Economics

DIGITAL TRANSFORMATION OF THE ACCOUNTING PROFESSION AT THE INTERSECTION OF ARTIFICIAL INTELLIGENCE AND ETHICS

--Manuscript Draft--

Manuscript Number:	ECONJOURNAL-D-24-00244
Full Title:	DIGITAL TRANSFORMATION OF THE ACCOUNTING PROFESSION AT THE INTERSECTION OF ARTIFICIAL INTELLIGENCE AND ETHICS
Article Type:	Research Article
Keywords:	artificial intelligence; ethics; accounting; quality of work life; well-being; digitalization
Manuscript Region of Origin:	ROMANIA
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Manuscript Classifications:	13.2.1: General; 13.5.2: Accounting; 13.5.3: Auditing

DIGITAL TRANSFORMATION OF THE ACCOUNTING PROFESSION AT THE INTERSECTION OF ARTIFICIAL INTELLIGENCE AND ETHICS

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Abstract

Artificial intelligence (AI) provides competitive advantages such as reducing costs, time, data analysis and information accuracy. The current developments and discussions on AI and its associated algorithms as a tool are of particular importance in this context. This article aims to categorize the importance of ethical reflections in the context of business informatics and to create technical and methodological possibilities for a connection respectively the competitive of companies, moreover the article presents some aspects regarding the quality of worker life. The digitization of the world of work is multifaceted, complex and has had an impact on the competitive market. The research is based on a conceptual analysis of business informatics in relation to the ethical aspects of business informatics and a qualitative study based on a

questionnaire, about the perception of ethical requirements in the field of AI and the influence of the dimension of the quality of working life on the quality working life to remain completive on the market. The research results indicate that after years of international debates on the ethics of business information technology, numerous proposals for legislation and regulation of these technologies have emerged. One aspect of possible legislative frameworks for AI could be a regulatory or ethics oversight body in the field of AI.

Keywords: *artificial intelligence, ethics, accounting, quality of work life, well-being, digitalization*

JEL Classification: M40, M41, M42

1 INTRODUCTION

Alongside climate change, globalization and demographic change, the digitization of society and the economy is one of the driving trends of our time. Digital change is being driven forward by technological progress and society's ability to adapt and absorb. Along with digitization, massive transformation processes are expected within the labor market, the education system, the production processes of companies and consumer preferences. Globalized and competitive markets contribute to intensifying the innovation and the diffusion process of the new technologies and their applications.

Both in the academic world and the corporate world, the potential offered by AI is being discussed more and more. There is increased emphasis on innovation and intelligence due to the COVID-19 pandemic and the implementation of sustainable development objectives. These technologies will directly or indirectly alter economic activities. As markets change, organizations must adapt in order to stay competitive. The accounting profession is one industry that is undergoing significant changes to adapt to market requirements. Although accounting activities were traditionally performed exclusively by employed staff, automation now

influences the process through the use of AI, which allows repetitive processes to be automated and optimized (Bruner, 2020). There is a global discussion surrounding digitization and the performance of databases, data centers and mobile networks. It is remarkable that within these systems decisions are made based on data and information, however, decisions made by robots/machines can have serious consequences for humans. Currently, robot systems are not yet capable of making comprehensive, autonomous, moral decisions in the sense of good or bad, right, or wrong. Given that the accounting profession is about making decisions and applying professional judgment, the process of adapting technologies that act on the basis of a predetermined model is not simple. Moral principles are input by humans and implemented in the form of algorithms, which can ultimately lead to morally grounded actions (Etzioni & Etzioni, 2017). Human control and access options are still available to support AI-powered robots. The number of small and medium-sized businesses using AI-based systems is increasing. As a result, they must ask themselves the question of whether or not AI-based systems allow for responsible and fair action in order to be in a better position to assess future risks, such as loss of confidence or restrictions due to regulations (Basri, 2020). To make AI applications as safe as possible, ethically justifiable, and connectable for mid-sized companies, uniform norms and standards are being developed. These norms and standards should allow consideration of fundamental ethical principles (Shi, 2020; Azman et al., 2021).

The concept of international competitiveness is often associated with economic policy discourses and a generally desirable situation. However, if one devotes oneself to the more precise conceptual design of this term, then in many cases only very rough and abstractly formulated concepts are revealed. In the narrower economic sense, competitiveness is usually understood as the ability to expand or maintain prosperity. Other, more extensive interpretations, such as that of "green competitiveness", can also include aspects such as

sustainability, health or other socio-political goals that go beyond gross domestic product (Gu, & Yan,2017).

According to research conducted in the accounting profession, it is important that human control and access options are maintained to ensure the correct application of technologies in the field. Considering the above, ethical methods and terminology must provide adequate support for the achievement of objectives in this sensitive area. One discipline that can support the development of ethical methods and terminology is business informatics. The use of business informatics is essential to understanding and informing ethical and moral aspects that are implemented within AI. Specific questions about what is ethically and morally necessary and thus subject to a deliberative process must be determined and operationalized in management systems (Zhao et al., 2023). Robots and AI-based processes are used more frequently for routine work done by accounting professionals because AI can process these tasks faster and more accurately. In the context of the development of new technologies, education will also play an increasingly important role as curriculum are created to support new market requirements, in order to train future professionals in accordance with the new requirements (Qasim & Kharbat, 2020; Kovalenko et al., 2021; Losbichler & Lehner, 2021; Eachempati et al., 2021). Moreover, artificial neural networks are inspired by the ability of brains to learn complicated patterns in data by changing the strengths of synaptic connections between neurons (Hinton, 2018).

The aim of the present study is to work through the effects of digitization on competitiveness, and in particular the quality of work life. In detail, this study is intended to provide empirical evidence for the following research hypotheses: how digitalization affects job satisfaction, general well-being, stress at work, homework interface, job control, and tests the proposed connection in the working environment/ conditions. Our contribution empirically examines the influence of digitalization on a sample of Romanian employees in the accounting profession.

This article examines what the path to operationalization might look like and the link between innovative techniques in accounting and ethics, wellbeing, and health literacy. The research aims to clarify the connection between these essential aspects and show that they must be harmonized to prove useful to the accounting profession and to reduce the level of risk that new innovative technologies bring with them, especially AI.

2 THEORETICAL BACKGROUND

2.1. Regulation

AI technologies are expected to bring a wide array of economic and societal benefits to a wide range of sectors, including environment and health, the public sector, finance, mobility, home affairs and agriculture. They are particularly useful for improving prediction, for optimizing operations and resource allocation, and for personalizing services (The Artificial Intelligence Act, 2023)

The accounting field employs numerous standards and regulations that relate to ethics and deontology of the accounting profession issued by various professional bodies at international, European, and national levels, for example, the IAS (Service, 2020), GAAP (Board, 2020), IFRS (Standards, 2020) and FASB (Board, 2020). However, we do not find standards and regulations regarding the ethics of AI in the accounting profession. Therefore, the use of AI in the field of accounting comes with a series of changes and adaptations of standards and regulations pertaining to new innovative technologies. It is not enough to ethically regulate AI, it must be guided and supervised. Regulatory bodies such as the Public Company Accounting Oversight Board (PCAOB) and the International Auditing and Assurance Standards Board (IAASB) aim to initiate oversight programs to anticipate and respond to the risks presented by the use of emerging technologies (PCAOB, 2018; IAASB, 2018, 2022). In response to the rapid adoption of technology in the auditing practice, the IAASB formed a technology working group

to obtain feedback from various stakeholders (regulatory bodies, supervisory bodies, accountancy firms, academics, and professional bodies, among others). Stakeholders noted that "data is being used differently than previous audits" with "legal and regulatory challenges" (IAASB, 2018). Although stakeholders did not consider the current standards to be "broken," there was consensus that "practice guidance" (IAASB, 2018) was needed to reflect the digital age in which the profession now finds itself, with regulators calling for a review of the standards in a "mode that reflects current technology" (IAASB, 2018). Figure 1 below illustrates the different technologies that are based on AI.

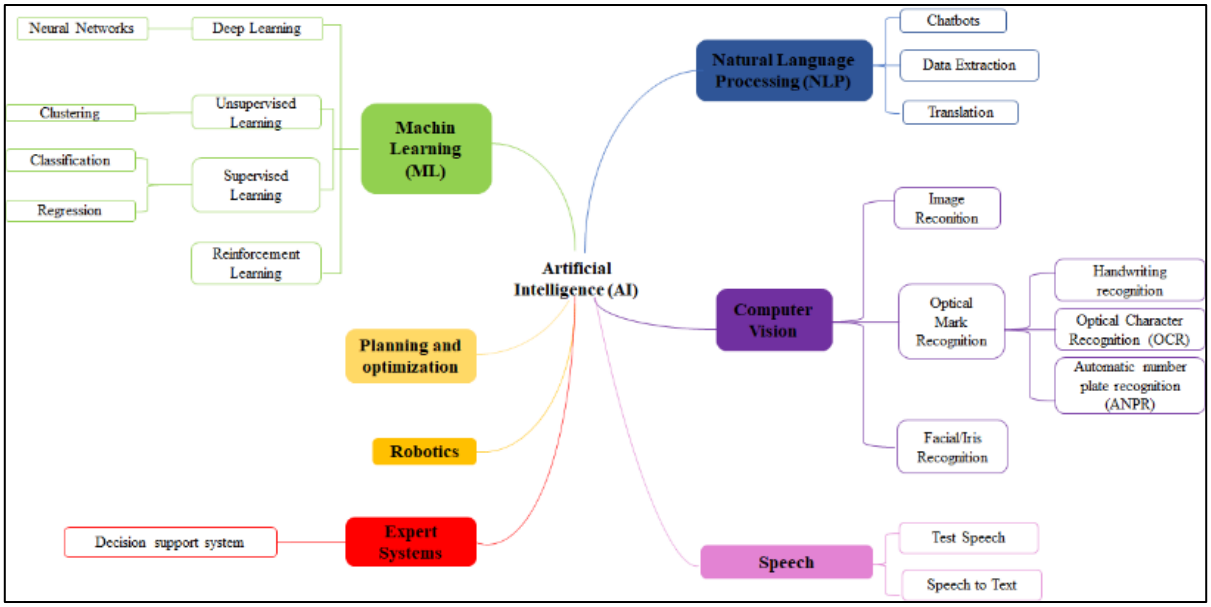

Fig. 1. – Overview of AI technologies. Source: IAASB, 2022

The Association of Chartered Accountants (ACCA, 2017) notes that "historically, machines simply ran programs developed by humans. They were 'doers' rather than 'thinkers. Now, with sophisticated machine learning tools based on pattern recognition, it is possible for systems to engage in discretionary decision making." The latest 2018 report by the World Economic Forum (WEF) provides an update on the foreboding use of big data and technology and the importance and role of data in society: The era of the Fourth Industrial Revolution (4IR) brings unprecedented opportunities as well as new challenges. To take full advantage of new technologies, we need to focus on what makes us human: our ability to learn new skills, as well

as our creativity, empathy, and ingenuity. By developing our unique traits and talents, humanity can cope with increasingly rapid technological change and ensure broad progress for all.

2.2. The concept of AI and implications for the accounting profession

More and more companies see artificial intelligence (AI) as the key to their future competitiveness. But practical use is stagnating, and the big breakthrough is still a long way off. Machine-learning technology powers many aspects of modern society: from web searches to content filtering on social networks to recommendations on e-commerce websites, and it is increasingly present in consumer products such as cameras and smartphones. Machine-learning systems are used to identify objects in images, transcribe speech into text, match news items, posts or products with users' interests, and select relevant results of search. Increasingly, these applications make use of a class of techniques called deep learning (LeCun et al., 2015).

In the field of accounting, AI supports planning and control activities, which means information can be provided to companies in a much shorter and more efficient amount of time. By means of these new technologies, not only is the working time for accountants reduced, but it is possible to offer support to managers much faster so that they can therefore use less time to adapt to the demands and needs of the market (Li & Zheng, 2018; Askary et al., 2018; Gulin et al., 2019; Qasim & Kharbat, 2020; Bryndin, 2021).

The corona crisis has shown that digitization and automation will be key success factors for companies in the future. In addition to home office tools and video conferences, it will be the use of artificial intelligence (AI) that will fundamentally change processes and business models. Many automated and repetitive activities will be replaced by AI in the future. This reduces inefficiencies and saves costs. At the same time, employees can develop their personal skills such as creativity, the ability to relate and visionary powers to a much greater extent. In this way, medium-sized companies in particular can secure their competitiveness.

In order for SMEs to remain competitive today, efficient use of resources is essential. Accounting programs that automate processes and work with artificial intelligence ensure exactly that.

Artificial intelligence challenging decision-making task, an intractable search space, and an optimal solution so complex it appears infeasible to directly approximate using a policy or value function (Silver et al.,2016).

To understand what AI means and how it works, we will start with the definition of this concept. AI is the study of "intelligent" problem-solving behavior and the creation of "intelligent" computer systems. AI deals with methods that enable a computer to solve tasks that, when solved by humans, require intelligence. In short, AI describes an attempt to emulate human intelligence. Program algorithms are characterized by the fact that they are not static and are continuously improved. As external conditions and information change, the "behavior" of AI changes with them. In other words, AI learns with each new task and improves its accuracy and success rate (Clune, 2019; Shneiderman, 2020). Both positive and negative experiences help an AI process to self-correct and work more efficiently. AI processes are particularly popular, for example, in the economic fields of forecasting and probability calculation because these fields are usually based on experience and therefore calculations must take many aspects into account. After this discussion, we could consider that AI is like recruiting a new employee who learns the processes within the entity; however, AI is limited because it is only as smart as its data allows it to be and is programmed by humans. Such programs are not omniscient, but they can make every-day work much easier if used correctly. The fields of image and speech recognition, forecasting and expert systems, such as data processing, are popular application areas for AI. For decision-makers and experts in a wide variety of industries, there is no way to address the potential of AI, machine learning or deep learning. Knowledge of the possibilities of automation is growing, as is the availability of corresponding digitization projects. As a result, we need to

question: how far has AI found its way into accounting? (Askary, 2018; Al-Sayyed et al., 2021). From automatic document recognition to account reconciliation for open item management, to automatic document pre-accounting, AI has taken over the redundant tasks in the field of accounting. This creates the possibility of automation of financial processes: every form of automation is based on intelligent networks that can take over simple work instead of an employee (Ribeiro et al., 2021). This minimizes the error rate and ultimately means less work for accountants or tax advisors. Furthermore, if incorrect assignments creep in they can be manually corrected before the data is confirmed. Such "manual" changes are also recorded by the system and considered as experience and are automatically pre-allocated correctly next time. While certain activities require the knowledge of real experts, which AI simply cannot keep up with, automatic document entry and automatic document processing support a smooth accounting process and take time-consuming and sometimes unpleasant work away from employees. The benefits offered by AI appear with the implementation of innovative solutions within entities. Considering the different areas of recognition offered by AI—speech, image recognition and logical reasoning—we can review different areas within each entity regardless of the profile. In the long term, the requirements for strategic change within entities must also be met through the creation of a legal framework regarding the application of AI, which is an increasingly important necessity (Bruner, 2020). The issue of security can become problematic to the extent that the competitive nature of individual AI systems can mean that individual program checks are not performed sufficiently, resulting in less security. The issue of liability has been around AI for some time, but especially since the introduction of "self-driving cars." In principle, intelligent systems can make many decisions and have a significant influence on everyday work, but they cannot be held legally responsible for them.

2.4. The Ethical Challenges of AI

Ethics is the study of good behavior and morals in general. In a broad sense, the field of ethics includes all the rules, judgments and principles that lead to good human action. In terms of classification, ethics is a core discipline of practical philosophy. It is closely related to politics, legal philosophy, and economics. Ethics is based on morality that is produced by society and is generally binding. One is unimaginable without the other. As a result of this relationship, there are arguments for and against certain behaviors. AI ethics deals with the ethical challenges that become visible through the use of AI. Due to the large number of issues that have arisen with the use of AI in recent years, AI ethics has emerged as a new area of research and application. It belongs to the field of applied ethics (Wieringa, 2020). AI systems are also increasingly being used by mid-sized companies to simplify and automate processes and create a planning basis for future decisions. Thus, it is important for them to embrace AI ethics from the start—right from designing AI systems—otherwise, there is a risk that a product will not go to market in the first place or that there will be a loss of reputation and trust, which will lead to a decrease in acceptance among customers and society (Etzioni & Etzioni, 2017). Technical innovations often create new spheres of action for which known ethical forms of behavior do not provide an answer. Therefore, they must be discussed, reflected, and adapted to the new requirements. To advance this social process for AI, ethical guidelines need to be developed and, above all, checked for their practical feasibility. Apart from legal requirements, companies should clarify at an early stage for what purpose AI should be used in their company. As the results of the "Ethics in AI" study show, employees evaluate the use of AI in a similar way to consumers. Values and guidelines provide security and allow you to develop and use AI applications without having to decide for each application individually or cause a moral conflict (Munoko et al., 2020). Three areas of the company are particularly in demand: i) leadership and management level: to initiate a company-wide AI strategy and code of conduct; ii) customer-

facing teams such as HR, marketing, and customer service: to ensure transparent and ethical use of AI to customers while providing full disclosure (if requested); iii) IT, AI, and data teams: to ensure quality requirements for data and AI systems and document implementation. Ethical standards are not equally important for every AI application. In general, a basic rule can be established: the greater the risks associated with the use of a system, the greater the importance that ethical principles should have in the development process. Companies are key players in implementing ethical design decisions. However, aspects of technological development that are ethically relevant do not begin only in the context of the work of developing engineers. A company's strategic alignment and the commercialization concepts behind technology development are essential elements for a successful overall ethical concept. Any form of decision support system—whether heuristics, simple reports, or advanced AI—is human-made and relies on updating the basic situation (data) and learning (expanding alternative courses of action). Based on the criteria of the European Commission, we have defined the seven areas for the development of AI systems (Figure 2) (Smuha, 2019; Cohen et.al., 2020; Larsson, 2020; Van Roy et al., 2021; Palladino, 2021; Ulnicane, 2022).

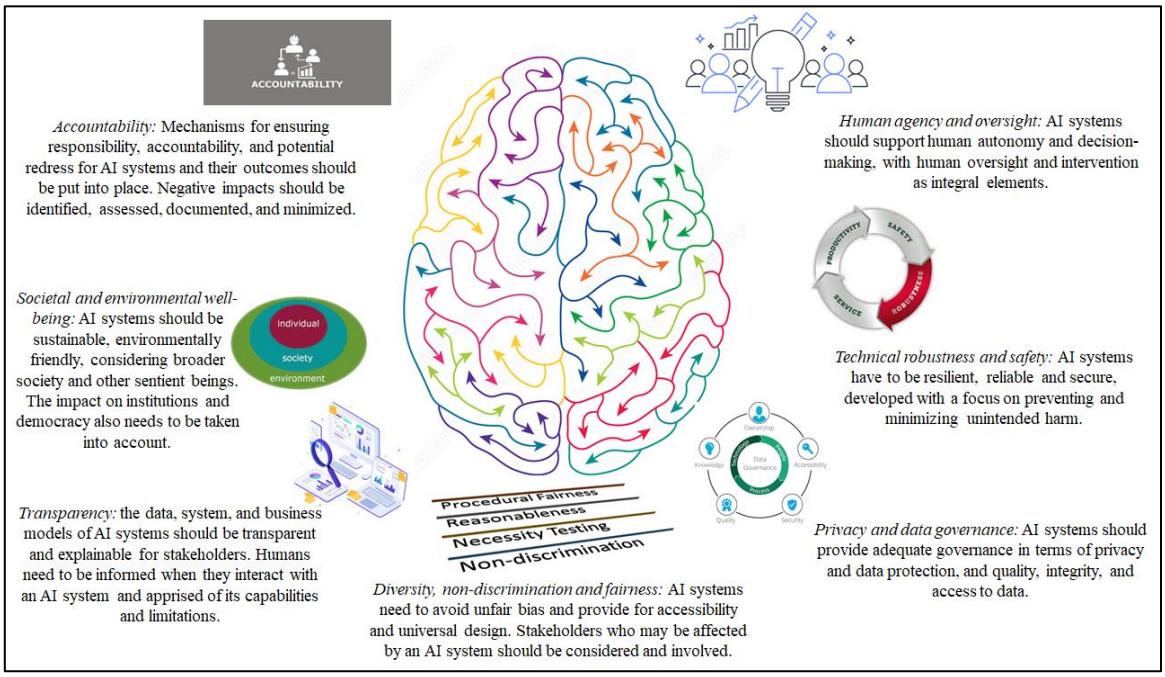

Fig. 2. – Development of AI systems. Source: made by the authors

An important objective of app-related codes of ethics, and specifically of the "ethics briefing" of platform learning systems, is therefore the feedback of value and action options to corporate practice. The central question is whether the theoretical values can be realized in practice. Many companies already place importance on ethical development and application processes for AI systems. Various factors play a role here: corporate culture and ethics, the sales market for "good" products and meeting legal standards. Ethics reacts to new moral questions with new fields of inquiry in the form of area ethics. An example of this development is the ethics of AI as part of applied ethics. Centrally, the question arises as to whether it is morally right to implement moral abilities within AI-based processes (Etzioni & Etzioni, 2017). Moreover, we must also see the part that social responsibility and sustainable responsibility have in the implementation of the sustainable development objectives imposed by the UN.

3 RESEARCH OBJECTIVE, METHODOLOGY AND DATA

Cognitively routinizable activities are tasks that are characterized by high standardization and, above all, require mental work. This includes, for example, tasks such as storing, retrieving, or changing information, which can often be taken over by computers. Cognitive-abstract activities, on the other hand, require a high degree of creativity, negotiation skills and flexibility. This especially applies to tasks in research and development or employee management. In the course of digitization, the pressure is felt to be the greatest for routine activities, as they can be automated more quickly through technical innovations (Mondolo, 2020). On the other hand, the development and control of new technologies requires a high degree of creativity and innovation, so cognitive-abstract activities in particular are becoming more and more important (Gevaert et al, 2021). Consequently, individual facets of digitization should be perceived differently in professional groups, depending on which aspects of the work are in the foreground. The quality of life at work has its roots in the consecrate theories of Maslow (1943, 1954), Herzberg (1966) and McGregor (1960), which were preceded by the theories of

Abraham Maslow, thus we note that the quality of life at work has always been at the center of discussions and if sometimes it has not been carefully treated. Walton (1974, 1975) completes the self-actualization needs of the hierarchy of needs with: career planning and growth in human capacity development, appreciation, opportunities to use skills and challenging work. Thus, the author concludes that employees experience a better quality of professional life in situations where he is satisfied with the work environment in which he works (Walton, 1975). The Job Demand-Control (JDC) model identifies two essential criteria that influence the quality of work life: job demands and job control (Karasek, 1979). Easton and Van Laar (2013) identify six dimensions of quality of work life: job and career satisfaction, general well-being, homework interface, job stress, job control, and working conditions. In the specialized literature, the quality of work life was defined differently, but the results obtained were similar (Lau et al., 2005; Lewis et al.2001; Korunka et. al, 2008; Easton & Van Laar, 2013; Nanjundeswaraswamy et al. 2020; Singla et al., 2021; Abdullah et al., 2021; Zaman & Ansari, 2022). Thus, our model is based on the results found in specialized literature adapted to the conditions of the quality of life at work in the field of services.

Our study is based on a questionnaire that was developed in several ways. The first part of the questionnaire concerns demographic questions, the second part connected to the problems that appeared with the application of digitalization and here we specifically refer to the implementation and use of AI, respectively in the last part we wanted to evaluate the quality of work life based on the dimension on quality of work life. The data were collected using the questionnaire that was developed with the help of five specialists in the accounting field to be anchored to the reality of businesses in the accounting field. But as with any study, the first problem quickly appeared that limited the number of respondents as we expected and according to the specialized literature. Considering that following the analysis of specialized literature and various statistics, we would find that digitization in Romania is at the beginning of the road,

which was also confirmed by the experts we collaborated with that in Romania there are still few accounting firms that have implemented innovative digital techniques such as automatic reading of invoices. Thus, we re-evaluated the situation, respectively the first criterion to be part of the pool of respondents was to have at least one digital innovation based on AI within the company. All items are scored on a five-point Likert scale from 1 = "Strongly disagree" to 5 = "Strongly agree". For data collection we used the electronic version, so the questionnaire was uploaded to an online survey platform and was open from the beginning of August 2022 to the beginning of December. A total of 127 questionnaires were completed, of which we eliminated 14 because they did not have all the questions completed and thus could not be validated. Following the validation of the questionnaires, I resorted to analyzing them with the help of SPSS, Adanco statistical software. The results of the research are presented in the following.

4 RESULTS AND DISCUSSION

A total of 113 questionnaires were included in evaluated. The sample is based on exclusive accounting firms that apply AI in their company. The composition of the sample can be found in Table 1.

Tab. 1. – Demographic data distribution. Source: own research

		No. Respondents	Percentage
Gender			
	Females	78	69%
	Males	35	31%
Total		**113**	**100%**
Age group			
	18-25 year	2	2%

		No. Respondents	Percentage
	25-35 year	37	33%
	35-45 year	45	40%
	over 45 years	29	26%
Total		**113**	**100%**
Position			
	Chief Accountant	35	31%
	Accountant	67	59%
	Assistant Accountant	11	10%
Total		**113**	**100%**
Work experience			
	0-5 years	13	12%
	6-10 years	19	17%
	11-15 years	33	29%
	16-20 years	22	19%
	20 years and more	26	23%
Total		**113**	**100%**

Today, new technological developments have a significant impact as they are widely used throughout the world and thus influence the lives of many people - positively and negatively. This makes it all the more important to talk in a differentiated manner, not only about the advantages, but also about the possible risks and dangers (Figure 3). This applies especially to AI, which is not only available globally, but also has the potential to fundamentally change our lives and the world of work - on many levels.

The use of AI is making great strides. Outstanding results have been achieved in various fields of application. The discussion of concrete application examples shows possible uses and opens the perspective of possible extensions of your own financial processes. Two application areas show the most progress: accounting anomaly detection and financial data forecasting. In anomaly detection, visible financial transactions are automatically identified and evaluated based on transaction attributes, while automated financial data prediction supports transactional activities in corporate planning. Both process models achieve a high added value for control after a short period of time. From automatic document recognition, through account reconciliation to manage open items to automatic document pre-booking, an AI can take over redundant accounting tasks. However, certain activities require the knowledge of real experts, which an AI simply cannot keep up with. However, automatic document entry and automatic document processing support a smooth accounting process and take time-consuming and sometimes unpleasant work away from employees. Again, and again voices are raised pointing to the negative effects of AI: above all, the loss of jobs. AI is a pioneering technology that is penetrating more and more areas of life. This leads to fundamental changes in the economy and society. In addition to technical, economic, and legal issues, this upheaval also involves moral challenges that are the subject of AI ethics. Moral considerations can certainly make technology better, whenever it comes to solving big problems with new ideas. With advances in AI and robotics, machines will increasingly make fundamental moral decisions that affect our lives in the future. Machine ethics is a new discipline at the interface between computer science and philosophy that is concerned with developing ethics for machines, as opposed to developing ethics for humans in dealing with machines.

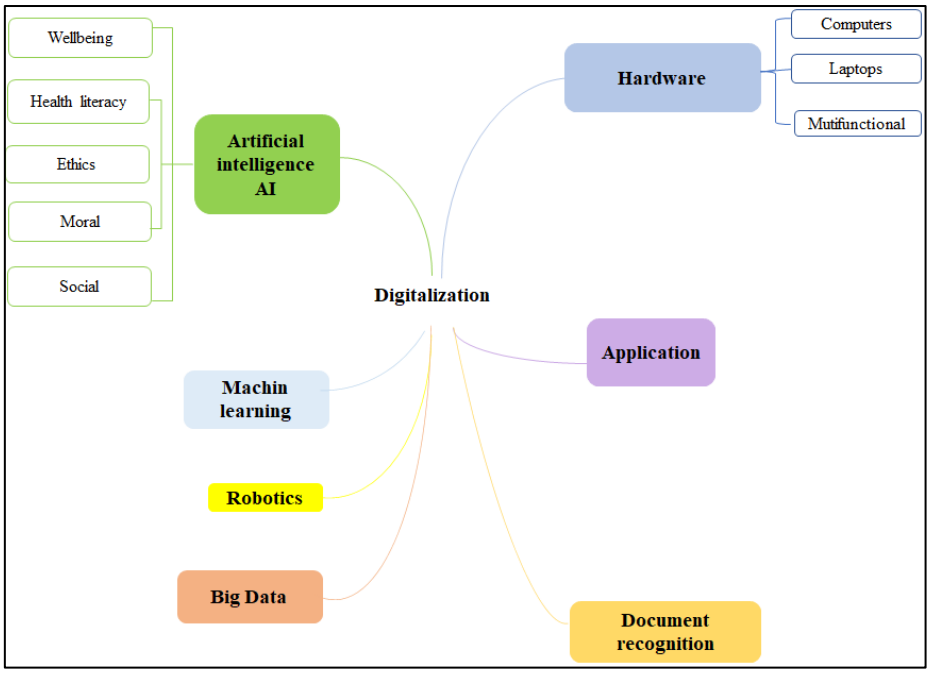

Fig. 3. – Identified risk and problems of digitalization. Source: own research

Health is one of the most important goods in life. In the context of the last year and a half - with the onset of the corona pandemic - health has become even more at the center of attention of society and, therefore, also of companies. Since the start of the corona pandemic, the number of hours employees work remotely has doubled. It should not be forgotten that mobile work is not even possible in many sectors. In this context, not only the physical and mental health of employees is important. Organizations must also consider the social health of individual employees, i.e., the state of social well-being in the workplace. We inevitably find that digitization is both a curse and a blessing for our society. New responsibilities are emerging in relation to the work environment and hybrid work models. Employers are subject to a digital duty of care, which, in addition to exemplary behavior by managers, includes a work environment that allows for personal responsibility. In addition, companies need to be aware that perfectly functioning hardware and software is even more important than it was before the Covid 19 pandemic. On the other hand, employees should be aware of their personal responsibility and learn to use technology for their well-being. The fear of job loss through technology (Spencer, 2018; Vu& Lim, 2021) paraphrases that employees see their own jobs

threatened as technological change advances and, among other things, enables greater automation. Also, the extent of emotional exhaustion due to increased digitalization is influenced by the degree of use of information and communication technology during leisure time at work. The growing link between digitization and burnout is further reinforced with the growing use of ICT for leisure work purposes. On the other hand, low use of ICT reduces the risk of burnout, especially if there is a high degree of perceived digitization. This result suggests that self-restraint in the use of digital media for leisure-time work purposes plays an important role in successfully managing digitization.

Based on our result on the model, it was found that the factor loading value from the dimensions to the indicators has a value > 0.5, which is shown in the Figure 4.

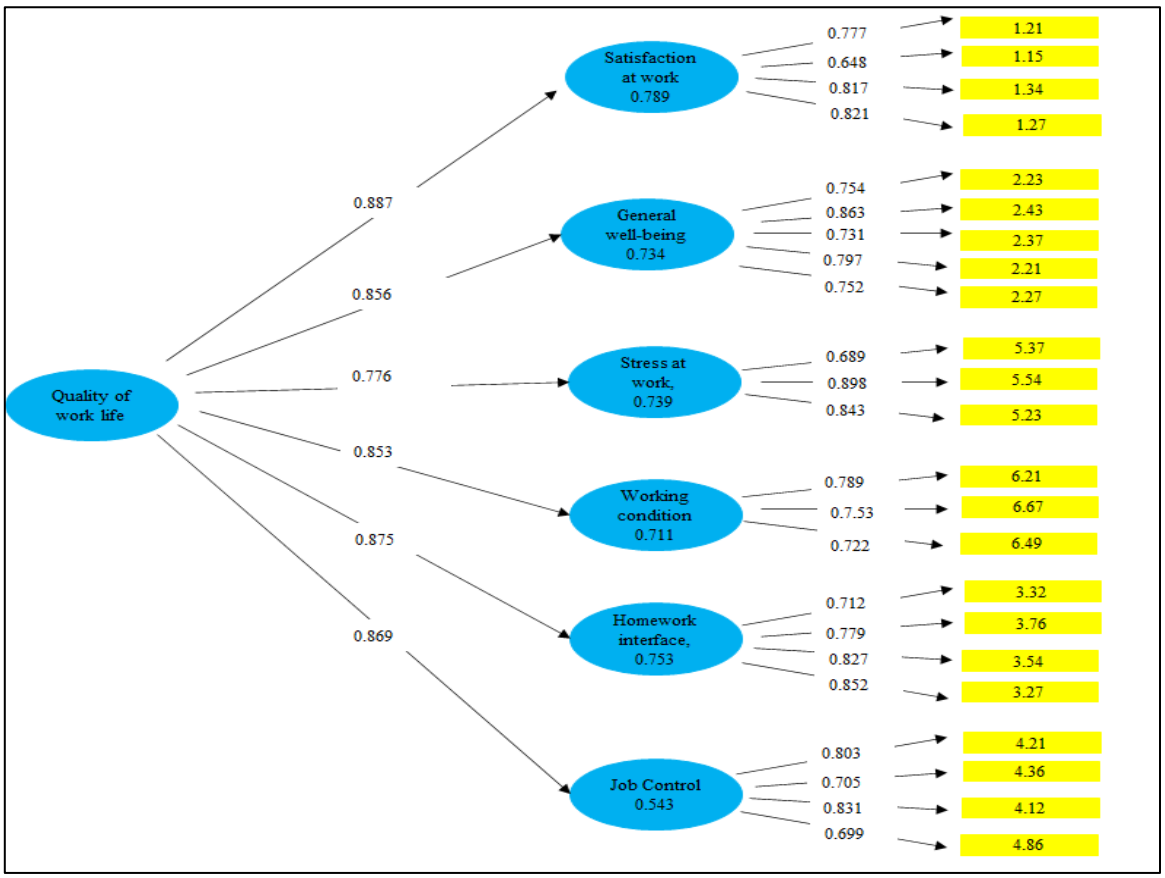

Fig. 4. – Output of the model results. Source: own research

The convergent validity test indicates a value of 0.513 for quality of work life, a value of ≥ 0.5 is considered an accepted (Hair et al.2014; Field, 2018), which is within the validation

parameters. Based on the discriminant validity test values, the root results of the AVE in each dimension are higher than the average variance extracted root, so that the discriminant validity criteria are met. The AVE value and root result of AVE on each dimension of the model can be found in the following Table 2 and Table 3. The construct reliability has a value of 0.899 and a Cronbach alpha value of 0.889. This value is considered good value. Based on the results obtained following the application of the construct validity and reliability analysis, we can conclude that the dimensions of which the quality of life at work indicator is composed have been validated and are considered reliable. Thus, we can conclude that all these dimensions contribute to the quality of work life.

Tab. 2. – Average variance extracted. Source: own research

Dimension	AVE
Satisfaction at work (S.W.)	0.576
General well-being (G.W.B.)	0.599
Stress at work (St.W)	0.545
Working condition (W.C.)	0.611
Homework interface (H.I.)	0.601
Job Control (J.C.)	0.623

Tab. 3. – Average variance extracted root. Source: own research

Dimension	S.W.	G.W.B.	St.W.	W.C.	H.I.	J.C.
S.W.	**0.803**					
G.W.B.	0.723	**0.757**				
St.W.	0.724	0.712	**0.737**			
W.C.	0.711	0.699	0.657	**0.768**		
H.I.	0.654	0.761	0.645	0.613	**0.779**	
J.C.	0.534	0.611	0.623	0.635	0.697	**0.768**

The guiding principle of the AI strategy is a European AI ecosystem for innovations that expands the competitiveness of European research and industry, promotes the diverse possible applications of AI in all areas of society in the interests of citizens and is based on common European rules and values. When developing and using AI, the focus will be on benefits for people, the common good, the environment and the climate.

The quality of life at work is closely related to the environmental conditions in which we work and spend most of our time. Through a suitable work environment, we can achieve job satisfaction, and this leads to a higher quality of work life. The results obtained on job satisfaction indicate a high degree of job satisfaction that has a positive effect on the quality of work life (Dhamija, et al., 2019; Singla et al., 2021). Job satisfaction is a relatively stable variable that expresses a person's experience-based attitude toward their work situation. Job satisfaction affects countless aspects of working life: it is negatively correlated with turnover, meaning that dissatisfied employees are more likely to quit. Satisfied employees will also have far less absenteeism and are less likely to have workplace accidents. A link with job performance is also suspected. Even though Herzberg's (1959) two-factor theory has very little empirical support, it represents a very plausible content theory of motivation with a good relationship with job satisfaction, the so-called hygiene factors, or dissatisfaction factors, which appear neutral when satisfied, but produce job dissatisfaction when dissatisfied, and motivators or satisfaction factors, which have no effect when dissatisfied, but lead to job satisfaction when satisfied. Of course, job satisfaction itself is also determined by other factors. There are countless reasons why job satisfaction can increase or decrease: It can be due to salary, the right to have a say, the behavior of the supervisor, the work schedule, the aspiration level of the employee, etc. Our results are consistent with the results found in the specialized literature in which a high degree of satisfaction leads to a higher degree of quality of work life (Easton & Van Laar, 2013; Fatehi et al., 2015 Dhamija et al., 2019; Zaman & Ansari, 2022). Stress and work are inextricably linked. Sometimes stress acts as a stimulating challenge, but too often it acts as a stressor. Viewed in this way, we must of course also ask ourselves the question of what influence stress has on job satisfaction. Certainly, no employee would like to be under-challenged at work, but as a rule, people complain of too much stress at work, which can have a negative impact on satisfaction. Stress at work can affect a person in a very individual way.

In general, stress can be defined as the body's reaction to an imbalance. This is due to external factors. Not only does physical health suffer from workplace stress, but so does mental health. Anyone who is constantly stressed is quickly irritated and overwhelmed. The feeling arises that the requirements can no longer be met. Stress at work not only has a negative effect on the health of employees, but also significantly affects our ability to concentrate and therefore our performance. Stress causes a hectic pace, which in turn can lead to more careless mistakes or a lack of focus. Our results confirm all these statements regarding the negative effect on the quality of work life and these results are in line with those found in the literature (Spector, 1988; Surienty et al., 2014; Contabeis et al., 2021; Zaman & Ansari, 2022).

The use of AI in the workplace can have far-reaching implications for the safety and well-being of workers. Our mental well-being is part of our overall well-being: the degree to which we feel good physically, mentally, and socially. Employees who feel good increase company performance and competitiveness. People are more balanced, more self-confident, more creative, more active, and more efficient when they feel good. This applies to all areas of life - in private life, in leisure time, but above all at work. People spend more time working than anything else, including sleeping.

The purely physical stresses of the industrialization period have now given way too many other stresses that result, among other things, from the mixing of work and private life and from the use of new technologies. In addition, more and more people work too much and have too little time for themselves. Such states of overload can lead to stress, an increased risk of illness, a lack of motivation, a loss of loyalty to the employer, internal resignation and ultimately a change of job. All these factors have far-reaching – including financial – consequences for employers. On the other hand, employees who feel comfortable can increase the performance and competitiveness of their work and their company just as significantly as the company's success and competitiveness.

Mental well-being can be easily and surprisingly accurately assessed using a short questionnaire developed by the World Health Organization (WHO). As it is a test with only 5 questions, the name WHO 5 is derived. As a rule, respondents only need about 2 minutes to answer the questions, which are all positively worded. Specifically, it asks to what extent the following feelings or moods have been prevalent in the past 2 weeks: Good spirit; Relaxation; Activity and vitality; Energetic; Interest in things. Components of well-being (such as education, training, and work) and job satisfaction have a major impact on a person's health. On the other hand, work-related stress can promote illness. The connections have been well studied in relation to the development of psychological symptoms, particularly in relation to the development of burnout. Thus, we note that there is a direct link between well-being and quality of life at work (Easton & Van Laar, 2013; Palumbo, 2022). Since the COVID-19 pandemic, more people have worked from home than ever before. Working from home gives employee's opportunities to better balance their private life with their work. However, working from home also presents problems. On the one hand, it is easier to work overtime, on the other hand, the constant availability of colleagues must be viewed critically. In addition, the boundaries between work and leisure can disappear, which can have a negative impact on private life and, by implication, on the quality of work life (Daniel, 2019; Williams et al., 2020). Control at the workplace is characterized by the extent to which an employee perceives the pressure to which he is exposed at the workplace according to the required level of experience. We must not forget that digitization and new innovative technologies also come with a series of new requirements and experiences in different fields. Therefore, the accountant is no longer just gifted, but must also be a good computer scientist in order to understand and be able to use innovations based on AI. Thus, they become more stressed and their well-being and satisfaction at work and the quality of life at work are affected (Kundi et al., 2021). The COVID-19 pandemic is also creating far-reaching challenges and behavioral changes related to health and safety in the

workplace. Here it is particularly important to focus on specific working conditions, as they promote, but can also affect, the health, well-being, and safety of employees. Unhealthy working conditions are summarized under the term work stressors, protective factors under the term work resources. Of course, working conditions in the financial services sector are not the same for all employees. Different industry trends in accounting, as well as the different job content of employees, suggest that outcomes within industries differ significantly. The same goes for the type of work employees do. Thus, an important connection and a significant influence on the quality of work determined by the working conditions and the working environment was noted (Zaman & Ansari, 2022). As expected, all six dimensions influence the quality of life at work, and more than that, we note the interdependence between them. We consider the study and the results obtained as an x-ray of the quality of work life in the accounting profession, which is undergoing a significant transformation from pencil and eraser to colleagues who are robots and take over part of the accountant's activity.

Tasks such as posting invoices or repetitive administrative activities are boring, tedious and, above all, take up a lot of time. Usually more than companies can afford these days. Wouldn't this time be much more sensibly invested in day-to-day business or customer service? Especially in accounting, intelligent programs are a valuable support and there are already some representatives on the market. Because in accounting and controlling there are a particularly large number of repetitive tasks that are tedious and boring for your employees. Not to mention that their execution means a time investment that is hardly justifiable nowadays.

In summary, it can be said that investments in digitization have a similar long-term effect on the competitiveness of industries as conventional capital stock intensification. In the short term, greater digitization goes hand in hand with higher productivity and lower unit labor costs. These competitive advantages can subsequently be reflected in higher export market shares. The studies did not find any negative effects of digitization on long-term employment development

but did find signs of positive impetus for real wage development. These results suggest that, similar to past technological developments, digitization leads to higher-value production without large-scale long-term employment releases.

5. CONCLUSION

In the era of technological development, there is a rapid change in professions and skills. There is the question of optimal operational management of the economy, high-tech industries, robotics, and the training of highly qualified competent personnel. In the next ten to fifteen years, there will not be "one" AI solution that can cover multiple user skills. Today, AI solutions are generally implemented for a single skill/function. Skills can be divided into three areas of application: language, imagery, and logical reasoning. Often used solutions consist of a combination of the three applications. As our analysis shows, there is no universally accepted definition of AI, Big data, and related terms. Furthermore, the application of AI is likely to grow in the near future, albeit at different rates depending on industry, region and company size. Current and future use is expected to have both negative and positive effects on fundamental rights. In the absence of a comprehensive legal framework, political actions by the EU and its Member States as well as non-governmental initiatives on the ethical and legal implications of AI have increased significantly.

AI technologies in accounting are not propaganda, but reality. Digital transformation is not a vision, but a matter of commitment. Yes, the business world is changing! However, the question is not whether this is good or bad, but whether the company is agile enough to take advantage of new opportunities. This includes freeing employees from repetitive tasks so they can focus on the potential to create value together (Nanjundeswaraswamy et al., 2020). AI will soon accompany many processes in medium-sized companies. However, employees need additional training for the successful use of AI to develop safe management of AI-controlled processes. Machines and

complex technological systems are already capable of functionally making and executing moral decisions. At the same time, the new technological possibilities give rise to new moral problems that require ethical and moral reflections from the idea and conception phase. However, we must disregard such dark prophecies, for the profession is far from its inglorious end. AI should be considered a beginning of its renewal and will once again prove its potential to adapt to recent changes in the business environment and changing management requirements. In fact, accountants can benefit from intelligent systems because, using their capabilities, they will be able to solve three big problems: i) supporting the decision-making process by providing better and cheaper data; ii) providing deeper data analysis and new business insights; iii) focusing on more complex tasks as employees can refocus their efforts while AI takes over more repetitive tasks. Thus, the involvement of accountants in the development of practical guidance and effective governance of these technologies will be crucial. The new division of labor between humans and AI makes a company's processes future-proof. Tax authorities are interested in accessing companies' systems in real time and monitoring their accounting in this way. Companies that still use manual processes are no longer competitive as a result. This means implementing AI in accounting is an absolute requirement.

Overall, it can be said that the perceived digitization of one's work environment is associated with health burdens for employees at the individual health level. The harmful link to health is stronger for emotional exhaustion. Moreover, a high degree of digitization is also associated with a greater accumulation of work-family conflicts. On the other hand, the flexibility of the work situation is associated with a reduction of stress in the domains of individual health and family life. At the individual level, a good relationship with the manager is also associated with a reduction in ill health. The result of our study thus confirms existing publications that tend to associate digitization with adverse health effects and quality of work life (Lau et al., 2005; Lewis et al.2001; Korunka et. al, 2008; Easton & Van Laar, 2013; Nanjundeswaraswamy et al. 2020; Singla et al.,

2021; Abdullah et al., 2021; Zaman & Ansari, 2022). As the digitization of the world of work will continue to advance in the next few years and permeate virtually all activities and sectors, successfully managing digitization at the individual and company level is of particular importance. Existing literature points to various influencing variables that may moderate the magnitude of health impairments caused by work-related stress and digital tasks. Based on these findings, our analysis of successfully managing digitization aim to identify influencing factors that can neutralize the potential negative effect of digitization on well-being and health. However, like any scientific work, the present study also has limitations. On the one hand, the measurements are based solely on the respondents' personal perception, which means that the effects may be overestimated or underestimated. This applies both to the perception of digitization and to one's own health and well-being. In addition, all study data were obtained through questionnaires and only at one point in the survey, meaning that the claims can only be correlative in nature. Therefore, further studies should be pursued in the future that include a longitudinal design and may resort to randomized interventions to allow for causal claims.

In the future, routine tasks and the processing of actions that have already been completed will be assigned to software that can handle such tasks with great precision and speed. Human resources that are becoming increasingly scarce due to demographics and the tight labor market situation become “teachers” for AI algorithms and retain control over final decisions. At the same time, specialists have more freedom to work creatively and innovatively and shape the future of business.

Funding: Authors state no funding involved.

Author contributions: “Conceptualization, M.T.F. and C.A.I.; methodology, M.T.F.; software, M.T.F.; validation, D.I.T., M.C.S. and N.M.; formal analysis, M.T.F. and N.M.; investigation, N.M.; resources, D.I.T.; data curation, N.M.; writing—original draft preparation,

M.T.F. and C.A.I.; writing—review and editing, M.T.F., C.A.I. and M.C.S.; visualization, M.C.S.; supervision, D.I.T.; project administration, M.T.F.; funding acquisition, D.I.T. All authors have read and agreed to the published version of the manuscript."

Conflict of interest: Authors state no conflict of interest.

Data availability statement: The dataset analysed during the current study are available from the corresponding author on reasonable request.

References

1. Abdullah, N. A. C., Zakaria, N., & Zahoor, N. (2021). Developments in Quality of Work-Life Research and Directions for Future Research. *SAGE Open*, *11*(4), 21582440211059177. https://doi.org/10.1177/21582440211059177

2. ACCA, (2017). Accountancy Futures. Critical issues for tomorrow's profession. Available online: https://www.accaglobal.com › img › AF20_lo-res

3. Al-Sayyed, S., Al-Aroud, S., & Zayed, L. (2021). The effect of artificial intelligence technologies on audit evidence. *Accounting*, *7*(2), 281-288. https://doi.org/10.5267/j.ac.2020.12.003

4. Askary, S., Abu-Ghazaleh, N., & Tahat, Y. A. (2018, October). Artificial Intelligence and Reliability of Accounting Information. In: Challenges and Opportunities in the Digital Era. I3E 2018. Lecture Notes in Computer Science, vol 11195. Springer, Cham. https://doi.org/10.1007/978-3-030-02131-3_28

5. Azman, N. A., Mohamed, A., & Jamil, A. M. (2021). Artificial intelligence in automated bookkeeping: a value-added function for small and medium enterprises. *JOIV: International Journal on Informatics Visualization*, *5*(3), 224-230. http://dx.doi.org/10.30630/joiv.5.3.669

6. Basri, W. (2020). Examining the impact of artificial intelligence (AI)-assisted social media marketing on the performance of small and medium enterprises: toward effective

business management in the Saudi Arabian context. *International Journal of Computational Intelligence Systems*, *13*(1), 142. https://doi.org/10.2991/ijcis.d.200127.002

7. Board, F. A. S. (2020). Available online: https://www.fasb.org/home

8. Bruner, J., Calegari, F., & Handfield, T. (2020). The evolution of the endowment effect. *Evolution and Human Behavior*, *41*(1), 87-95. https://doi.org/10.1016/j.evolhumbehav.2019.10.004

9. Bryndin, E. (2021). Formation of International Ethical Digital Environment with Smart Artificial Intelligence. *Automation, Control and Intelligent Systems*, *9*(1), 22. https://doi.org/10.11648/j.acis.20210901.14

10. Clune, J. (2019). AI-GAs: AI-generating algorithms, an alternate paradigm for producing general artificial intelligence. arXiv preprint arXiv:1905.10985. https://doi.org/10.48550/arXiv.1905.10985

11. Cohen, I. G., Evgeniou, T., Gerke, S., & Minssen, T. (2020). The European artificial intelligence strategy: implications and challenges for digital health. *The Lancet Digital Health*, *2*(7), e376-e379. https://doi.org/10.1016/S2589-7500(20)30112-6

12. Contabeis, E., Do Sudoeste, D.P., Antonelli, R.A., & Portulhak, H. (2021). Burnout syndrome and quality of professional life: a study in accounting offices in the southwest Paraná. *Revista Alcance*, *28*(2), 242-257. https://doi.org/10.14210/alcance.v28n2(mai/ago)

13. Daniel, C.O. (2019). Analysis of quality work life on employees performance. *International Journal of Business and Management Invention (IJBMI)*, *8*(2), 60-65.

14. Dhamija, P., Gupta, S., & Bag, S. (2019). Measuring of job satisfaction: the use of quality of work life factors. *Benchmarking: An International Journal*, *26*(3), 871-892. https://doi.org/10.1108/BIJ-06-2018-0155

15. Eachempati, P., Srivastava, P.R., Kumar, A., Tan, K.H., & Gupta, S. (2021). Validating the impact of accounting disclosures on stock market: A deep neural network approach.

Technological Forecasting and Social Change, *170*, 120903. https://doi.org/10.1016/j.techfore.2021.120903

16. Easton, S., & Van Laar, D. (2013). QoWL (quality of working life)-what, how, and why?. *Psychology Research*, *3*(10), 596.

17. Etzioni, A., & Etzioni, O. (2017). Incorporating ethics into artificial intelligence. *The Journal of Ethics*, *21*(4), 403-418. https://doi.org/10.1007/s10892-017-9252-2

18. EU AI Act: first regulation on artificial intelligence (2023), https://www.europarl.europa.eu/news/en/headlines/society/20230601STO93804/eu-ai-act-first-regulation-on-artificial-intelligence?&at_campaign=20226-Digital&at_medium=Google_Ads&at_platform=Search&at_creation=RSA&at_goal=TR_G&at_advertiser=Webcomm&at_audience=ai%20legislation&at_topic=Artificial_intelligence_Act&at_location=RO&gclid=EAIaIQobChMI_7TLzNyagAMVwoRoCR1jVAceEAAYASAAEgJRC_D_BwE

19. Fatehi, B., Karimi, A., Pour, E.G., Pour, K.A., & Azizi, B. (2015). Impact of quality of work life on job satisfaction. *International Journal of Sport Studies*, *5*(1), 79-86.

20. Field, A (2018). Discovering Statistics Using IBM SPSS Statistics, 5th ed.; SAGE Publication: Los Angeles.

21. Gevaert, J., Van Aerden, K., De Moortel, D., & Vanroelen, C. (2021). Employment quality as a health determinant: Empirical evidence for the waged and self-employed. *Work and Occupations*, *48*(2), 146-183. https://doi.org/10.1177/0730888420946436

22. Gu, W., & Yan, B. (2017). Productivity growth and international competitiveness. *Review of Income and Wealth*, *63*, S113-S133.

23. Gulin, D., Hladika, M., & Valenta, I. (2019). Digitalization and the Challenges for the Accounting Profession. *ENTRENOVA-ENTerprise REsearch InNOVAtion*, *5*(1), 428-437.

24. Hair Jr, J., Sarstedt, M., Hopkins, L. and G. Kuppelwieser, V. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review*, 26(2), 106-121. https://doi.org/10.1108/EBR-10-2013-0128

25. Herzberg, F. (1966). Work and the nature of man. Cleveland: World Press.

26. Herzberg, F., Mausner, B., & Snydermann B. (1959). The motivation to work. New York: Wiley.

27. Hinton, G. (2018). Deep learning—a technology with the potential to transform health care. *Jama*, *320*(11), 1101-1102.

28. IAASB (2018). Exploring the growing use of technology in the audit, with a focus on data analytics. Available online: https://www.iaasb.org/publications/exploring-growing-use-technology-audit-focus-data-analytics

29. IAASB (2022). Disruptive technologies roundtable summary. Available online: https://www.iaasb.org/publications/disruptive-technologies-roundtable-summary

30. IAASB (2022). IAASB Digital Technology Market Scan: Artificial Intelligence—A Primer. Available online: https://www.iaasb.org/news-events/2022-03/iaasb-digital-technology-market-scan-artificial-intelligence-primer

31. Karasek, R.A. (1979). Job demands, job decision latitude and mental strain: implications for job design. *Administrative Science Quarterly*, *24*, 285–308. https://doi.org/10.2307/2392498

32. Korunka, C., Hoonakker, P., & Carayon, P. (2008). Quality of working life and turnover intention in information technology work. *Human Factors and Ergonomics in Manufacturing & Service Industries*, *18*(4), 409-423. https://doi.org/10.1002/hfm.20099

33. Kovalenko, A., Kordík, P., & Friedjungová, M. (2021). Dynamic Neural Diversification: Path to Computationally Sustainable Neural Networks. *In International*

Conference on Artificial Neural Networks (pp. 235-247). Springer, Cham. https://doi.org/10.1007/978-3-030-86340-1_19

34. Kumar, V., Ramachandran, D. & Kumar, B. (2020). Influence of new-age technologies on marketing: a research agenda. *Journal of Business Research*, *125*, 864-877. https://doi.org/10.1016/j.jbusres.2020.01.007

35. Kundi, Y.M., Aboramadan, M., Elhamalawi, E.M.I. & Shahid, S. (2021). Employee psychological well-being and job performance: exploring mediating and moderating mechanisms. *International Journal of Organizational Analysis*, 29(3), 736-754. https://doi.org/10.1108/IJOA-05-2020-2204

36. Larsson, S. (2020). On the governance of artificial intelligence through ethics guidelines. *Asian Journal of Law and Society*, *7*(3), 437-451. https://doi.org/10.1017/als.2020.19

37. Lau, J. T., Leung, P. C., Wong, E. L. Y., Fong, C., Cheng, K. F., Zhang, S. C., Lam, C.W.K., Wong, V., Choy, K.M. & Ko, W.M. (2005). The Use of an Herbal Formula by Hospital Care Workers During the Severe Acute Respiratory Syndrome Epidemic in Hong Kong to Prevent Severe Acute Respiratory Syndrome Transmission, Relieve Influenza-Related Symptoms, and Improve Quality of Life: A Prospective Cohort Study. *The Journal of Alternative and Complementary Medicine*, 11(1), 49-55. http://doi.org/10.1089/acm.2005.11.49

38. LeCun, Y., Bengio, Y., & Hinton, G. (2015). Deep learning. *nature*, *521*(7553), 436-444.

39. Lehner, O. M., Ittonen, K., Silvola, H., Ström, E., & Wührleitner, A. (2022). Artificial intelligence based decision-making in accounting and auditing: ethical challenges and normative thinking. *Accounting, Auditing & Accountability Journal*, *35*(9), 109-135. https://doi.org/10.1108/AAAJ-09-2020-4934

40. Lewis, D., Brazil, K., Krueger, P., Lohfeld, L. & Tjam, E. (2001). Extrinsic and intrinsic determinants of quality of work life. *Leadership in Health Services*, *14*(2), 9-15. https://doi.org/10.1108/13660750110391539

41. Li, Z., & Zheng, L. (2018). The impact of artificial intelligence on accounting. In 2018 4th International Conference on Social Science and Higher Education (ICSSHE 2018). Atlantis Press. https://doi.org/10.2991/icsshe-18.2018.203

42. Losbichler, H., & Lehner, O.M. (2021). Limits of artificial intelligence in controlling and the ways forward: a call for future accounting research. *Journal of Applied Accounting Research*, *22*(2), 365-382. https://doi.org/10.1108/JAAR-10-2020-0207

43. Maslow, A.H. (1943). A theory of human motivation. *Psychological Review*, *50*(4), 70-96.

44. Maslow, A.H. (1954). Motivation and personality. New York: Harper.

45. McGregor, D. (1960). Theory X and theory Y. *Organization theory*, *358*(374), 5.

46. Mondolo, J. (2022). The composite link between technological change and employment: A survey of the literature. *Journal of Economic Surveys*, *36*(4), 1027-1068. https://doi.org/10.1111/joes.12469

47. Munoko, I., Brown-Liburd, H.L., & Vasarhelyi, M. (2020). The ethical implications of using artificial intelligence in auditing. *Journal of Business Ethics*, *167*(2), 209-234. https://doi.org/10.1007/s10551-019-04407-1

48. Nanjundeswaraswamy, T.S., Swamy, D.R., & Nagesh, P. (2020). Leadership styles in mediating the relationship between quality of work life and employee commitment. *International Journal for Quality Research*, *14*(2), 387–412. https://doi.org/10.24874/IJQR14.02-04

49. Palladino, N. (2021). The role of epistemic communities in the "constitutionalization" of internet governance: The example of the European Commission High-Level Expert Group

on Artificial Intelligence. *Telecommunications policy*, *45*(6), 102149. https://doi.org/10.1016/j.telpol.2021.102149

50. Palumbo, R. (2022). Involved at work and disinvolved out of work: unraveling the implications of involvement on accountants' work–life balance. Management Decision, Vol. ahead-of-print No. ahead-of-print. https://doi.org/10.1108/MD-03-2022-0345

51. PCAOB (2018). Driving Audit Quality Forward: PCAOB 2.0. Available online: https://pcaobus.org/news-events/speeches/speech-detail/driving-audit-quality-forward-pcaob-2-0_683

52. Qasim, A., & Kharbat, F.F. (2020). Blockchain technology, business data analytics, and artificial intelligence: Use in the accounting profession and ideas for inclusion into the accounting curriculum. Journal of emerging technologies in accounting, 17(1), 107-117. https://doi.org/10.2308/jeta-52649

53. Ribeiro, J., Lima, R., Eckhardt, T., & Paiva, S. (2021). Robotic process automation and artificial intelligence in industry 4.0–a literature review. *Procedia Computer Science*, *181*, 51-58. https://doi.org/10.1016/j.procs.2021.01.104

54. Service, I.A. (2020). Accreditation Programs. Available online: https://www.iasonline.org/

55. Shi, Y. (2020). The Impact of Artificial Intelligence on the Accounting Industry. In: Xu, Z., Choo, KK., Dehghantanha, A., Parizi, R., Hammoudeh, M. (eds) *Cyber Security Intelligence and Analytics. CSIA 2019. Advances in Intelligent Systems and Computing*, vol 928. Springer, Cham. https://doi.org/10.1007/978-3-030-15235-2_129

56. Shneiderman, B. (2020). Design lessons from AI's two grand goals: Human emulation and useful applications. *IEEE Transactions on Technology and Society*, *1*(2), 73-82. https://doi.org/10.1109/TTS.2020.2992669

57. Silver, D.; Huang, A.; Maddison, C. J.; Guez, A.; Sifre, L.; Van Den Driessche, G.; Schrittwieser, J.; Antonoglou, I.; Panneershelvam, V.; Lanctot, M.; et al. (2016), Mastering the Game of Go With Deep Neural Networks and Tree Search. Nature 2016, 529, 484−489.

58. Singla, H., Mehta, M.D., & Mehta, P. (2021). Modeling spiritual intelligence on quality of work life of college teachers: a mediating role of psychological capital. *International Journal of Quality and Service Sciences*, *13*(3), 341-358. https://doi.org/10.1108/IJQSS-07-2020-0108

59. Smuha, N.A. (2019). The EU approach to ethics guidelines for trustworthy artificial intelligence. *Computer Law Review International*, *20*(4), 97-106. https://doi.org/10.9785/cri-2019-200402

60. Spector, P.E. (1988). Development of the work locus of control scale. *Journal of occupational psychology*, *61*(4), 335-340. https://doi.org/10.1111/j.2044-8325.1988.tb00470.x

61. Spencer, D.A. (2018). Fear and hope in an age of mass automation: debating the future of work. *New Technology, Work and Employment*, *33*(1), 1-12. https://doi.org/10.1111/ntwe.12105

62. Standards, I.F.R.S. (2020). Available online: https://www.ifrs.org/

63. Surienty, L., Ramayah, T., Lo, M.C., & Tarmizi, A. N. (2014). Quality of work life and turnover intention: a partial least square (PLS) approach. *Social indicators research*, *119*(1), 405-420. https://doi.org/10.1007/s11205-013-0486-5

64. Ulnicane, I. (2022). Artificial Intelligence in the European Union: Policy, ethics and regulation. In The Routledge Handbook of European Integrations. Taylor & Francis.

65. Van Roy, V., Rossetti, F., Perset, K., & Galindo-Romero, L. (2021). AI Watch-National strategies on Artificial Intelligence: A European perspective (No. JRC122684). Joint Research Centre (Seville site).

66. Vu, H.T., & Lim, J. (2021). Effects of country and individual factors on public acceptance of artificial intelligence and robotics technologies: a multilevel SEM analysis of 28-

country survey data. *Behaviour & Information Technology*, *41*(7),1515-1528. https://doi.org/10.1080/0144929X.2021.1884288

67. Walton, R. E. (1974). QWL indicators: Prospects and problems. In A. H. Portigal (Eds.). Measuring the quality of working life. A symposium on Social Indicators of Working Life. Ottawa, March, 19-20

68. Walton, R.E. (1975). The diffusion of new work structures: Explaining why success didn't take. *Organizational Dynamics*, *3*(3), 2–22. https://doi.org/10.1016/0090-2616(75)90027-3

69. Wieringa, M. (2020). What to account for when accounting for algorithms: a systematic literature review on algorithmic accountability. In Proceedings of the 2020 conference on fairness, accountability, and transparency (pp. 1-18). https://doi.org/10.1145/3351095.3372833

70. Williams, M., Zhou, Y., & Zou, M. (2020). *Mapping good work: The quality of working life across the occupational structure* (p. 162). Policy Press.

71. World Economic Forum (2018). The Global Competitiveness Report 2018. Available online: https://www.weforum.org/reports/the-global-competitveness-report-2018/

72. Zaman, S., & Ansari, A.H. (2022). Quality of work-life: scale construction and validation. *Journal of Economic and Administrative Sciences*, Vol. ahead-of-print No. ahead-of-print. https://doi.org/10.1108/JEAS-07-2021-0118

73. Zhao, L., Yang, M.M., Wang, Z., & Michelson, G. (2023). Trends in the dynamic evolution of corporate social responsibility and leadership: A literature review and bibliometric analysis. *Journal of Business Ethics*, *182*, 1-23. https://doi.org/10.1007/s10551-022-05035-y