

ИНФОРМАТИКА И КОМПЮТЪРНИ НАУКИ **INFORMATICS AND COMPUTER SCIENCES**

IMPACT OF ROBOTIC PROCESS AUTOMATION ON THE DESIGN OF MANAGEMENT REPORTING

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Abstract: *In the age of digitalisation, various technologies are increasingly having a direct impact on controlling processes. Robotic Process Automation (RPA) has a significant impact and some benefits on the way companies create and manage their management reporting. Applying Robotic Process Automation (RPA) technology to controlling and management reporting tasks can lead to cost savings, improved process documentation, lower error rates and better report quality. The aim is to test this hypothesis through a qualitative literature review. In the age of digitalisation, reporting is undergoing major changes. Robotic Process Automation is repeatedly mentioned as one of the defining technologies. The results of the study show that Robotic Process Automation brings benefits to the controlling process. At the same time, it poses a risk to the competitiveness of companies that do not implement this technology. Digitalisation can therefore be both an opportunity and a risk.*

Keywords: *Robotic Process Automation, Impact, Management Reporting, Controlling, Digitalisation*

INTRODUCTION

Many CFOs and heads of controlling are currently working intensively on developing and implementing plans for the future structure of their finance and controlling departments. They face the complex challenge of simultaneously building new skills to continuously enhance the value offering for internal customers while also reducing costs. Emerging digital technologies offer effective tools to achieve these diverse goals. One of these technologies, Robotic Process Automation (RPA), can significantly contribute to increasing the efficiency of finance and controlling functions. In corporate practice, most common RPA applications are currently found in key controlling processes such as management reporting, data management, cost, performance, and profitability accounting, as well as planning, budgeting, and forecasting. These processes benefit from not only reduced personnel requirements but also higher processing speeds, constant availability around the clock, and consistent quality through robotic automation. As a result, the capacities of the affected controllers are freed up for more demanding, high-quality tasks (Gleich 2020). Many companies in Germany, Austria and Switzerland have already recognised the potential of Robotic Process Automation. An increasing number of companies are implementing this technology in their finance and controlling processes (PwC 2020, 6).

In literature and practice, a comparatively high degree of application of RPA can be seen in the controlling process 'management reporting'. Therefore, it seems reasonable to specifically examine this context. The present scientific work therefore deals with the impact of RPA technologies on the design of management reporting in companies in Germany, Austria and Switzerland.

The purpose of reporting is to provide management with the information obtained from controlling. It is therefore of great importance to the management that the data is prepared in such a way that all information can be accessed in a compressed form. The reporting is adapted to the individual context and the respective addressee, so that the reporting provides a targeted overview of the situation (Taschner 2019, 1). Management reporting occupies a special position among the various types of internal reporting. It is used for reporting directly to the board or top management. For this reason, it has some special

features, such as explanations of the information, which are designed to make it easier for management to understand the facts. This is because they may not have direct access to the relevant departments, but still need to gain an overall understanding of the company's situation (Waniczek et al 2018, 6).

The topic of robotic process automation deals with programmable robots that automate and autonomously handle entire processes in companies. The capabilities and functions can be expanded depending on the software and process. The interaction of robotic process automation is intended to serve as a replacement for a human part within processes. In principle, potentials such as increasing efficiency and saving human resources should be utilized here. In the course of the dynamic digitalization of processes and the simultaneous demand for continuous improvement, new technologies and systems for automation and optimization are increasingly emerging. Robotic process automation is one such innovative approach to meeting these requirements. The focus here is on minimizing necessary manual activities in the company and thus achieving an increase in efficiency. Selected activities are to be taken over by robots so that human intervention is no longer necessary. The activities are to be implemented in such a way that no changes need to be made to the underlying processes. Manual human intervention should be imitated as closely as possible without having to adapt systems and system logic on the robots. This also makes it possible to use robotic process automation on existing systems, which is a significant advantage. The special feature is essentially that manual process executions are digitized without the need for high implementation costs. This technology is particularly attractive for companies with time-intensive, repetitive activities (Czarnecki 2018, 113).

Innovative digitalization trends are creating new potential and changing requirements for management reporting. The digital tools that will increasingly change reporting in the future include BI technologies such as Robotic Process Automation (RPA) (Najderek 2020, 132).

RESEARCH METHODOLOGY

This paper is presented on the basis of a literature analysis. A literature analysis deals with the task of systematically comprehending and analysing existing and published knowledge. It is an internationally recognised research method, although it is mainly used in English-speaking countries. Existing works are analysed with regard to a defined question. The added value lies in collating a large amount of relevant research and thus answering a research question. Gaps in research can thus be closed. Various works of literature were considered for this study. On the one hand, scientific papers were consulted to create a theoretical basis. On the other hand, studies by the largest auditing and consulting firms were consulted to establish a practical reference. First, the current state of research is reviewed. The study examines the positive impact that RPA technologies already have on management reporting in practice. At the same time, it provides explanations as to why their use in controlling is still limited. Finally, the possible future development is evaluated.

RESULTS

The impact of robotic process automation on management reporting is currently still limited in performance-oriented corporate management. The technology is primarily used in the automated processing of standardized and repetitive processes (KMPG 2019, 12).

Robotic process automation is therefore often used in processes that have a high potential for optimization through automation. On the one hand, overall efficiency can be increased through faster processing of the tasks. On the other hand, the technology can be used to reduce errors because of automation. If the technology is currently only used to a limited extent, the potential is considered to be highly relevant. Digitalization can therefore be used even more in this context (Dillerup et al 2019, 49).

The advantages of software robots in the context of RPA technologies are manifold. Companies in Germany, Austria and Switzerland cite the following aspects as one of the main advantages. More than 80 per cent of all respondents named time savings as one of the main objectives of automation. Other aspects include more understandable processes, achieving higher levels of digitalization and using existing resources for more interesting activities. In addition, learning effects, scalability and better compliance were mentioned as advantages, but these currently play a rather minor role (PwC 2020, 15). It is clear that

the full benefits are not yet apparent to everyone.

One of the main reasons why RPA is still rarely used in practice is the lack of knowledge and education in the field. Although most companies have accepted digitization as an important topic, the RPA technology is not yet widely recognized. Studies show that the upper management of many companies misjudges the technology and overestimates the implementation costs. As a result, the potential of RPA is not yet being fully utilized. This emphasizes the importance of education. The PwC study shows that over half of all companies state that they have not yet looked in depth at RPA technologies. The main reasons cited are the high level of implementation effort expected, the high level of complexity and difficulties in understanding (PwC 2020, 9). In addition, many companies are experiencing a shortage of IT staff. Since the IT department is often responsible for the introduction and ongoing maintenance of RPA technologies, or at least has to provide support, this represents an obstacle for many companies. IT departments are already working at full capacity and it is comparatively difficult to find qualified employees on the market (PwC 2020, 21). This makes it clear that education and openness towards the technology could minimize barriers and enable more companies to benefit from RPA. At the same time, it makes it clear that there is a high potential for consulting or implementation services for experts in the field.

The use of RPA is seen in the literature as having great potential in this context. A significant effect is seen here in the automation of repetitive processes. The use of software robots can significantly optimize efficiency, use of resources and productivity. The challenges here lie primarily in the IT integration of the applications into the respective systems. Here, however, the integration of robots proves to be an advantage, as no completely new systems need to be developed, but the robots support existing systems. In principle, the technology is suitable for the automated creation of reports and the preparation of data. It can be assumed that this will increasingly simplify reporting and that the rapid analysis of large volumes of data will continue to come to the fore in the context of controlling (Deloitte 2019, 31).

In future, robotic process automation (RPA) will also be an important part of the reporting process. RPA refers to the automation of company processes that were previously carried out by employees. RPA is seen as a software employee who executes company processes and thus replaces the employee. The automation of manual tasks can therefore reduce costs in controlling and increase productivity (Heimel 2019, 423).

Ad-hoc reporting is used when management needs information on a specific occasion. Ad hoc reporting usually deals with specific issues arising from a particular situation. As these situations can often arise at short notice, controlling must be able to collect and process the data in a timely manner. This form of reporting places greater demands on controlling structures, such as the IT infrastructure, which are directly related to the evaluation and comprehensible preparation of data and information (Waniczek et al 2018, 7). RPA technology can therefore offer significant added value, especially in ad hoc reporting. Data can be captured and interpreted in real time.

A common criticism of automation is of an ethical and human nature. In connection with technologies such as RPA, the potential risk that the technology will replace human labor and thus jeopardize many jobs is often mentioned. A study by one of the leading consulting and auditing firms (PwC) cannot confirm this connection. Around 75 per cent of the companies surveyed stated that they do not dispense with human personnel as a result of RPA bots, but rather that additional opportunities arise. This is another area where openness to technology can refute some of the prejudices (PwC 2020).

The technology can link data relevant for reporting, create interfaces and process it as needed. However, within this controlling process, there are regularly self-contained ERP systems that cannot interact with other systems. At these points, manual human intervention is required to keep the applications in a functional state. The software also needs to be implemented and updated to ensure that the best possible results are achieved (Alexander et al 2019). Humans are therefore not being completely replaced, as some critics often claim.

CONCLUSION

Companies in the D-A-CH region have already recognized the potential of RPA technologies to some extent. A large proportion of them are already using the solutions, at least in individual processes. It

is clear that those who do not yet use the technology lack information and understanding. Overestimating the implementation effort is one of the biggest barriers to using the technology. It can be assumed that more and more companies will use this technology in the future. Digitization as a whole is increasing in practice. RPA is one of the key terms in this context.

The advantages of RPA are diverse and almost obvious. Processes can be automated and handled more efficiently. However, the advantages can go much further. It is clear that the use of the technology in companies is only just beginning and that its full potential is far from being exhausted. It is also clear that ethical risks have not yet been confirmed. This also speaks in favor of further promoting the technology. So far, RPA has been used in companies primarily in controlling. Within this discipline, management reporting has so far offered the most opportunities for the application of robotics and automation. In the future, the technology will probably – and there are indications that this is the case – be used more and more in other controlling disciplines.

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ВЛИЯНИЕ НА АВТОМАТИЗАЦИЯТА НА РОБОТИЗИРАНИТЕ ПРОЦЕСИ ВЪРХУ ДИЗАЙНА НА УПРАВЛЕНСКИТЕ ОТЧЕТИ

Резюме: В епохата на цифровизацията различните технологии все повече оказват пряко въздействие върху процесите на контрол. Автоматизацията на роботизираните процеси (RPA) има значително въздействие и някои ползи за начина, по който компаниите създават и управляват управленската си отчетност. Прилагането на технологията за автоматизация на роботизирани процеси (RPA) към задачите по контролинг и управленска отчетност може да доведе до намаляване на разходите, подобряване на документацията на процесите, намаляване на процента на грешки и по-добро качество на отчетите. Целта е да се провери тази хипотеза

чрез качествен преглед на литературата. В епохата на цифровизацията отчетността претърпява сериозни промени. Автоматизацията на роботизираните процеси многократно се споменава като една от определящите технологии. Резултатите от проучването показват, че роботизираната автоматизация на процесите носи ползи за процеса на контролинг. В същото време тя представлява риск за конкурентоспособността на компаниите, които не прилагат тази технология. Следователно цифровизацията може да бъде както възможност, така и риск. **Ключови думи:** роботизирана автоматизация на процесите, въздействие, управленска отчетност, контрол, дигитализация

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