to a higher customer satisfaction, but also to efficiency gains for the company. These efficiency gains can cause a lowering of the workload, which makes efficiency one of the most important drivers of the implementation of RPA within the banking sector. Robotic Process Automation can lead to an improvement of the efficiency within the company because it can easily switch between different systems, something that is very difficult for traditional IT.

Furthermore, a robot is much more productive than a human being because it can work non-stop, even if the banking office is closed. A full time equivalent works on average 32 000 hours per year while a robot can work 260 000 hours per year, which is eight times more than a human being. The robot does the same action over and over again at a constant level of quality, combined with a high and constant level of accuracy and security within the processes. In this way, there cannot appear any mistakes in the repetitive, automated tasks due to a loss of concentration and the total error level of the whole banking company can be reduced with over 20%.

A severe challenge could appear if the robot stops working and gets out of order. Employees are already doing other tasks and do not have the time to do all the tasks that the robot was doing. If this would happen, there would not be enough work force within the banking company to cover this problem. Therefore, a defect of the robot needs to be solved immediately, otherwise it will have severe consequences for the realisation and quality of the processes.

4.4   Reasons for (not) implementing RPA

Table 5 Overview of reasons and challenges of implementing RPA

Company	Reasons for implementing RPA	Challenges of implementing RPA
BNP Paribas Fortis	• Combining RPA with AI	• A lot of banking companies underestimate the effort needed for the implementation of RPA
Belfius	• Improvement of the stress level of a team	/
ING	• Optimal use of employee skills	/
Febelfin	• Productivity is key	• Law should be adjusted • Strict regulations
SAP	/	• RPA is not the only solution • Combining RPA and machine learning
Capgemini Invent	• Quick return on investment	/

Source: Based on interviews

Nowadays most banking companies are implementing Robotic Process Automation. As can be seen in table 5, there are several reasons to implement RPA within a banking company, but there are also multiple challenges that need to be taken into account. On the one hand, banking companies need to implement digitalisation tools such as RPA because digitalisation leaves them no choice, but on the other hand because the banking sector is a very competitive sector in which productivity is key. Banking companies need to rethink their business models in order to keep a strong competitive position. If all banking companies follow this trend, this could cause an improvement of the competitive position of the entire Belgian banking sector and an increase in

the status of Belgium as financial hub. Furthermore, this could also lead to an increase of the attractiveness of Belgium in terms of innovation.

The main expectations of banking companies when implementing RPA are an improvement of quality and more cost efficiency. In addition, it seems that RPA is the best method to achieve a quick return on investment of 80% within a time period of three to six months. By reducing the workload, the stress level of a team could also be lowered. This means that employees can use their knowledge and skills even better, which will lead to more employee satisfaction.

However, banking companies need to take into account that RPA is not always the optimal solution. First of all, banking companies need to follow a lot of strict regulations, which makes it difficult to gather customer information. If they would be able to capture more customer information, they could use this information when programming the robot and provide a better service. Secondly, there are still a lot of banking companies that do not chose the right processes to be automated, which turns out to be very costly. Too much banking companies see RPA as a very simple tool, but they need to keep in mind that moving from a proof of concept to a real entity requires a real investment in terms of time and money. A last aspect is that RPA is not the only solution on the market. Artificial Intelligence and Machine Learning are two tools that go a little bit further in automating processes. These tools are able to evolve and to learn like a human being does, which will increase the confidence level of the processes. According to most banking companies, a combination of Robotic Process Automation with Artificial Intelligence or Machine Learning would have a lot of potential for the future of the banking sector. This is further explained in the next section.

4.5 Future of RPA within the Banking Sector

Table 6 Overview of future of RPA

Company	Future
BNP Paribas Fortis	• RPA will take over more value adding processes and tasks • The use of RPA is more temporarily and will disappear in the long run • Combining RPA with AI would provide a lot of new possibilities
Belfius	• In the short term: extend our range and use RPA for more complex processes • Combining RPA and AI
Febelfin	• Banking sector is developing slowly • Banking companies need to follow the digitalisation trend in order to stay competitive • Make sure that all processes are stable
SAP	• RPA has to become more intelligent in the long run • Need for more statistic logic and advanced artificial intelligence • Robots need to be able to evolve within the company
Capgemini Invent	• RPA will take over more complex tasks • RPA is a booming industry • A lot of potential in the short and long run

Source: Based on interviews

It is clear that Robotic Process Automation is a work in progress which will grow further in the future. In the short term, RPA will be able to realise more complex tasks while affecting processes, technologies and organisations. Since this tool is evolving very fast, the implementation of RPA can be seen as a booming industry. Despite the fast evolving technology, the banking sector itself

develops very slowly. Before implementing new technologies, banking companies need to be sure that all processes are stable to avoid making mistakes. Nevertheless, banking companies do need to follow the digitalisation trend in order to stay competitive, otherwise the banking company would not survive in this competitive sector.

Although RPA is booming nowadays and still has a lot of potential, most banking companies see pure robotics as a temporarily phenomenon. The respondent of BNP Paribas Fortis stated: "*The robots that we create and use today are just a temporary phase. Ideally, all systems would be straight-through and all processes would be automated due to the existing banking systems.*" They believe that the pure RPA will disappear in the long run, because there will be need for tools that can evolve within the company and that can think in the same way as a human being does. More concrete, banking companies will need to search for tools that include statistic logic and advanced artificial intelligence. In that way, the banking sector is convinced that a combination of Robotic Process Automation with Artificial Intelligence or Machine Learning provides a lot of potential for the future of banking companies. The respondent of Capgemini Invent believes that these combinations are a booming industry as also mentioned in table 6. When customers, employees and banking companies become more familiar with several digitalisation tools and when laws and regulations evolve with the digitalisation it would become possible to automate more complex processes than what is able today.

5 Discussion and conclusion

The last section of this master thesis provides a discussion in which the academic literature is compared to the analysis of the interviews. This means that the proposed propositions are discussed to find out whether they hold or not. Thereafter, a brief conclusion is given in which the key points of this study are provided, such as shortcomings of the study and suggestions for further research.

5.1 Discussion

The first proposition stated that RPA will increase the overall efficiency of a banking company as it can perform more complex processes. This proposition is both supported and refuted by the results. According to the respondents, RPA does increase the overall efficiency within a banking company, since the introduction of a robot leads to a reduction of the workload, a higher level of quality and accuracy and more internal productivity because a robot can work non-stop. However, the Belgian banking companies do not seem to be convinced that a robot can take over more complex tasks and processes, which is in contrast with the results of Anagnoste's study (2017), which took place in Romania. According to all respondents, RPA is nowadays used to take over the more simple, rule-based tasks in order to let the employees focus on the more complex tasks. That way, Belgian banking companies are using RPA to support the back offices and to act as a helper. However, since RPA is a booming industry and is still evolving in the Belgian banking sector, the respondents do believe that RPA will be able to take over more complex processes in the near future.

Secondly, previous research has investigated the impact of RPA on employees. A study that was done in London (Lacity & Willcocks, 2016) ended up having contrasting results with a study that was done in several Asian countries (Fernandez & Aman, 2018). The study of Lacity and Willcocks (2016) mentions that employees were happy with the introduction of robots as they saw it as an opportunity to get new challenges and more responsibilities. This study is partly supported by a study of Perez and Martin (2018) which states that using RPA will call for a change in skills and profiles that will lead to new and more complex jobs. On the other hand, the research of Fernandez and Aman (2018) mentions that employees were demotivated due to the introduction of robots because they had difficulties with internal changes within the company. The question now is whether the second proposition "implementing RPA will have a significant impact on the current jobs in a banking company as RPA will call for a change in skills and profiles of current employees" holds for the Belgian banking companies.

As the amount of employees within the Belgian banking sector is already decreasing over the last years, the introduction of robots seems to be an additional reason that employees fear losing their jobs. According to the respondents, it is not their intention to fire employees and to let robots take over someone's full job. Banks nowadays want robots to support employees, to be part of a team and to lower the workload. However, if employees make the switch to more complex jobs, this will definitively call for a change in skills and profiles. This way, the old jobs that include a lot of repetitive tasks will disappear and new jobs will be created. Important to mention is that the study of Perez and Martin (2018) makes this change and need for new profiles sound rather easy, while this is regarded more difficult than that according to the respondents of this thesis. It seems that some employees are not able to take refresher courses and the right profiles are not always easy to find on the Belgian market. This adds a lot of difficulties to making the switch from a manual and repetitive job to a more complex job.

The third and last proposition stated that the implementation of RPA in financial and accounting processes will improve these processes within a banking company. According to the respondents, the implementation of RPA does lead to an improvement since these processes can be done much faster with an error rate of almost zero percent. The robots can consistently work 24/7, which creates a constant level of quality and productivity. In addition, the implementation of RPA leads to a lower workload and therefore reduces the overall stress level of the employees. These results are supported by a Lithuanian study from Kloviene and Gimzauskiene (2015) that argues that the introduction of RPA leads to an increase in the quality of accounting methods within a company.

It is clear that the results of previous research and this research are not always the same. Benefits, challenges and the implementation of RPA itself may be different in other countries due to differences in culture and regulations. Another possible explanation for these differences may be that Belgium has a more wait-and-see attitude and in terms of innovation, Belgium seems to develop slower than other countries because they first want to investigate and comprehensively test new techniques and technologies before adapting them.

5.2 Conclusion

This thesis has provided new insights about the use of Robotic Process Automation in the Belgian banking sector in a time when digitalisation is becoming increasingly important. Previous research in other counties showed that there are a lot of benefits related to RPA, such as a reduction of the error rate and an improvement of speed and quality. In order to investigate whether these results hold for Belgian banking companies, a qualitative study has been undertaken in which different respondents from banking and non-banking companies have been interviewed.

As a conclusion to the research question "*How can RPA improve financial and accounting processes in the banking sector?*", this study has found that implementing RPA provides a lot of benefits for banking companies. The financial and accounting processes, which are mostly manual, repetitive tasks, can be done very fast at a constant level of quality. This way, employees enjoy a lower workload and can focus on more complex tasks which increases both employee and customer satisfaction. Since the Belgian banking sector itself is focussing more on being innovative, it will acquire a stronger competitive position on the global market. However, banking companies need to take into account that there are also a number of challenges and risks linked to the introduction of RPA. First of all, the banking companies need to follow strict regulations that can differ between countries. Secondly, using robots will cause job losses as the more rule-based jobs will disappear and, thirdly, RPA is not the only solution available. Banking companies need to take into account the presence of alternative solutions, such as machine learning and artificial intelligence.

This thesis contributes to the existing literature because it studies the impact of RPA in a way that has never been examined before. It qualitatively investigated the use of RPA in Belgian banking companies as a means to improve the financial and accounting processes within these companies. In doing so, the thesis complements previous studies and provides a basis for further research. Furthermore, there are also some practical implications. The results of this study would be interesting for Belgian banking companies who are in doubt whether or not to implement RPA in their internal processes. As the results based on experiences from experts in the field show that RPA yields many advantages and opportunities, but still poses certain challenges, banking companies can use this input to consider more deliberately if implementing RPA would be a good choice for them.

In the end, two considerations with regard to further research should be noted. Only three banking companies were interviewed, which makes the scope of this study quite small. A larger study with a lot more respondents may result in different outcomes. Secondly, as the banking sector attaches a lot of importance to privacy, some respondents would or could not answer some questions because they did not want to give confidential information. Because of this, some questions are not fully answered and not all relevant information could be incorporated in this thesis. Based on these shortcomings and answers from the respondents, it would be beneficial for further research to have a larger sample group and to investigate not only Robotic Process Automation, but to look at the combination of RPA with for example artificial intelligence.

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Appendix 1: Interview questions banking companies

Interview questions for:

- BNP Paribas Fortis
- Belfius
- ING

Background information:

- What is your function within the company?
- How long do you work for this company?
- What have you studied?
- Can you give a short overview of you career?

Do you use Robotic Processing Automation in your banking company?

<u>**Scenario 1: YES**</u>

- Are you using RPA in the financial and accounting processes of the company?
- Or (also) in other processes or departments?

<u>Why</u>?

- Why did you chose to use RPA?
- What drivers has led to the use of RPA?
    - What are the benefits?
    - Are there maybe also some negative aspects to mention?

<u>Who</u>?

- Who came up with the idea to use RPA?
    - Department/company level?
- Who is using RPA the most frequently?

<u>When</u>?

- When did someone came up with the idea to use RPA?
- How long are you using RPA?

<u>How</u>?

- How did you implement RPA in (the financial and accounting processes of) the company?
- Were there several steps you had to undertake? And if yes, which ones?
    - Trainings?
- How does RPA improve the financial and accounting processes?

<u>What</u>?

- Which processes are exactly taken over by RPA?
    - How is this going?
    - Are there problems?
    - Extra benefits?

- o   Any important findings to mention?
- What are the consequences of using RPA?
  - o   Cost reducing?
  - o   Improved quality?
  - o   Customer satisfaction?
  - o   Employagility?
  - o   Job cutting?
  - o   Privacy/online consumer protection?
  - o   …

Future

- How do you see the future of RPA within the banking sector?

Scenario 2: NO

Why?

- Why did you chose not using RPA?
  - o   Challenges
  - o   Disadvantages
  - o   Positive aspects to mention?

Alternatives

- Do you use alternative methods or software platforms/programs?
  - o   Which ones?
  - o   Why?

Do you see future possibilities for implementing RPA in your company?

Appendix 2: Interview questions non-banking companies

Interview questions for:

- SAP
- Capgemini Invent
- Febelfin (to get a more general overview of RPA within the banking sector)

Background information:

- What is your function within the company?
- How long do you work for this company?
- What have you studied?
- Can you give a short overview of you career?

<u>Why</u>?

- Why would you recommend using RPA or why not?
    - o Advantages/benefits?
    - o Disadvantages/challenges?
- Why is RPA normally used within a company?

<u>Who</u>?

- Do you know who came up with the general idea of RPA?
    - o Department/company level?
    - o How did he/she came up with this idea?
- By who is RPA normally used within a company?

<u>When</u>?

- How long does RPA exists?
    - o How did it came up?

<u>How</u>?

- How is RPA implemented in a company?
    - o Are there several steps to take?
        - ▪ Trainings?
    - o Is it possible to implement RPA in financial and accounting processes of a banking company?
        - ▪ How do you see this?
        - ▪ How can RPA improve these processes?
        - ▪ Advantages/disadvantages?

<u>What</u>?

- According to you, which tasks are best taken over by RPA?
    - o Only simple, repetitive tasks or also complex, analytical tasks?
- What are the consequences of using RPA?
    - o Cost reducing?
    - o Improved quality?

- Customer satisfaction?
- Employagility?
- Job cutting?
- Privacy/online consumer protection?
- …

Future

- How do you see the future of RPA within the banking sector?

Press release

The rise of robots: opportunities and threats for the Banking Sector

ANTWERP May 10 - *Over the last years, banking companies are focussing more on digitalisation in order to reduce human mistakes, but also to keep up with the changing technologies. A recent study of KU Leuven investigated the impact of one of these in the Belgian banking sector: Robotic Process Automation. The study shows how RPA can be advantageous for the sector, but also poses threats such as job losses.*

Robotic Process Automation

Robotic Process Automation (RPA) is a more recent method to automate processes like uploading, exporting and importing files. However, its value and consequences for financial and accounting processes was still uncertain. A recent KU Leuven study by Hannah Valgaeren has now examined how this tool is implemented in the financial and accounting processes in Belgian banking companies. RPA takes over the more simple and manual tasks, such as comparing different data sources and making calculations. This way, tasks can be executed much faster and employees have more time to focus on more complex tasks. The study clarifies that RPA yields many advantages, but comes with some challenges as well.

Improving overall satisfaction and quality

Using RPA in banking companies makes it possible to run processes at a higher level of speed and improve quality. As a robot can work 24/7 on a constant level, the overall efficiency will increase. Furthermore, employees can use the additional time this creates to focus on human-related and complex tasks, which means that customers will get a better service and employees can gain more responsibilities. Eventually, this will lead to a higher employee and customer satisfaction in the company.

Legal issues and job losses

However, new technologies always tend to come with some unwanted side-effects and that is not different in the case of Robotic Process Automation. First of all, the legal regulations for this kind of digitalisation tools are quite unclear and differ in each country. This makes it very difficult for banking companies to incorporate RPA, since it is not always evident for which processes it can be used. In addition, as robots can perform actions at a higher speed and level of productivity, several jobs could be lost because RPA can replicate the more simple tasks that a human was doing. These findings are the result of multiple in-depth interviews with several experts in the field of digitalisation and RPA.

This academic study that took place in 2019 on Robotic Process Automation was carried out by Hannah Valgaeren in the context of her master thesis for the KU Leuven master in Business Administration at the Faculty of Economics and Business. For further information, Hannah Valgaeren can be contacted by mail at hannah.valgaeren@hotmail.com or by phone at 0465802219.

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