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Chapter 6
Transforming Management Accounting with Robotic Process Automation – Requirements and Implications

Abstract: This chapter explores the role and influence of robotic process automation (RPA) on the work of accountants and specifically examines the impact of RPA on the job profile, knowledge and required skills of the management accounting profession. Following a qualitative research approach, semi-structured in-depth interviews are conducted with accounting and finance experts from bigger Swiss corporations in order to complement existing literature with new empirical data from practical experience. Results show that management accountants will not be dismissed by RPA as they understand their role as internal business partners and advisors if they focus on valuable tasks and capabilities. Evidence from expert interviews and literature provides insights into a necessary change in the qualifications of the management accounting profession induced by a growing number of RPA implementations in Swiss corporations. Further studies may wish to explore the changing requirements of the management accounting job profile with extended empirical research.

Keywords: robotic process automation, RPA, automation, finance transformation, management accounting, accounting, controlling, artificial intelligence, process management

6.1 Introduction

Due to the COVID-19 pandemic and other extraordinary shocks, the relevance of lean and cost-efficient indirect processes has increased and therefore accelerated the use of digital-enabled solutions (Eklund, Kabra & Rao, 2022). Especially robotic process automation (RPA) has become a popular software technology in recent years and is one of the fastest-growing software implementations due to an increasing business de-

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mand for efficiency and productivity (Gartner, 2022). With software robots being embedded in business processes, RPA can not only take over tasks of human workers but also offers massive productivity and efficiency gains by automating highly repetitive, administrative processes (Flechsig, Lohmer & Lasch, 2019).

According to Aguirre and Rodriguez (2017), processes that are suitable for RPA use are characterised by being standardised and rule-based with lower cognitive requirements, but are highly prone to human error due to manual labour as well as performed through digital data handling with access to multiple systems. Although RPA nowadays is considered to be an established technology, it is the combination of RPA and artificial intelligence (AI) that leads to various synergies beyond cost benefits through the automation of back-office processes (Lamberton, Brigo & Hoy, 2017). As a consequence, the possibilities of AI in the context of process automation brought up the scenario of a digital workforce, especially within a company's support functions (Automation Anywhere, 2022). In this context, Moffitt, Rozario and Vasarhelyi (2018) and Tripathi (2018) indicate that providers of RPA solutions often ignore the savings effects on human workforce but instead emphasise the activity shift from repetitive tasks to more creative or valuable tasks as a benefit of RPA. On the other hand, Ivančić, Suša Vugec and Bosilj Vukšić (2019) concluded that RPA has more often been implemented in various organisations in recent years than it has been investigated in the research.

Furthermore, today's capabilities for handling complex tasks, especially within back-office or support functions, have become broader and led to concepts such as *hyper automation* or *smart automation* (Lacity & Willcocks, 2016; Lasso-Rodriguez & Winkler, 2020; Schmitz, Stummer & Gerke, 2019). This also relates to accounting including business or corporate functions in a company's back-office which often have been centralised in shared service centres (SSC) during the past years (Howcroft & Richardson, 2012). Being among those corporate functions with a high estimated potential for automation, accounting is therefore expected to be an object of digital transformation that is leveraged by the increasing number of RPA implementations in SSC (Anagnoste, 2017; Lacity & Willcocks, 2016).

After years of organising back-office functions of accounting in SSC, the application of RPA combined with AI has become an inevitable trend to decrease operational costs through efficiency and accuracy (Figueiredo & Pinto, 2021). According to Lacity and Willcocks (2016), the processes and tasks in accounting that are most affected by the use of RPA include not just the classic end-to-end processes such as order-to-cash (O2C), procure-to-pay (P2P) or record-to-report (R2R) but also subprocesses like debt collection, incentive claim or trend tracking.

Despite high expectations on the various benefits of RPA mentioned in the literature, Meironke and Kuehnel (2022) point out that traceable assessments of these benefits are rare but at the same time often cited in literature without sufficient empirical evidence. Moreover, the automation of manual processes and tasks, which can currently be observed in accounting in particular, seems likely to trigger a profound change in job profiles (Harrast, 2020).

Given this background, this chapter aims to assess the current and long-term impacts of RPA robots on workplaces and job profiles in management accounting.

With regard to this overall goal, the following three research questions should be examined and answered:

RQ1: Where do resource savings through RPA show up in management accounting?

RQ2: What alternative uses are the saved resources going to?

RQ3: What new tasks and competences are emerging that will affect the work of experts in management accounting?

This chapter follows an exploratory qualitative research approach to better understand the implications of RPA for (management) accounting and is therefore structured as follows: After Section 6.1, the adopted research methodology is described, before Section 6.3 presents the findings from six interviews with accounting and finance experts of larger Swiss corporations. Finally, the chapter concludes with discussing its results and implications, reflecting on limitations and suggesting prospects for further development.

6.2 Methodology

With regards to the research objective, insights are gained from existing literature and practical experience on the use and benefits of RPA in the areas of accounting and finance. Therefore, this study was conducted using a qualitative research approach, with expert interviews serving as the main data-gathering method while being based on Grounded Theory. According to Mayring (2015), a qualitative content analysis is defined by its explicitly rule-based framework which allows for a structured and systematic handling of language material.

The interview partners were selected on the basis of a stakeholder analysis in the area of management accounting. It was found that people from the areas of consulting, financial management, HR management and accounting management were particularly suitable. This was identified by considering three main criteria for suitability: experience in the field of robotics, knowledge of the skills and responsibilities of management accountants, and sufficient experience in human resource development and planning. All three criteria were used in the evaluation with equal weighting of one-third each. After the evaluation, the stakeholders were divided into groups A, B and C based on their scores, with group A containing the most suitable and group C the least suitable stakeholders.

In total, six people were interviewed. They work in companies in the German-speaking part of Switzerland. It must be noted that the job titles mentioned in the stakeholder analysis are not always exactly transferred to the business world as functions

often blur into one another. The majority of the search for suitable participants was carried out by consulting existing networks of the authors. All expert opinions were treated confidentially and anonymously. Table 6.1 summarises the expert characteristics.

Table 6.1: Overview of expert characteristics.

Expert number	Job title	Area of expertise	Date
Expert 1	Head Financial Reporting	Finance	14 June 2021
Expert 2	Lecturer in HR Management and Leadership	Consulting and HR	15 June 2021
Expert 3	Management and Founder	Consulting	24 June 2021
Expert 4	Head Finance Transformation	Finance	24 June 2021
Expert 5	Head of Controlling and Accounting	Accounting and Finance	25 June 2021
Expert 6	CFO and HR Director	Finance and HR	1 July 2021

The interviews took place between 14 June 2021 and 1 July 2021 and were conducted online, via Microsoft Teams, due to the COVID-19 pandemic. All interviews were conducted and transcribed in German because all interviewees were native German speakers. The mean duration of the interviews, excluding introductions and goodbyes, was between 23 and 36 minutes. This is at the lower limit of the recommended 30 to 45 minutes, but according to Meier, Polfer and Ulrich (2020), this could have been beneficial, as a short interview duration can lead to higher efficiency and attention. All of the six interviews were subsequently transcribed.

The main analysis of the empirically gathered data from the interviews is based on the theory of qualitative content analysis by Mayring (2015) and Gläser and Laudel (2010), using semi-standardised interview guides.

The topic blocks for the interview guide were formed based on the research questions and current literature. The first part of the interview dealt with the impact of robotics on resource planning in management accounting. The aim was to find out to what extent companies can benefit from the use of robotics. It should also be clarified whether the use of robotics leads to saving resources in management accounting. Afterwards, questions were asked about a possible shift of resources through robotics. The aim was to find out which other activities, some of them being new, could be taken over by management accountants. The third block of topics was the most comprehensive and built on the second block. The aim of this block was to find out which competencies and requirements specialists in management accounting should acquire for the activities mentioned. Before finishing the interview, an open final question was asked. According to Meier, Polfer and Ulrich (2020), this is useful in order to obtain information that is often not yet expressed but nevertheless significant for the study.

As mentioned before, the categories for the analysis of the data were deductively derived, which means that they have been derived and justified in advance from theory and the research questions. Furthermore, the structure of the data analysis has been set a priori. Mayring (2015) distinguishes between formal, content-based, typify-

ing and scaling analytical structures, where in this case the content-based structuring was deemed to be the most suitable, as the data from the interviews could be assigned to the predefined categories.

The in-depth analysis of the interviews followed the example of Gläser and Laudel (2010) and proceeded as follows. As soon as a text passage was found in the transcriptions of the interviews that could be assigned to the corresponding category, it was marked, edited and extracted into a separate list. In a further step, the category system was reviewed and, where necessary, improved and extended. Finally, the results were presented based on the defined structuring dimension, in this case content structuring. The aim of this method was to summarise the essential statements of the interviews within the categories (Mayring, 2015). The presentation of findings follows the format of Vitharanage et al. (2020), as this table format is considered fitting for the visualisation of the main results (see Section 6.3).

6.3 Results

In the following, the main findings drawn from coding and analysing the transcribed expert interviews are summarised and visualised (see Table 6.2). After the examination of potential savings in resources due to RPA implementation, its influence on shifts in resource allocation is assessed. Lastly, a variety of possible changes in tasks and needed skill sets are defined and motivated. The defined categories of change do not only arise from the expert interviews but are also covered by existing literature.

Table 6.2: Evidence from expert interviews and current literature.

Category of change	Evidence from interviews	Evidence from literature
Savings in resources through RPA implementation		
Time savings	"The aim is to achieve efficiency gains and, above all, to create more time for other activities." (Expert 1, Position 9) "[. . .] bringing about increased automation, simply frees up time for the further development of management accounting, i.e. that the employees don't have to deal with simple, boring standard tasks, but that they can really approach more complex problems and can really contribute directly to the value creation of the company" (Expert 6, Position 9)	Kreher et al. (2020) Kokina & Blanchette (2019) Qiu & Xiao (2020) Kaya, Turkyilmaz & Birol (2019) Knauer, Nikiforow & Wagener (2020)

Table 6.2 (continued)

Category of change	Evidence from interviews	Evidence from literature
Personnel resource savings	"The number of management accountants, in itself, could decrease because the field becomes more specific or because it becomes more automated." (Expert 1, Position 62) "And the human resources that are then freed up can be used for more complex issues. This inevitably leads to a much more exciting job for the employee, if they don't just have to do the same thing over and over again, but can really take care of creative and forward-looking topics." (Expert 5, Position 5) "And now, of course, I can say, okay, if I still have a lot of manual data compilers and then I introduce Robotics, I can most likely provide the same services with fewer staff." (Expert 3, Position 12)	Kreher et al. (2020) Hauptmann et al. (2020) Qiu & Xiao (2020) Kaya, Turkyilmaz & Birol (2019)
Shifts in resource allocation through RPA implementation		
Predictive analytics	"[. . .] Your prediction for next week looks very red so that you will somehow be at index 80 instead of index 100, what measures do you have to take before this prediction materializes?" (Expert 3, Position 15) "[. . .] I think it's moving a little bit away from just backward-looking data compilation, more towards a forward-looking management accountant that really does data interpretations, that's about managing the system which gathers the data and then interpreting it accordingly." (Expert 5, Position 15)	Keimer et al. (2018) Kaya, Turkyilmaz & Birol (2019) Knauer, Nikiforow & Wagener (2020) Wolf & Heidlmayer (2019)
Process automation	"On the one hand, we use the freed-up resources to build up further automation, i.e. to further automate our processes and achieve an increase in quality." (Expert 5, Position 19)	Loitz et al. (2020) Figueiredo & Pinto (2021)
Business steering	"Another point when one looks at planning is clearly market analysis. More time for market analyses, business steering, where should the journey go and so on." (Expert 1, Position 11) "[. . .] and on the other hand, the automations also give us much more time to really take care of the analyses and the management of the company and thus to gain deeper insights." (Expert 5, Position 19)	Kümpel, Schlenkrich & Heupel (2019) Schäffer & Weber (2016) Wolf & Heidlmayer (2019)

Table 6.2 (continued)

Category of change	Evidence from interviews	Evidence from literature
Focus on value-added services	"In other words, we can automate the boring, repetitive work and then really use the freed-up resources for important things like customer contact or new projects." (Expert 5, Position 3) "And the added value now is really taking the time to understand things. So, what exactly happened? Why did it happen? And then maybe even make recommendations for action and say: Okay, in the future we have to do it this way and that way." (Expert 1, Position 11)	Kümpel, Schlenkrich & Heupel (2019) Schäffer & Weber (2016) Knauer, Nikiforow & Wagener (2020)
Business partners	"[. . .] The idea would be to automate more in this area, so that the management accountant can take more care of the business partners." (Expert 4, Position 15) "[. . .] but then to take on any advisory functions, that in turn then generates more value for the company [. . .]" (Expert 6, Position 9)	Kümpel, Schlenkrich & Heupel (2019) Rautenstrauch (2019) Keimer et al. (2018) Wolf & Heidlmayer (2019)
Data analytics	"[. . .] it's already going in the direction of something like data analyst or programmer. It's a kind of fusion of different professions." (Expert 5, Position 21) "I have the feeling that a controller will and must deal more with the technical side, in the future [. . .]. [He] must understand, what you do with it all the data, what is the goal, what do I have to achieve [. . .]." (Expert 3, Position 17)	Klein & Gräf (2020) Kümpel, Schlenkrich & Heupel (2019) Schäffer & Weber (2016) Kaya, Turkyilmaz & Birol (2019) Knauer, Nikiforow & Wagener (2020)

Changes in tasks and needed skill sets through RPA implementation

Category of change	Evidence from interviews	Evidence from literature
Digital and IT expertise	"One competency that may not have been as strong as it is now were the programming skills. I think that in the future, every controller will have to acquire this knowledge in order to be able to see the possibilities and also the limitations of robotics." (Expert 5, Position 25) "[. . .] you have to understand what the possibilities are. You have to come to terms with the technologies." (Expert 3, Position 23) "[. . .] in the future, I think that the controller also has to bring along or build up the digital know-how himself. They need a certain affinity, otherwise it will be difficult." (Expert 4, Position 37)	Keimer et al. (2018) Loitz et al. (2020)

Table 6.2 (continued)

Category of change	Evidence from interviews	Evidence from literature
Methodological and analytical expertise	"[. . .] I mean something like design competence. In other words, creating models that can then be used or that are fed by robotics, AI or other options and produce reasonable outputs, i.e. forecasting models and things like that. I think that will be the future, that management accounting will also be somewhat active in terms of designing models." (Expert 5, Position 25) "I think the analytical aspect is also important. It is essential to be able to interpret the data and, above all, to draw the right conclusions, isn't it?" (Expert 6, Position 17) "Because you're really going to have the controller who, how should I say, who understands the engine, who does the data preparation, who makes sure that the data is complete and accurate." (Expert 1, Position 62)	Klein & Gräf (2020) Kümpel, Schlenkrich & Heupel (2019) Rautenstrauch (2019) Keimer et al. (2018) Wolf & Heidlmayer (2019)
Social skills	"As a controller who wants to have a real impact, I have to take a close look at the human factor. I see very, very, very big deficits there." (Expert 2, Position 25) "[. . .] And I think that's why controllers need certain soft skills, so that they can approach people and know how to get the data, the information, the relevant data from them." (Expert 6, Position 17)	Keimer et al. (2018)
Coordination and adaption-related skills	"In the future, we will have to cooperate much, much more than in the past across these supposed or actual departmental boundaries. This silo thinking is deadly." (Expert 2, Position 39) "[. . .] and the fact that not everything can be done in one place or in one person, that they [the management accountants] is strongly dependent on all data flows, on other places, on programmers, on data analysts, also a certain degree of leadership competence is necessary to be able to coordinate the people accordingly and also to be able to motivate them to work in the direction of management accounting [. . .]." (Expert 5, Position 35)	Keimer & Egle (2020) Wolf & Heidlmayer (2019)

Table 6.2 (continued)

Category of change	Evidence from interviews	Evidence from literature
Understanding processes in practice	"[. . .] the controller should have good insights into various departments, into processes. And that's where I see his tasks. If they see something that is being done well in department A, then they should take this knowledge to department B." (Expert 6, Position 17) "Theory and practice are always two worlds, of course. In practice [. . .] you have to gain experience, case experience. I would say that every deal, every contract is different. [. . .] you have to be able to apply the theory in practice." (Expert 1, Position 54)	Hermann, Stoi & Wolf (2018) Wolf & Heidlmayer (2019)
Understanding corporate structure	"I mean, if you want to upgrade, that is, provide predictive data that is relevant to business management, then you have to understand the business even more broadly." (Expert 2, Position 25)	Keimer et al. (2018) Knauer, Nikiforow & Wagener (2020)
Compliance	"What one should also, I think, keep an eye on, is the aspect of compliance [. . .]" (Expert 1, Position 68) "[. . .] what also strikes me is that a controller the longer the more also has compliance tasks, of course also according to company size [. . .]" (Expert 6, Position 21)	Kokina & Blanchette (2019) Kaya, Turkyilmaz & Birol (2019)

6.4 Conclusion

This study aims to add transparency to the existing transformation in accounting induced by RPA and to assess the current and long-term impacts of RPA on workplaces and job profiles in management accounting. Interview-derived results indicate that the use of RPA as an external driver is capable of influencing a wide range of activities in management accounting comprehensively and thus at the same time leads to a change in the previous activity profiles of these functions within organisations.

Answering the first research question relates to the scarce resource of *time*, as RPA enables software bots to take over low value-added and repetitive tasks, allowing these activities to be performed faster and with higher quality as well as accurateness.

Regarding the second research question, it can be stated that according to literature, two paths for future accountants have been identified. On the one hand, it is assumed that especially management accountants will develop in the direction of a business partner and thus become an internal consultant. On the other hand, they may specialise in the direction of a (citizen) data scientist. The results of the interviews clearly confirm these new role models, where a certain overlap between the tasks of management accountants and (citizen) data scientists exists. Therefore, it can

be assumed that management accounting will increasingly support management in an advisory capacity as a business partner in strategic issues. The risk of a possible displacement of management accounting by other, possibly also external experts does not exist, especially if management accounting has extensive and specific, internal knowledge and already assumes a central role in management support. Nevertheless, (management) accountants must continuously develop their skills and knowledge in order to strengthen their supporting role in a company.

With regard to the third research question, it can be stated that the scope of management accounting is clearly changing through the use of robotics. Repetitive and manual work that offers little added value to internal customers of management accountants is automated and the time freed up is reallocated to work such as predictive and prescriptive analytics or corporate and project control. In order to be able to take over this role and carry out these tasks, various competences are necessary, especially digitalisation skills and IT knowledge, to fully exploit the possibilities of new technologies. While programming skills are not essential but beneficial for understanding the systems, social skills need to be developed, as the use of robotics puts people even closer to the centre of leadership. Besides, analytical and advisory skills will be more important in the future due to the fact that comprehensive business and market knowledge is required to advise management in the best possible way. In order to work on its own reputation among internal customers, management accountants need to communicate the added value created in the company in an adequate and understandable manner. Especially, management accountants need the ability to coordinate across and cooperate with several departments and to adapt to the increasingly agile environment.

Finally, the major conclusions of this chapter can be summarised as follows:

– Time savings are the most important contribution following the introduction of RPA in accounting, allowing accountants to free themselves from routine tasks with comparatively little added value and instead deliver greater value to their internal clients by taking on high-value services.

– With the help of RPA, classic routine accounting activities within the finance organisation are automated, such as the processing of incoming invoices or expense reports. For many companies, this automation is of great importance because bots can complete tasks faster and more accurately than humans. However, the interviews show that staff savings are not the primary motivation to use RPA in the area of accounting, as the ongoing competition for highly skilled workers obviously suggests (Yigitbasioglu, Green & Cheung, 2023).

– The job profiles of management accountants are currently changing rapidly because of increased interest in further training focusing on application knowledge in RPA, AI and other IT-related disciplines such as data analytics or process mining. In addition, this study points out that the social skills of management accountants are likely to become more important in the future.

Despite the chapter's clear and valuable implications on the impact of RPA on resource (re)allocation and required skill sets in management accounting, it faces various limitations. Although being supported by existing literature, the qualitative approach of deriving arguments from expert interviews lacks generalisability and representativeness. The validity of results is not only threatened by the small number of interviewed experts but also by heterogeneity among them regarding position and experience. Despite limiting the scope and focusing only on the influence of RPA on management accounting at Swiss corporations, general statements regarding industry or country would require further quantitative research with detailed consideration for organisational characteristics. Nonetheless, the chapter is a valuable addition to existing literature by providing important implications for understanding and handling the far-reaching influence of RPA on (management) accounting.

Bibliography

Aguirre, S., & Rodriguez, A. (2017). Automation of a business process using robotic process automation (RPA): A case study. In: J. Figueroa-García, E. López-Santana, J. Villa-Ramírez, & R. Ferro-Escobar (Eds.), *Applied Computer Sciences in Engineering. WEA 2017. Communications in Computer and Information Science* (Vol. 742, pp. 65–71). Springer. https://doi.org/10.1007/978-3-319-66963-2_7.

Anagnoste, S. (2017). Robotic automation process – the next major revolution in terms of back office operations improvement. *Proceedings of the International Conference on Business Excellence*, *11*(1), 676–686. https://doi10.1515/picbe-2017-0072.

Automation Anywhere. (2022, May 6). *Top 5 back-office functions that should be automated*. https://www.automationanywhere.com/company/blog/rpa-thought-leadership/top-five-back-office-functions-that-should-be-automated (accessed 4 January 2023).

Eklund, S., Kabra, R., & Rao, S. (2022, August 18). *Optimizing front- and back-office services in advanced electronics*. McKinsey & Company. https://www.mckinsey.com/industries/industrials-and-electronics/our-insights/optimizing-front-and-back-office-services-in-advanced-electronics (accessed 18 January 2023).

Figueiredo, A. S., & Pinto, L.-H. (2021). Robotizing shared service centres: key challenges and outcomes. *Journal of Service Theory and Practice*, *31*(1), 157–178. https://doi.org/10.1108/JSTP-06-2020-0126.

Flechsig, C., Lohmer, J., & Lasch, R. (2019). Realizing the full potential of robotic process automation through a combination with BPM. In: C. Bierwirth, T. Kirschstein, & D. Sackmann (Eds.), *Logistics Management. Lecture Notes in Logistics*. Springer. https://doi.org/10.1007/978-3-030-29821-0_8.

Gartner (2022). *Gartner says worldwide RPA software spending to reach $2.9 Billion in 2022*. https://www.gartner.com/en/newsroom/press-releases/2022-08-1-rpa-forecast-2022-2q22-press-release (accessed 19 December 2022).

Gläser, J., & Laudel, G. (2010). *Experteninterviews und qualitative Inhaltsanalyse*. VS Verlag für Sozialwissenschaften, Wiesbaden.

Harrast, S.-A. (2020). Robotic process automation in accounting systems. *Journal of Corporate Accounting & Finance*, *31*(4), 209–213. https://doi.org/10.1002/jcaf.22457.

Hauptmann, M., Denny, B., Mallon, D., Poynton, S., Schwartz, J., Van Durme, Y., Volini, E., & Yan, R. (2020). *Die soziale Organisation bei der Arbeit: Paradox in die Zukunft*. Deloitte Insights. https://www2.deloitte.com/content/dam/Deloitte/at/Documents/human-capital/at-hc-trends-2020-deutsch-kurzfassung.pdf (accessed 19 January 2023).

Hermann, K., Stoi, R., & Wolf, B. (2018). Robotic process automation in finance & controlling der MANN+HUMMEL Gruppe. *Controlling*, *30*(3), 28–34. https://doi.org/10.15358/0935-0381-2018-3-28.

Howcroft, D., & Richardson, H. (2012). The back office goes global: exploring connections and contradictions in shared service centres. *Work, Employment and Society*, *26*(1), 111–127. https://doi.org/10.1177/0950017011426309.

Ivančić, L., Suša Vugec, D., & Bosilj Vukšić, V. (2019). Robotic process automation: Systematic literature review. In: C. Di Ciccio, R. Gabryelczyk, L. García-Bañuelos, T. Hernaus, R. Hull, M. I. Stemberger, A. Ko, M. Staples (Eds.), *Business Process Management: Blockchain and Central and Eastern Europe Forum. BPM 2019. Lecture Notes in Business Information Processing* (Vol. 361, pp. 280–295). Springer. https://doi.org/10.1007/978-3-030-30429-4_19.

Kaya, C.-T., Turkyilmaz, M., & Birol, B. (2019). Impact of RPA technologies on accounting systems. *The Journal of Accounting and Finance*, *82*, 235–250. https://doi.org/10.25095/mufad.536083.

Keimer, I., & Egle, U. (2020). *Die Digitalisierung der Controlling-Funktion*. Springer Gabler, Wiesbaden. https://doi.org/10.1007/978-3-658-29196-9.

Keimer, I., Gisler, M., Bundi, M., Egle, U., Zorn, M., Kosbah, M., & Bueel, A. (2018). *Wie digital ist das Schweizer Controlling? Eine schweizweite Analyse auf Basis eines Reifegradmodells*. Hochschule Luzern – Wirtschaft. Institut für Finanzdienstleistungen Zug IFZ. https://www.hslu.ch/-/media/campus/common/files/dokumente/w/ifz/studien/wie-digital-ist-das-schweizer-controlling-hslu-deloitte-2018.pdf (accessed 7 January 2023).

Klein, A., & Gräf, J. (Eds.). (2020). *Reporting und Business Analytics*. Rudolf Haufe Verlag, Freiburg im Breisgau.

Knauer, T., Nikiforow, N., & Wagener, S. (2020). Die Bedeutung und Ausgestaltung von Robotic Process Automation (RPA) im Controlling. *Controlling*, *32*(4), 68–75. https://doi.org/10.15358/0935-0381-2020-4.

Kokina, J., & Blanchette, S. (2019). Early evidence of digital labor in accounting: Innovation with robotic process automation. *International Journal of Accounting Information Systems*, *35*. https://doi.org/10.1016/j.accinf.2019.100431.

Kreher, M., Gundel, U., Sellhorn, T., Hess, T., Köster, A., & Weiss, K. (2020). *Digitalisierung im Rechnungswesen 2020*. KPMG.

Kümpel, T., Schlenkrich, K., & Heupel, T. (2019). *Controlling & Innovation 2019*. Wiesbaden: Springer Gabler Verlag.

Lacity, M.C., & Willcocks, L.P. (2016). Robotic process automation at Telefonica O2, *MIS Quarterly Executive*, *15*(1), 21–35.

Lamberton, C., Brigo, D., & Hoy, D. (2017). Impact of robotics, RPA and AI on the insurance industry: Challenges and opportunities. *Journal of Financial Perspectives*, *4*(1).

Lasso-Rodriguez, G., & Winkler, K. (2020). Hyperautomation to fulfil jobs rather than executing tasks: the BPM manager robot vs human case, *Romanian Journal of Information Technology and Automatic Control*, *30*(3), 7–22.

Loitz, R., Bardens, A., Eiber, M., Meyer, S., & Sternisko, A. (2020, June). *Robotic Process Automation (RPA) in der DACH-Region*. PWC. https://www.pwc.de/de/rechnungslegung/robotic-process-automation-rpa-in-der-dach-region.pdf (accessed 18 January 2023).

Mayring, P. (2015). *Qualitative Inhaltsanalyse*. Weinheim: Beltz Verlag.

Meier, C., Polfer, L., & Ulrich, G.-S. (2020). *Wissenschaftsmethodik*. Zürich: Verlag SKV.

Meironke, A., & Kuehnel, S. (2022). How to Measure RPA's Benefits? A Review on Metrics, Indicators, and Evaluation Methods of RPA Benefit Assessment. *Wirtschaftsinformatik 2022 Proceedings.*

Moffitt, K., Rozario, A. and Vasarhelyi, M. (2018). Robotic process automation for auditing, *Journal of Emerging Technologies in Accounting*, *15*(1), 1–10. https://doi.org/10.2308/jeta-10589.

Qiu, Y.-L., & Xiao, G.-F. (2020). Research on cost management optimization of financial sharing center based on RPA, *Procedia Computer Science*, *166*, 115–119. https://doi.org/10.1016/j.procs.2020.02.031.

Rautenstrauch, T. (2019). *Digitale Technologien: Die Veränderungen im Controlling und Accounting*. WEKA. https://www.weka.ch/themen/finanzen-controlling/rechnungswesen/buchfuehrung/article/digitale-technologien-die-veraenderungen-im-controlling-und-accounting/ (accessed 21 January 2023).

Schäffer, U., & Weber, J. (2016). Die Digitalisierung wird das Controlling radikal verändern. *Controlling & Management Review*, *60*(6), 6–17. https://doi.org/10.007/s12176-016-0093-9.

Schmitz, M., Stummer, C., & Gerke, M. (2019). Smart automation as enabler of digitalization? A review of RPA/AI potential and barriers to its realization. In: P. Krüssel (Ed.), *Future Telco. Management for Professionals*. Cham: Springer. https://doi.org/10.1007/978-3-319-77724-5_31.

Tripathi, A.-M. (2018). *Learning Robotic Process Automation: Create Software Robots and Automate Business Processes with the Leading RPA Tool–UiPath*. Birmingham: Packt Publishing.

Vitharanage, I.-M.-D., Bandara, W., Syed, R., & Toman, D. (2020). An empirically supported conceptualisation of robotic process automation (RPA) benefits. In: *Proceedings of the 28th European Conference on Information Systems (ECIS2020).* Association for Information Systems.

Willcocks, L.-P., & Lacity, M.-C. (2016). *Service Automation Robots and the Future of Work*. Ashford, UK: SB Publishing.

Wolf, T., & Heidlmayer, M. (2019). Die Auswirkungen der Digitalisierung auf die Rolle des Controllers. In: B. Feldbauer-Durstmüller, S. Mayr (Eds.), *Controlling – Aktuelle Entwicklungen und Herausforderungen*. Springer Gabler. https://doi.org/10.1007/978-3-658-27723-9_1.

Yigitbasioglu, O., Green, P., & Cheung, M. D. (2023). Digital transformation and accountants as advisors. *Accounting, Auditing & Accountability Journal*, *36*(1), 209–227. https://doi.org/10.1108/AAAJ-02-2019-3894.