
Financial Processes Automations' Impact on the Work of Management Accountants

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Abstract:

Purpose: A small number of studies on financial processes automation impact on the work of management accountants is a research gap. The analysis of the research gap was the subject of this study. The aim of the study was to examine the prevalence of financial processes automation in organizations in Poland and to analyze the advantages and disadvantages of automation perceived by management accountants and the impact of automation on their work.

Design: In order to achieve the objectives of the study, the quantitative research method was used. The questionnaires were distributed among management accountants participating in postgraduate studies and courses of management accounting. The choice of this particular group was dictated by the belief that these respondents would have appropriate knowledge of the researched subject. 133 properly filled questionnaires were obtained.

Findings: The research showed that most of the surveyed organizations use tools that automate financial processes. The use of such tools is actively supported by employers from the moment of recruiting new employees through training in the field of automation as well as motivating employees to increasingly use such tools. Management accountants positively perceive financial processes automation and argue that having skills in this area facilitates their work and allows professional promotion and self-development. The study showed that management accountants are aware of the advantages of financial processes automation, pointing out two key, in their opinion, potential benefits, i.e. time savings and a reduction of errors.

Practical Implications: The use of tools that automate financial processes currently has an undoubted impact on the work of management accountants and in the future this impact may be even stronger. The results of this study indicate that management accountants are not afraid of losing their jobs, but rather expect that it's nature will change, allowing them to perform their routine tasks more efficiently and focus more on their role as business partners.

Originality/Value: According to our knowledge, such a broad and comprehensive overview of the impact of financial processes automation on the work of management accountants has never been made in Polish organizations before. The study is therefore unique.

Keywords: Advantages of automation, disadvantages of automation, management accountants' approach to automation, impact of automation on management accountants' work.

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1. Introduction

In recent years, organizations' interest in financial processes automation has been growing (financial processes automation is understood here as a process that partially or completely replaces the work of financial specialists). From today's perspective, automation seems inevitable and it depends only on the specific organization to what extent and at what pace its potential will be used (Al-Okaily *et al.*, 2022; Gotthardt *et al.*, 2020; Thalassinos *et al.*, 2022a; 2022b).

The growing interest of organizations in financial processes automation is influenced, on the one hand, by staffing problems and the search for increased work efficiency in financial departments, as well as by a rapid development of business and growing information needs of managers (Korhonen *et al.*, 2021; Wadan *et al.*, 2019). Both phenomena force organizations to look for ways to optimally use the competencies and working time of financial specialists, minimize errors in analyses and reports, and improve the speed of their delivery to managers (Deloitte, 2019; CGMA, 2018; EY, 2018; Thalassinos *et al.*, 2021a; 2021b).

The following can be distinguished among the tools which are most often used to automate the work of financial specialists, (Martinek-Jaguszewska, 2018):

- (a) financial and accounting systems with an additional analytical module in a form of a spreadsheet or database (these systems are still widely used, especially in smaller organizations),
- (b) independent integrated IT systems created specifically for individual organizations (the percentage of organizations using solutions of this type is decreasing),
- (c) integrated systems of Enterprise Resources Planning (ERP) type, customized to meet the needs of a given organization (these systems are common especially in larger organizations and are increasingly often implemented also in medium-sized organizations),
- (d) Business Intelligence systems (their use, similarly to ERP systems, is systematically growing). The above-mentioned systems provide many opportunities to automate financial processes in virtually any organization, regardless of its size and the financial resources available (Gotthardt *et al.*, 2020; Wadan *et al.*, 2019).

Organizations hope that automation of financial processes will reduce the time financial specialists devote to prepare and process data and that it will allow to find

more time which could be spent on activities that create greater added value, such as information analysis, budgeting and forecasting, as well as participation in decision-making (Al-Okaily *et al.*, 2022; Korhonen *et al.*, 2021).

These tools not only support the work of the financial department as a whole, but they also more generally support the management of the entire organization. It should be noted that, apart from the undoubted advantages of automation of financial processes, implementation of these tools can cause a few problems and raise concerns both for the organization and, in particular, for financial specialists themselves.

Martinek-Jaguszewska (2018) indicates that from the point of view of financial specialists, the fears may include the risk of job reduction, concern about the inability to handle automated processes, financial specialists' dependence on the effectiveness of automated tools, and a reduced potential of employees which results in the "dehumanization" of the work.

Contemporary requirements imposed by organizations on management accountants (as a sub-group of financial specialists) force them to prepare in-depth, multidimensional analyses, search for cause-and-effect relationships between individual business categories and provide managers with immediate information enabling them to make quick and accurate decisions (Gotthardt *et al.*, 2020; Wadan *et al.*, 2019).

Effective support of managers in planning, control, performance analysis and decision-making by management accountants would be very difficult or even impossible without the support of financial processes with IT tools that enable their automation. In this view, the role of management accountants shifts from a person preparing data to a business partner which is accompanied by an increase in competence requirements (Deloitte, 2019; CGMA, 2018). From the management accountants' point of view of now and in the future, the issue of financial processes automation seems to be a very interesting research area.

The subject investigated in this study seems to be valid in practice (Deloitte, 2019; CGMA, 2018; EY, 2018), but it also seems very interesting from a theoretical point of view (Al-Okaily *et al.*, 2022; Korhonen *et al.*, 2021; Gotthardt *et al.*, 2020; Wadan *et al.*, 2019). A small number of studies on the impact of financial processes automation on the work of management accountants constitutes a research gap. The analysis of the research gap is the subject of this study.

Therefore, the aim of the study was to examine the prevalence of automation of financial processes in organizations and to analyze the advantages and disadvantages of automation perceived by management accountants, as well as the impact of automation on their work. In order to achieve this goal, the study presents a review of current literature related to the research problem, as well as the research method

and the results of the study. The last part presents a discussion of the results and conclusions.

2. Literature Review

Studies on the use of financial processes automation tools were conducted to some extent in Poland and in other countries, both in a form of quantitative and qualitative research (Korhonen *et al.*, 2020; Wadan *et al.*, 2019; Jędrzejka, 2019; Fernandez and Aman, 2018; Martinek-Jaguszewska, 2018). The reports of Deloitte (2019), CGMA (2018), EY (2018) and Pirxon (2016) clearly indicate a growing role of automation in financial processes, although they also indicate (i.e., EY, 2018) a certain conservatism of financial accountants in their approach to automation. All of these studies show that financial work will change dramatically due to the implementation of automation tools.

An interesting quantitative study focusing on the importance of process automation in finance, banking, logistics and real estate was conducted by Martinek-Jaguszewska (2018). Most of the respondents expected an increase of automation both in their work and in related areas. They also pointed out the constant need to adapt automation tools to the needs of the organization. This indicates expected high potential of automation processes in organizations. The respondents pointed out that automation is an essential element of their work, enabling proper performance of tasks delegated by their superiors.

The EY (2018) study, conducted in a form of survey and telephone interviews, aimed at examining the impact of modern technologies, in particular the automation of financial processes, on the work of accountants. Two-thirds of respondents believed that information technology would have a stronger impact on the work of accountants in the future (EY, 2018).

The analysis of the research carried out so far in the field of financial processes automation allows to conclude that there were few of these studies, and they mainly involved the work of financial specialists (including financial accountants and management accountants), they did not focus directly on management accountants.

Many authors have written about the potential and real advantages of financial processes automation (Al-Okaily *et al.*, 2022; Korhonen *et al.*, 2021; Gotthardt *et al.*, 2020; Wadan *et al.*, 2019; Jędrzejka, 2019; Fernandez and Aman, 2018). Martinek-Jaguszewska (2018) in her study drew attention to the fact that respondents expect an increase in work efficiency as a result of financial processes automation, they also state that automation will improve the evaluation of their work.

Furthermore, they also indicate that automation tools will reduce their involvement in repetitive, tedious tasks and that it will allow them to focus on solving more

interesting problems and increase their job satisfaction (Al-Okaily *et al.*, 2022; Wadan *et al.*, 2019). Martinek-Jaguszewska (2018) lists detailed benefits that result from the automation of financial processes.

They include improvement of efficiency (saving time, costs and reduction of employment) and quality of work (elimination of errors, control of correctness of performed operations), but she also points out that without a certain degree of automation, the work of financial specialists would not be possible at all. In the context of employees, Martinek-Jaguszewska (2018) points out that automation not only reduces the workload but it also leads to a situation in which requirements for some employees handling automated processes are lowered, however, on the other hand, the requirements towards the experts supervising automated processes become higher.

The empirical studies conducted so far show that there are high hopes in terms of financial processes automation. Deloitte (Deloitte, 2019) carried out one of such studies. It was conducted in a form of survey among management staff of 523 largest companies from 26 countries. Majority of respondents indicated that the most important benefit resulting from the automation of financial processes included the increase of work efficiency, and the second one involved the reduction of operating costs.

In addition, the main reason behind the implementation of such tools is the increase of company's competitiveness and business development (Deloitte, 2019). Similar results were presented by the EY (2018) study, indicating that automation tools enable faster and more efficient work and facilitate decision-making. Work efficiency is also affected by the fact that automated tools, unlike humans, are resistant to stress and fatigue, which means that their effective working time is much longer (unlimited).

Most of the respondents indicated that automated tools accelerate the implementation of accounting processes and relieve people in tasks in which these tools are more effective, and thanks to that people's work efficiency becomes higher.

Pirxon (2016) study showed that all the companies where financial process automation tools had been implemented, enjoyed great trust and employees were optimistic about the automation. In addition, the respondents indicated that with the implementation of automation tools, the number of ideas for their use in other areas is growing, and all the companies that use automation tools in financial processes plan to use them in other areas.

As remaining studies, the Pirxon (2016) study also lists the key benefits of automation, which include reduction of errors, time saving and better team creativity. In another research carried out in a form of a case study, Barnett (2015) describes the use of financial process automation in banking.

In his study, he states that banks use tools that automate work not only to process payment transactions, but also to detect fraud, monitor risk, or automate the process of opening accounts (Barnett, 2015).

The automation of financial processes may include some problems/disadvantages. Martinek-Jaguszewska (2018) lists the following disadvantages of financial processes automation: (a) reduction of employment (making it difficult for beginners to enter the labor market), (b) incorrect operation of automated tools, and (c) dependence of employees on technology (misunderstanding of how automated tools work, reduced human observation, and general “dehumanization” of work).

She also points out that even if automation does not change the demand for financial specialists on the market, it will require them to adapt, acquire new competences and be open to inevitable changes. The EY (2018) study identified similar advantages of automation, the basic ones included faster and more efficient operations, better decision-making, resistance to biases and cognitive errors, and increased efficiency.

The EY (2018) study presents in detail the analysis of impediments to the implementation of financial process automation. The most important ones include insufficient financial resources, lack of information about automation, the need to change accounting processes, and reluctance of employees (employees perceive automation tools as competition).

Jędrzejka (2019) also draws attention to potential barriers to the automation of financial processes. He specifies the consequences of cooperation between man and machine, such as human-robot competition, unintended organizational structure changes, deskilling and building expertise, knowledge management and knowledge biases.

Many authors (Al-Okaily *et al.*, 2022; Gotthardt *et al.*, 2020; Wadan *et al.*, 2019; Martinek-Jaguszewska, 2018) suggest that automation can reduce job security for financial professionals. Fernandez & Aman (2018) argue with this view, stating that although automation may lead to turbulence in labor market, it will not necessarily result in unemployment among financial specialists. Automation will rather change their role and tasks and create a need for new types of professionals.

According to these authors, organizations should support employees in terms of automation tools by training them in the principles of their creation and use and by making them aware of the advantages and limitations of these tools. Fernandez & Aman (2018) also point out that some of the most advanced analytical work in the foreseeable future will not be replaced by automation and will continue to be performed by humans.

The requirements for financial specialists are constantly growing, and their work environment is changing, becoming more digital (CGMA, 2019; EY, 2018; Deloitte,

2018). Fernandez and Aman (2018) point out that these specialists need to have IT knowledge in addition to the traditional accounting and finance knowledge. One should not expect that the existing IT tools will be in use for the next decade. Quite the opposite. The tools (including automation) will constantly change, and that will require financial specialists to have basic knowledge of them, but, at the same time, they will also have to constantly adapt and learn how to create and use such tools (Gotthardt *et al.*, 2020; CGMA, 2019).

Wadan *et al.* (2019), noted that the role of management accountants (as a sub-group of financial specialists) is changing as a result of continuous technological development and process automation. Their traditional tasks are being challenged, and new ones are emerging that affect their role in the organization of the future (CGMA, 2018).

Nowadays, the tasks of management accountants focus on supporting managers in decision-making, anticipating future information needs, acting as an internal consultant for managers and taking part in the work of multi-functional teams (Wadan *et al.*, 2019). Management accountants are required to deeply understand processes performed in the organization to embed management accounting systems within organization's activities. This means that they are becoming business partners for managers.

In the light of changing management accountants' role in organizations and implementation of automated tools in their work, it is interesting to study how automation of financial processes is developing in organizations and also to analyze advantages and disadvantages of automation from the point of view of management accountants and observe how automation influences their work.

3. Research Method

In order to achieve the objectives, a quantitative research method was used. It was implemented to facilitate the assessment of use of financial process automation, employees' approach to automation and the impact of financial process automation on the management accountants' work. According to our knowledge, such a broad and comprehensive overview of the impact of automation on management accountant's work has never been made in Polish organizations before. Therefore, the study is unique.

To ensure that each person participating in the study is familiar with the term financial processes automation, it was briefly defined at the beginning of the questionnaire along with some examples of its use. The survey consisted of five sections, the last three were used directly to examine the research objectives: (a) characteristics of the organization (4 questions), (b) characteristics of the respondent (3 questions), (c) widespread use of financial processes automation (7 questions), (d) employees' approach to the issue of automating financial processes (10 questions),

(d) the impact of automation of financial processes on the management accountants' work (8 questions).

The survey was based on both single-choice and multiple-choice questions. The questionnaire was initially tested on a small group of practitioners, on this basis, further minor corrections and improvements were made. It was decided to distribute the questionnaire by e-mail and traditionally (in a paper form) among management accountants participating in postgraduate studies and courses in management accounting.

The selection of this particular group was dictated by the belief that these respondents would have appropriate knowledge of the researched subject. 133 properly filled in questionnaires were obtained (20 by e-mail and 113 on paper), after rejecting incomplete or improperly filled in questionnaires (23). Statistical analysis was used to conduct the study. Basic data about the organizations and respondents of the study is presented in Table 1.

Table 1. *Characteristics of organizations and respondents participating in the study*

Question	Answers
Type of organization's activity	non-manufacturing: 79 (59%) manufacturing: 54 (41%)
Origin of organization's capital	completely national: 76 (57%) foreign share: 57 (43%)
Years of the organization's activity	>20 years: 75 (56%) 10-20 years: 35 (26%) 5-10 years: 18 (14%) 2-5 years: 4 (3%) <2 years: 1 (1%)
Number of organization's employees	>1.000 employees: 44 (33%) 251-1.000 employees: 42 (32%) 51-250 employees: 28 (21%) 11-50 employees: 18 (13%) <10 employees: 1 (1%)
Respondent's age	<40 years: 111 (83%) 40-50 years: 20 (15%) 51-60 years: 2 (2%) >60 years: none
Respondent's education	higher than postgraduate: 1 (1%) postgraduate: 44 (33%) graduate: 75 (56%) bachelor's: 13 (10%) lower than bachelor's degree: none
Respondent's work experience	>9 years: 61 (46%) <4 years: 37 (28%) 4-9 years: 35 (26%)

Source: *Authors' calculations.*

4. Research Results

4.1 The Scope of Use of Financial Processes Automation

The first part of the study focused on the use of financial processes automation in organizations. Automation of financial processes is widely used in the surveyed organizations – two-thirds of respondents admitted that their organizations use tools that automate financial processes. What's more, about 70% of respondents said that in their organizations management accountants are encouraged to automate financial processes to improve them, and over 50% of respondents admitted that automation is a requirement for management accountants in their organization.

About 40% of respondents admitted that the organization supports management accountants in obtaining and developing automation of financial processes, but almost the same percentage of respondents (35%) stated that this is not the case in their organizations. The remaining part of the respondents (25%) admitted that the organization supports financial processes automation in a moderate manner.

Interestingly, two-thirds of the respondents said that within 1-2 years, organizations plan to implement new and develop existing tools for automating financial processes. Moreover, 45% of respondents disclosed that during recruitment, organizations pay attention to the qualifications of candidates in relation to financial processes automation. The results of the study indicate that automation of financial processes in organizations operating in Poland will continue. Detailed results are presented in Table 2.

Table 2. *The scope of use of financial processes automation*

Question	Mean*	Standard deviation	Coefficient of variation	Dominant
The concepts of streamlining and accelerating work with the use of financial processes automation are present in organization	3.85	1.18	0.31	5
Organization encourages employees to make improvements by automating financial processes	3.89	1.01	0.26	4
Organization requires employees to make improvements by automating financial processes	3.53	1.05	0.30	4
Employer provides employees with training in the automation of financial processes	3.04	1.21	0.40	4
Organization plans to introduce new tools to automate financial processes within 1-2 years	3.68	1.18	0.32	4
Organization is looking for candidates with the ability to automate financial processes	3.15	1.16	0.37	4

Note: * Respondents gave their answers on a 5-point Likert scale: 1 – definitely not, 2 – rather not, 3 – on average, 4 – rather yes, 5 – definitely yes.

Source: Authors' calculations.

The study allowed to conclude that in 69% of the analyzed organizations the automation of financial processes is performed by management accountants, whereas in 17% of organizations it is performed outside the organizations (it is carried out in companies providing financial services to organizations). Only 14% of organizations do not automate financial processes.

On the basis of the study, it can be concluded that automation of financial processes is common in organizations operating in Poland and that it is mainly carried out independently by management accountants. What's more, organizations support and encourage the development of financial processes automation, they often require it from management accountants.

Generally, it can be concluded that the surveyed organizations focus on the development of management accounting staff in the field of financial processes automation. The research also allows to state that in the future the automation of financial processes will become more important in the surveyed organizations.

4.2 Management Accountants' Approach to Financial Processes Automation

The second part of the study analyzed management accountants' opinions on financial processes automation. Generally, the automation of financial processes is perceived in a positive way (4.53). Nearly 70% of respondents claimed that they are interested in increasing their competencies in the field of financial processes automation, while only 10% considered the development of competencies in terms of automation as not important.

Almost all respondents are interested in participating in trainings on financial processes automation (average 4.74) – in the survey, no one stated that they were not interested in taking part in such trainings. Almost all respondents (96%) believe that having skills in the field of financial processes automation allows them to stand out on the labor market.

The study also allows to conclude that management accountants are ready to expand their competencies in terms of financial processes automation, provided it results in promotion. Moreover, vast majority of respondents claimed that they would still participate in the trainings even if they were not financed by the employers and they would have to finance them on their own (average 4.13). The respondents also stated (95%) that they are ready to share their knowledge of financial process automation with other employees. Detailed results are presented in Table 3.

Table 3. *Management accountants' approach to financial processes automation*

	Mean*	Standard deviation	Coefficient of variation	Dominant
Management accountants positively perceive the concept of financial processes automation	4.53	0.62	0.14	5
Management accountants are interested in acquiring skills in	4.59	0.58	0.13	5

the field of financial processes automation				
Management accountants would benefit from trainings provided by the employer on the financial processes automation	4.74	0.49	0.10	5
According to management accountants, the ability to automate financial processes allows them to stand out on the labor market	4.47	0.66	0.15	5
Management accountants would like to acquire the skills to automate financial processes to be promoted	4.65	0.56	0.12	5
Management accountants would be happy to share their acquired knowledge of financial processes automation	4.46	0.62	0.14	5
Management accountants are ready to devote their free time and money to acquire the ability to automate financial processes	4.13	0.68	0.16	4

Note: * Respondents gave their answers on a 5-point Likert scale: 1 – definitely not, 2 – rather not, 3 – on average, 4 – rather yes, 5 – definitely yes.

Source: Authors' calculations.

The study allowed to determine the key factors which encourage management accountants to improve their skills of financial processes automation. These factors included: the desire to self-develop and broaden their knowledge (37%), desire to improve their work (35%), and hope of getting a pay rise or the prospect of being promoted (27%). In detailed explanations, the respondents indicated that the factors which cause management accountants to improve their skills of financial process automation include "the desire to reduce costs of the finance department" and "the need for quick access to financial data".

Respondents also indicated what benefits, in their opinion, are associated with financial processes automation (respondents did not have to limit themselves to only one answer in terms of this question). The most important benefits determined by the respondents included: saving time (66%), reducing the risk of making a mistake while performing their duties (53%), liberation from repetitive, uninteresting or even boring tasks (44%), increasing staff productivity (39%) and motivating employees by assigning them more interesting tasks (18%).

According to respondents, thanks to financial processes automation, top managers can make decisions faster and, on the other hand, management accountants can focus more on data analysis and not on its preparation. One of the respondents indicated that the automation of financial processes could change the role of management accountant, i.e., this role would be "limited to verifying the correctness of processes performed automatically."

However, the automation of financial processes can also involve some risks. According to the respondents, the most important of them are lack of understanding of financial processes by employees (46%), lack of resistance of these tools to unusual events in financial processes (45%), lack of sufficient knowledge about the tools enabling financial processes automation (36%) and problems with

identification of failures of such tools (35%). The study showed that although one third of the respondents was afraid of layoffs due to financial processes automation, this fear was by far not the most important one.

4.3 The Impact of Financial Processes Automation on Management Accountant's Work

The last part of the study analyzed the impact of financial processes automation on the work of management accountants. The study showed that only 10% of respondents do not support their work with some kind of automation. Vast majority of respondents claimed that in the event of a tool failure, they would be able to perform the same activities manually, in particular 44% of respondents assessed that they are able to remove this tool failure on their own, 15% admitted that they would not be able to deal with the failure on their own, and 31% could not say whether they would be able to remove such a failure on their own or not.

Respondents stated that if they were deprived of the ability to use the tools which currently automate financial processes, it would have a negative impact on their efficiency (the most frequent answer was "rather yes"). 35% of respondents admitted that a significant degree of automation of their work means that they use financial knowledge to a lesser extent than if they performed the same activities manually, but almost the same number of respondents (32%) stated that they use financial knowledge in a similar way despite financial processes automation (other participants were unable to determine the impact of automation on their use of financial literacy).

39% of respondents admitted that automation helps them to understand financial processes themselves, and nearly 29% of respondents rated the impact of automation on their better understanding of financial processes as "average". Detailed information on the impact of financial processes automation on management accountants' work is presented in Table 4.

Table 4. *The impact of financial processes automation on the management accountants' work*

Question	Mean*	Standard deviation	Coefficient of variation	Dominant
In the event of failure of tools that automate financial processes, management accountants are able to perform the same tasks manually	4.26	1.09	0.26	4
The financial knowledge of management accountants is used to a lesser extent when their work is automated than when their duties are performed manually	3.31	1.39	0.42	4
In the event of a failure of tools that automate work, management accountants are able to remove the defect of such a tool on their own	3.61	1.14	0.32	4
Efficiency of work of management accountants is at risk if tools that automate financial processes are not available to	3.65	1.28	0.35	4

them				
Automated activities allow management accountants to better understand new issues in the field of finance	3.58	1.27	0.35	3

Note: * Respondents gave their answers on a 5-point Likert scale: 1 – definitely not, 2 – rather not, 3 – on average, 4 – rather yes, 5 – definitely yes, 6 – no process automation.

Source: Authors' calculations.

The next part of the research examined the areas of management accountants' work which are improved by the process of automation. According to respondents, the three key areas supported by automation are cost accounting (44%), performance analysis (42%) and bookkeeping (37%). Nearly one third of the respondents also indicated that automation supports budgeting and forecasting of the organization's activities (32%), as well as the consolidation of organization's financial data (31%).

In the next question, respondents were asked to indicate the benefits of financial processes automation in terms of their daily tasks. Nearly half of the respondents (49%) primarily perceived the automation as an opportunity to minimize the risk of errors. Almost the same percentage of respondents (48%) pointed out the fact that due to automation they were able to make more advanced analyses.

36% of respondents said that thanks to financial processes automation, they can now perform other, much more interesting tasks, reducing the time spent on boring, monotonous activities. Some of the respondents indicated other benefits of financial processes automation, e.g. the opportunity to devote more time on the analysis of obtained results. They also pointed out that it is easier to hand over automated processes to new employees, which makes the onboarding process shorter.

The last part of the study involved the risks of financial processes automation, in the perception of the respondents. Most respondents expressed a concern that the high degree of automation of their work limits the use of their financial knowledge (36%) and that they do not have sufficient skills to independently correct errors (failures) in automated tools.

The fear of management accountants of being delegated with additional duties by their superiors (20%) and a concern that the advanced automation of their tasks may cause them to lose jobs in the future (20%) were also expressed as threats in relation to automation processes.

In detailed explanations, the respondents also drew attention to a large amount of time needed to diagnose an error of the automated tool, and then a large amount of time needed to fix the error. One of the respondents also pointed out “a potentially greater demand in the future for management accountants with advanced skills in using automated tools, even at the expense of lesser financial knowledge.”

5. Discussion and Conclusions

In the context of results of the study on the work of management accountants in the era of financial processes automation, it is worth looking at how they compare to studies which were conducted earlier (Al-Okaily *et al.*, 2022; Korhonen *et al.*, 2021; Gotthardt *et al.*, 2020; Wadan *et al.*, 2019; Jędrzejka, 2019; Fernandez and Aman, 2018; Martinek-Jaguszewska, 2018). For managers of nearly three-quarters of organizations (Deloitte, 2019), the potential increase of financial specialists' efficiency (including management accountants), which can be clearly facilitated by automation, is extremely important.

Financial processes automation can also be used to monitor risk or detect irregularities, i.e. situations where each case requires analysis based on a certain pattern (Barnett, 2015). The conducted study showed that management accountants are aware of the advantages of financial processes automation, pointing out two key, in their opinion, potential benefits, i.e. time savings in terms of the implementation of tasks and a reduction of errors. These results coincide with the results of the study by Al-Okaily *et al.* (2022), Wadan *et al.* (2019) and Martinek-Jaguszewska (2018), which showed that a reduction of task execution time and the risk reduction of making a mistake are the most important effects of financial processes automation.

The study also confirmed that benefits of automation that can be observed in Polish organizations are consistent with the results of previous studies (Martinek-Jaguszewska, 2018). Respondents who use tools that automate financial processes in their daily work indicate that their use reduces the number of errors made and also allows a more advanced analysis of the results obtained – both undoubtedly contribute to the increase of the efficiency of management accountants, which, as confirmed by previous research (Deloitte, 2019; CGMA; 2018; EY, 2018; Pirxon, 2016) is extremely important for organizations.

This research shows that most of the surveyed organizations use tools that automate financial processes, and, moreover, it allows to observe that companies that once decided to implement this type of tools intend to improve them and implement new ones. Implementation of automation in financial processes is actively supported by employers from the moment of recruiting new staff through training in automation, as well as motivating employees to use such tools to a greater extent.

According to respondents, some organizations not only encourage but even require management accountants to automate financial processes. All these findings confirm previous research (Al-Okaily *et al.*, 2022; Korhonen *et al.*, 2021; Gotthardt *et al.*, 2020; Wadan *et al.*, 2019; Fernandez and Aman, 2018; Martinek-Jaguszewska, 2018).

The research shows that management accountants play an important role in the automation of financial processes because they are mainly responsible for improving

their own work. Management accountants positively perceive financial processes automation and argue that having skills in this area facilitates their work and allows promotion and self-development. What's more, they declare the willingness to develop in the area of automation, even though it requires them to spend their own time and resources, and express their willingness to share their knowledge of automation with other employees.

In the context of previous research (Al-Okaily *et al.*, 2022; Gotthardt *et al.*, 2020; Wadan *et al.*, 2019; Martinek-Jaguszewska, 2018), which is generally consistent with the results of this study, one aspect in particular should be taken into account, i.e., apart from clear benefits, the automation of financial processes may also pose some problems.

According to the above studies, further automation of financial processes may lead to a reduction of financial specialists by as much as 50% (EY, 2018). Similar concerns are expressed in the studies by CGMA (2019), EY (2018), Deloitte (2018) and Pirxon (2016), which point out job cuts due to automation. A potential reduction of jobs is of course very desirable from the point of view of organizations, however from the point of view of management accountants it means choosing a different career path. EY (2018) study stated that about one third of respondents is afraid that automation may result in jobs cuts.

However, it should also be emphasized that this problem was chosen by the respondents least often (they were more often afraid of improper use of tools that automate financial processes in unusual situations or lack of understanding of automated financial processes by staff).

This relatively weak fear of losing a job due to automation expressed by the respondents may stem from several reasons. Automation may pose a threat to those professionals (EY, 2018) who perform repetitive jobs (e.g., work of a financial accountant recording transactions). The work of management accountants, in addition to repetitive and routine activities, largely consists of analyzing information, drawing conclusions, discussing with managers, and suggesting remedial actions.

Most of management accountants' tasks are therefore not routine, which may make their automation difficult (Korhonen, 2020). What's more, the evolution of management accountants' role which can be observed in organizations means that they are no longer perceived as only data providers for analysis, but rather as internal consultants or business partners of managers who actively participate in decision-making (Al-Okaily *et al.*, 2022; Korhonen *et al.*, 2021; Gotthardt *et al.*, 2020; Wadan *et al.*, 2019).

Such nature of management accountants' work means that even in case of full automation of routine activities, there will remain many non-routine ones that are

difficult to automate. Moreover, automation enables management accountants spend their working time on new duties that create value for the organization. Before the automation, managements accountants did not have enough time to deal with those value-adding activities.

The use of tools that automate financial processes undoubtedly has an impact on the work of management accountants, and this influence may increase even more in the future (CGMA, 2019; EY, 2018; Deloitte, 2018; Pirxon, 2016). However, the results of this study indicate that management accountants are not afraid of losing their jobs, but rather expect that the nature of their work will change, allowing them to perform their repetitive tasks even more efficiently and focus more on their role as business partners.

The findings of this study should be interpreted with caution. The surveyed sample is not random – the survey was conducted among management accountants participating in specialist post-graduate studies or trainings in the field of management accounting. Moreover, the survey was conducted on a relatively small number of respondents (133 surveys). In addition, the study is quantitative, which obviously limits the in-depth analysis of the subject, despite the fact that respondents when answering the questionnaire, provided additional, more detailed explanations.

From a management accountants' point of view, the issue of financial processes automation raised in the study seems to be a promising research area. In particular, Artificial Intelligence tools may cause further significant changes in the work of management accountants and, more generally, further evolution of their role in organizations.

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