



**SOBER**  
**PROCEEDINGS**

CIBES 2023 / 3<sup>rd</sup> Current Issues in Business and Economic Studies Conference

## **CURRENT TRENDS AND DEVELOPMENT PERSPECTIVES OF THE ACCOUNTING PROFESSION: A ROADMAP FOR THE FUTURE**

Petra Halar<sup>a</sup> Ivana Pavić<sup>b</sup> Nikolina Dečman<sup>c</sup>

<sup>a</sup> Ph.D., Teaching and Research Assistant, University of Zagreb, Faculty of Economics & Business, Zagreb, Republic of Croatia, [phalar@efzg.hr](mailto:phalar@efzg.hr)

<sup>b</sup> Ph.D., Associate Professor, University of Zagreb, Faculty of Economics & Business, Zagreb, Republic of Croatia

<sup>c</sup> Ph.D., Associate Professor, University of Zagreb, Faculty of Economics & Business, Zagreb, Republic of Croatia

### **Abstract**

The contemporary business environment is faced with constant disruptions and uncertainties, that are consequences of economic pressures, climate changes, geopolitical conflicts, emerging technologies adoption, changing risk landscapes and quests for survival, regulatory changes, and new disclosure requirements, like sustainability reporting, etc., as well as ‘new normal’ conditions and crisis imposed by the COVID-19 pandemic. All of this is significantly influencing the accounting profession, amongst other economic professions. Therefore, the main aim of this paper was to discuss the current and future transformations that the accounting profession is and will experience in response to constant disruptions in the contemporary business landscape. This discussion resulted in an agenda that contains innovative directions for the profession’s existence and success in the uncertain future environment. This paper adopted a critical literature review approach and analyzed selected academic and professional papers that satisfied predefined criteria. As a leading data analysis technique, the authors used interpretive text analysis to identify the most relevant COVID-19 implications on the accounting profession. In order to survive, maintain and upgrade their roles, responsibilities, and positions, accounting professionals need to be familiar with, understand, prepare for, and appropriately adopt new transformational trends and developmental perspectives. The conducted literature review resulted in an overview of different trends affecting the profession in the 21<sup>st</sup> century, including the adoption of digital technologies and related processes of digitalization. When these trends first appeared and began to change the accounting profession, no one anticipated the emergence of the COVID-19 pandemic, which fundamentally changed

---

Cited: Halar, P., Pavić, I., & Dečman, N. (2023). Current trends and development perspectives of the accounting profession: A roadmap for the future. *Sustainability, Organization, Business and Economic Research (SOBER)*, 1, 115-132. doi: 10.5281/zenodo.8060354

---

Selection and peer-review under the responsibility of the 3<sup>rd</sup> Current Issues in Business and Economic Studies Conference.

the ways of doing business and working in a very short period. It is clear that existing transformational trends, as well as developmental perspectives, in the accounting profession, are significantly affected by these COVID-19 'new normal' imposed conditions. The findings of this paper provide a better understanding of the new transformational trends and developmental perspectives in the accounting profession, as well as the COVID-19 implications on them. This paper identifies and systematizes the most important contemporary transformational trends and developmental perspectives that are, or will shortly, disrupt the traditional accounting profession as we know it. It also provides an agenda with necessary adaptation processes for the profession to succeed in the future.

**Keywords:** accounting profession, accountants, digital technologies, COVID-19, competencies, ways of working

## 1. INTRODUCTION

Accounting is a core business function essential for the successful functioning of every entity, whose roots date back to ancient history. The accounting profession, therefore, is a traditional economic profession whose formal systematical development started somewhere around 19<sup>th</sup> century, with the development of the first professional accounting bodies (further in text: PABs) and the introduction of accounting courses to universities (Dražić Lutitsky et al., 2010, pp.3-5; Gulin et al., 2019, p.428). Since then until nowadays, the accounting profession has faced numerous challenges and uncertainties, to which it needed to adjust and change accordingly. Through undertaking these transformations, the accounting profession grew, developed, and positioned itself as a critical role player in the corporate governance processes worldwide. Furthermore, accountants positioned themselves from ‘back-office clerks’ to ‘trusted value advisers’ of companies’ governance structures (Chua, 2013; IFAC, 2020; Leoni et al., 2021; Ng, 2021). Since the beginning of the 21<sup>st</sup> century, relevant PABs, as well as academia, have begun to raise awareness and particularly draw attention to the changing roles and responsibilities of accounting professionals (e.g., Chua, 2016; ACCA, 2020a; 2020b; Botes et al., 2023, etc.), to new technological and non-technological trends in the accounting profession (e.g., Chua, 2013; Gulin et al., 2019; IFAC, 2020; Saad et al., 2022, Shipway, 2022, etc.), as well as to changing knowledge, skills, and abilities (further in text: KSAs) sets of accounting professionals (e.g., Chua, 2016; Dunbar et al., 2016; ACCA, 2020b; IFAC, 2019; Tsiligiris and Bowyer, 2020, etc.). The modern digital economy era is also characterized by technological disruptions and other uncertainties. Among that, the COVID-19 pandemic and related crisis is undoubtedly the greatest disruption of it all, at least since the Great Influenza pandemic in 1918 (Blood and Hong, 2021a; 2021b; Leoni et al., 2021; Botes et al., 2023). This current pandemic surprised the whole world, as no one expected or even anticipated it. Therefore, companies’ governance structures were not adequately prepared to cope with it, but what they could do was promptly react by taking measured steps for recovery and revolutionizing their ways of working (Leoni et al., 2021, p.1307; Ng, 2021, p.653). However, it was much easier to be said than done. In that business environment, the accounting professionals needed to take part of the responsibility, adapt themselves quickly and be among the first ones who help their companies adapt, recover and survive (IFAC, 2020; Leoni et al., 2021; Guo and Pippin, 2022).

Therefore, this paper seeks to provide answers to the following research questions:

- 1) *What are the main contemporary transformational trends in the accounting profession?*
- 2) *Did the COVID-19 pandemic have implications for the accounting profession, and how it affected already existing trends?*

From these research questions, the objectives of the paper arose:

1. *to identify the most critical contemporary transformational trends and define how they are impacting the accounting profession*

2. *to determine the implications of the COVID-19 pandemic for the accounting profession*
3. *to identify if these COVID-19 implications are changing already existing transformational trends in the accounting profession*
4. *to define a roadmap for the future of accounting profession where innovative directions for the profession's development are described together with the actions that accounting professionals need to take today to preserve their position in the business world in the future.*

In this paper, the emphasis is on the core accounting profession rather than the whole accountancy profession, which would include also the external and internal auditing professions.

The remainder of the paper is structured as follows. In section two, the paper gives a brief literature overview of current trends in accounting and necessary KSAs for modern accounting professionals. In section three, paper describes the research methodology used for achieving research objectives. Before introducing the concluding remarks of the paper, in section four, the paper discusses the main research results regarding the impact of the COVID-19 pandemic on the accounting profession and provides recommendations for its future development.

## **2. LITERATURE REVIEW**

### **2.1. The Role of Digitalization in the Accounting Profession**

According to ACCA (2012, p.7), forces driving change in the accounting profession are *trust and reporting, regulatory expectations, standards and practices, organizational remit and intelligent systems and big data*. Trust and reporting mean that pressures are increasing on the profession to strengthen its public image and to provide a transparent, simplified, and holistic picture of companies' business operations (ACCA, 2012, p.7). Regulatory expectations mean that regulatory requirements are increasing, both at the national and international levels, and require monitoring of their changes that could cause increasing cost of compliance (ACCA, 2012, p.7). Generally accepted accounting standards (such as IFRSs or US GAAPs) are constantly changing due to the efforts of relevant PABs to harmonize accounting practices globally. Organizational remit changes in a way that there is an increasing expectation that the CFO and accounting function should play a far greater role in strategic decision-making processes (ACCA, 2012, p.7). Finally, increasing the application of intelligent systems and big data could transform the operational and interpretative elements of accounting (ACCA, 2012, p.7). The development of information and communication technologies (further in text: ICTs) and digital technologies (further in text: DTs) changes the way of doing business in numerous industries and affects many professions, including accounting. According to Shipway (2022), three major technological trends in accounting are the *automatization of processes, data-driven decision-making and remote working*.

Accounting is a crucial source of information for owners and managers in the business decision-making process. Accounting information systems enable big data analysis, as well as easier and

faster obtainment of the required information about the company's operations while reducing the costs of obtaining such information. Knowledge of technology and accounting information system is necessary today to perform accounting tasks. "Smart software and systems will replace manual work (such as bookkeeping), automate complex and multifaceted processes (such as financial close), and support the trends towards outsourcing some services and repatriation of others" (Chua, 2016, p.4). The acceleration in adopting DTs is expected to automate a substantial part of accounting tasks (Bughin et al., 2018). The accounting information system generates information promptly for managers to make decisions, thus being included in the information network of the company (Ceran et al., 2016). Using DTs, "accountants will be able to access previously unobtainable data in real-time, improve data quality through greater accuracy and timeliness, and improve assurance of information for decision-making purposes" (Hart, 2017, as cited in Tsiligiris and Bowyer, 2021, p.624). "For these advantages to materialize, accountants need to possess a set of new skills, mainly revolving around data analytics" (Tsiligiris and Bowyer, 2021, p.624). According to ACCA (2020b, p.11), the impact of digitalization on the accounting profession results from five forces: *velocity*, *volume*, *value*, *variety*, and *veracity*. Velocity means that the speed at which the business landscape changes, and companies need to adjust, is dramatically increasing (ACCA, 2020b, p.11). With the increase in the volume of business operations and the company's size, the volume of transactions also increases (ACCA, 2020b, p.11). Moreover, there is a demand from different stakeholders to create value through analysis and prediction from collected data and to provide faster and more relevant support to decision-making (ACCA, 2020b, p.11). Nowadays, technology requires that accountants use various systems, data sources, and project management models (ACCA, 2020b, p.11). Veracity means that stakeholders require reliable, quality, and truthful data as a base for decision-making (ACCA, 2020b, p.11).

Chua (2013) states that the ten major technological trends in accounting include *mobility*, *cloud*, *social collaboration*, *digital service delivery*, *big data*, *payment systems*, *cybersecurity*, *robotics*, *augmented and virtual reality* and *artificial intelligence*. Today we could add to this list *blockchain technology*. According to Gulin et al. (2019), the leading digital solutions for accountants are *artificial intelligence*, *blockchain technology*, *continuous accounting*, and *big data*. "Artificial intelligence describes a machine or software that can demonstrate behavior indistinguishable from that of the human brain" (Chua, 2013, p.13). Artificial intelligence can be applied in accounting and auditing processes and reduce the need for human labor, thus greatly transforming accounting practices (PWC, 2018, p.15; Blood and Hong, 2021a). However, it is still in its early stages of development in companies (PWC, 2018, p.15; Blood and Hong, 2021a). Blockchain technology is expected to have a significant impact on the accounting and auditing professions in the future. Blockchain technology is a distributed ledger technology or a "publicly shared database that keeps records of all transactions ever executed within the ecosystem for a specified domain. Using cryptographic algorithms (e.g., digital signature and hash function), the blockchain protocol is able to guarantee data integrity, making it impossible to tamper with the transaction history" (Wang and Kogan, 2018, p.15). Schmitz

and Leoni (2019) analyzed literature, reports, and websites to identify the main themes related to blockchain technology in accounting and auditing by scholars and professionals. They discovered that the main themes debated by scholars and professionals are *governance, transparency and trust, continuous audits, smart contracts, and accountants' and auditors' roles in the emerging ICT's ecosystem* (Schmitz and Leoni, 2019, p.338). According to the same research, blockchain technology brings advantages and disadvantages to the accounting and auditing professions. The main advantage is the increased efficiency in recording, reconciling and auditing accounting data (Schmitz and Leoni, 2019, p.338). It also allows accountants and auditors to cut costs, save time performing these tasks, and it reduces the risks of human errors (Schmitz and Leoni, 2019, p.338). Accountants would then be able to focus on more valuable activities, such as advising on strategy, making in-depth analyses, and data mining (Schmitz and Leoni, 2019, p.338). The potential disadvantage of blockchain technology is the limitation of abilities to detect fraudulent transactions (Schmitz and Leoni, 2019, p.338). Continuous accounting means emerging DTs provide new possibilities for giving information daily (Gulin et al., 2019, p.433). This is very important today because different stakeholders more and more, from the accounting function, require comprehensive statements and financial and non-financial information in real-time. Converting technological trends from analog to digital, internet-connected systems, widespread mobile devices adoption, etc., constantly create vast amounts of structured and non-structured data, i.e., big data (Chua, 2013, p.8). The ability of the accounting function to manage and analyze it effectively leads to better decision-making processes and creates a competitive advantage for the whole company.

Leitner-Hanetseder et al. (2021, p.539) found that tasks, responsibilities, and KSAs for existing professional occupations in the accounting context will be subject to significant changes in the next ten years due to the emerging DTs based on artificial intelligence. While 'core' accounting tasks, responsibilities, and roles will continue to exist in the future, humans will not perform some of them, because they will be automated by artificial intelligence-based technologies (Leitner-Hanetseder et al., 2021). According to Gulin et al. (2019, p.434), the critical effects of digitalization on the accounting profession are seen in adopting leading digital solutions (artificial intelligence, blockchain technology, cloud computing, and big data), performing non-routine and non-structured accounting tasks, while automatizing routine ones, and changing KSAs' sets of contemporary accounting professionals.

## **2.2. Skills Necessary for Current and Future Accountants**

Modern accountants need to possess many KSAs or, said in one word, competencies. It is not enough to have knowledge only in accounting regulations and technical ability to perform accounting tasks. Accountants of today are required to possess numerous other KSAs. Parallel to the development of technologies, the roles and responsibilities of accountants in the business process are changing, as well as the KSAs they need to possess. Tsiligiris and Bowyer (2020) noted that necessary skills for future accountants might be summarized in these four categories:

(1) *ethical skills*, (2) *digital skills*, (3) *business skills*, and (4) *soft skills*, which are further described in *table 1*.

**Table 1.** Categories and subcategories of skills identified as necessary for future accountants

Ethical skills	Business skills	Soft skills	Digital and data skills
- technical ethical skills - interpersonal ethical skills	- consulting and business advisory - strategic thinking skills	- adaptability - communication - lifelong approach to continuous personal and professional development - critical thinking - dynamic problem solving - emotional intelligence	- basic digital skills - advanced digital skills - data skills

**Source:** Tsiligiris and Bowyer, 2020, p.631

Adopting emerging DTs in the context of advanced big data analytics results in ethical challenges for the accounting profession (Tsiligiris and Bowyer, 2021, p.631). Therefore, accountants should have technical ethical KSAs that include knowledge of the ethical guidelines and code of conduct of PABs, as well as skills and abilities to apply these guidelines to resolving ethical dilemmas (Tsiligiris and Bowyer, 2021, p.632). Moreover, interpersonal ethical KSAs are also important, and they imply asking the right questions in order to preserve the quality of corporate data (Tsiligiris and Bowyer, 2021, p.632). Reflecting on the anticipated impact of digital transformation, where conventional business strategies and tactical models are disrupted, accountants of the future are seen as potential ‘internal business consultants’ (IFAC, 2019). Two sets of business skills emerged as key for future accountants: consulting and business advisory KSAs, and strategic thinking (Tsiligiris and Bowyer, 2021). Most reports identified that in the future accountants will be expected to be directly involved in the decision-making process (AICPA and CIMA, 2020), therefore strategic thinking becomes more important. There is an expectation that business vision and intelligence will be even more important than digital KSAs in medium term (ACCA, 2020a). Soft KSAs include interpersonal and communication skills, including the ability to fit in and adapt to the companies’ organizational culture. Moreover, important KSAs that accountants today should possess are team working, time management and problem-solving skills. The most frequently cited soft KSAs in accounting job advertisements were communication, teamwork and interpersonal skills (Dunbar et. al, 2016). Among soft KSAs, the most important for accountants are (ACCA, 2020a; 2020b; Tsiligiris and Bowyer, 2020; WEF, 2020):

- *adaptability* – accountants need to be adaptable to the changing ways of working and the challenges emerging from digitally transformed business models
- *communication skills* – accountants need to use compelling ‘*storytelling*’ to communicate complex and diverse data in non-technical and engaging manner
- *critical thinking* – one of the most important future skills for accountants’ success in the digital era

- *problem solving* – in a digital context, assumes that accountants need to make decisions under uncertainty and by considering a dynamic set of factors
- *emotional intelligence* – accountants’ abilities to identify their own emotions and those of others, harness and apply them to tasks, and regulate and manage them.

According to Tsiligiris and Bowyer (2020, p.633), digital skills for future accountants include:

- *basic digital skills*, such as cloud, standard business intelligence, digitization of tax returns, etc.
- *advanced digital skills*, that incorporate being familiar with newer and more advanced DTs, such as blockchain technology, advanced business intelligence, programming, etc.
- *data skills*, that incorporate data management skills and data analysis.

It is certain that the role of accountants in modern business is changing, which is the result of numerous factors such as globalization, technology development, etc. ACCA (2020, p.43) suggests that career opportunities for future accountants will be something like *assurance advocates, business transformers, data navigators, digital playmakers* and *sustainability trailblazers*. Future roles and responsibilities of accountants will include (Chua, 2016):

1. *audit and assurance*, where an audit of fair value and audit of international groups will be emerging challenges
2. *corporate reporting*, that will include more regulation, increased and more frequent corporate disclosures, and greater awareness of the interconnection of financial and non-financial reporting
3. *financial management*, within which accountants will need to explain financial strategy and performance, defend investments and manage the conflicting expectations of stakeholders
4. *governance, risk and ethics*, where accountants need to become accomplished users of business intelligence and data analytics technologies because this will be essential to better identify, manage and mitigate risks in the business environment
5. in *strategic planning and performance management* accountants will become more proactive than reactive; they will partner, collaborate and network with a broader range of stakeholders
6. the roles of *tax professionals* will expand and the new challenges will demand a more global perspective and strong collaboration, relationship-building, advocacy and negotiation skills.

### **3. METHODOLOGY**

In order to achieve the research objectives, the authors’ desk searched relevant databases (e.g., *Web of Science, Scopus, ProQuest, EBSCO Host*, etc.), as well as *Google Scholar* search engine, in order to obtain relevant scientific papers that satisfied predefined criteria. Furthermore, authors searched, as well, other publicly available secondary sources through *Google* search engine (e.g., websites of PABs, global professional consulting firms, etc.), in order to obtain relevant professional papers and other publications that satisfied predefined criteria. The main criteria for searching papers was that the paper’s topic should cover the

impact of the COVID-19 pandemic on the accounting profession and on the accountant's roles, responsibilities, activities and KSAs. The search covered period January 2020 – January 2023.

A preliminary scan of found papers revealed many more professional papers than academic papers. Therefore, authors selected, for critical review, scientific and supportive professional papers that best suited the subject research topic, for which full text was available. English was the primary language of selected papers. Papers were reviewed by applying primarily scientific methods of analysis, synthesis, description, classification and comparison. Like Botes et al. (2023), we also decided to use interpretive text analysis of selected papers' content, as the main data analysis technique, to better discover COVID-19 implications on the accounting profession by identifying the most relevant themes that emerged.

## 4. RESULTS AND DISCUSSION

### 4.1. The Overall Impact of the COVID-19 Pandemic on the Accounting Profession

The accounting profession emerged from the COVID-19 pandemic transformed (IFAC, 2020; Papadopoulou and Papadopoulou, 2020; Leoni et al., 2021; 2022; Tsiligiris and Bowyer, 2021; Rinaldi, 2022; Botes et al., 2023). Or as Dai and Vasarhelyi (2016) accurately predicted 'reimagined as accounting 4.0 in the mirror world', not even having then, when writing the article, in mind the COVID-19. In its full sense, industry 4.0 foundations and principles, translated into the accounting profession, came at the spotlight with the pandemic's lockdown. From that time forward, nothing will be returned to the 'old, real, physical world ways of accounting'. 'Mirror world' is enabled by industry 4.0 technologies, like sensors, cyber-physical systems, Internet of Things, Internet of Services, radio-frequency identification, GPS, blockchain technology, data analytics, etc., by which every object in the physical world has its virtual representation in the 'mirror world' (Dai and Vasarhelyi, 2016, pp.5-8). When the lockdown period started in the first quarter of 2020, something similar to 'mirror world', only simpler, was created globally. In the *table 2*. are summarized the most important impacts of the COVID-19 pandemic on the accounting profession or, in other words, trends that were introduced and transformations adopted because of the COVID-19 pandemic outbreak.

**Table 2.** Accounting profession's trends and transformations due to the COVID-19 pandemic

Accountants' roles and responsibilities	Accountants' KSAs	Accountants' well-being at work	Accounting ways of working	Accounting education
<ul style="list-style-type: none"> <li>✓ strategic leaders</li> <li>✓ trusted value advisors</li> <li>✓ dynamic thinkers</li> <li>✓ 'storytellers'</li> </ul>	<ul style="list-style-type: none"> <li>✓ core technical 'accounting in crises' KSAs</li> <li>✓ business 'conceptual' KSAs</li> <li>✓ digital KSAs</li> </ul>	<ul style="list-style-type: none"> <li>✓ time pressures</li> <li>✓ increased level of stress</li> <li>✓ increased level of anxiety</li> <li>✓ increased level of insecurity</li> </ul>	<ul style="list-style-type: none"> <li>✓ changed ways of working</li> <li>✓ remote working</li> <li>✓ working from home</li> <li>✓ digitalized processes</li> </ul>	<ul style="list-style-type: none"> <li>✓ change process</li> <li>✓ remote learning environments</li> <li>✓ remote teaching and examination at universities</li> </ul>

Accountants' roles and responsibilities	Accountants' KSAs	Accountants' well-being at work	Accounting ways of working	Accounting education
	<ul style="list-style-type: none"> <li>✓ ethical KSAs</li> <li>✓ interpersonal, networking and communication skills</li> <li>✓ emotional intelligence</li> <li>✓ change management abilities</li> <li>✓ agility</li> </ul>	<ul style="list-style-type: none"> <li>relating to work-related issues</li> <li>✓ more tasks and responsibilities</li> <li>✓ new tasks and responsibilities</li> <li>✓ increased working hours</li> <li>✓ reduced autonomy</li> <li>✓ worsen communication with clients</li> <li>✓ increased need for education and training</li> </ul>	<ul style="list-style-type: none"> <li>✓ business models' digital transformation</li> <li>✓ cloud accounting</li> <li>✓ other digital technologies</li> <li>✓ nurtured existing talent and attracted new talent</li> </ul>	<ul style="list-style-type: none"> <li>✓ remote training by PABs</li> <li>✓ virtual 'online' education and training</li> <li>✓ guests professors, lecturers and practitioners from all over the world</li> </ul>

**Source:** Authors' Preparation

Accounting profession's responses to the COVID-19 pandemic included rapid ICTs and DTs adoption, higher emphasis on soft KSAs and integration of technical KSAs with technological and soft KSAs (Botes et al., 2023, p.66). The technologies adoption is related to drastically changing usual ways of working of accountants, under the lockdown period, when they needed, as everyone else, to instantly start working remotely from home (Papadopoulou and Papadopoulou, 2020; Tsiligiris and Bowyer, 2021; Saad et al., 2022; Botes et al., 2023). Accountants were those types of employees for whom it was implied, as a general rule, that they needed to work onsite in the company's headquarters, as a must. Therefore, the shift to online and remote working from home was a tremendous disruption for the profession. There were lots of problems and obstacles in the process, like not having the right ICTs and other means available for working remotely, either by accountants, either by their clients, etc. (Papadopoulou and Papadopoulou, 2020; Botes et al., 2023). Those obstacles would be very hard to bypass quickly in the ordinary, business-as-usual working conditions, but in the lockdown conditions, this had to be passed instantly, because the opposite situation simply was not an option. When that was solved, new concerns regarding cybersecurity arisen (IFAC, 2020, p.3). Due to the pandemic, accountants have accustomed to digital processes that was once thought impossible (IFAC, 2020, p.2). So, accountants, who were in the past known as conservative and reluctant to quickly adopting new technologies, in the lockdown adopted ICTs and DTs without major problems and typical resistance they have towards it, because there was no time to think and the action had to be done immediately. Accountants' abilities to adopt and use DTs, as well as to apply soft KSAs, positively affect their employability and transform the accounting function from a transaction-based to a value-adding one (Tsiligiris and Bowyer, 2021, p.641). Even though many examples exist in the history of the accounting profession

failures, this crisis is a positive example when the accounting profession succeeded by transforming quickly and being at the forefront of the countries', governments', entities' and individuals' adaptation, recovery, and survival. This helped renew and grow stakeholders' trust in the profession (IFAC, 2020, p.5), which has to be preserved and continued to be grown in the future.

Results of the analyzed papers also showed that accountants' tasks, roles and responsibilities have grown in the advisory capacity during the COVID-19 pandemic, and lockdown especially. The main aim of accounting is "to provide financial and non-financial information for decision-makers and so ought to play a strategic role to inform business decisions in the pandemic" (Ng, 2021, p.653). Therefore, accounting professionals became strategic leaders, trusted advisers, value partners or 'chief future officers' of companies' governance structures (IFAC, 2020; Leoni et al., 2021; Ng, 2021; Tsiligiris and Bowyer, 2021; Rinaldi, 2022; Saylor; 2022; Botes et al., 2023). Carnegie et al. (2023) introduced the notion that accounting is not anymore merely a technical practice, but a multidimensional technical, social and moral practice through which accountants can shape a better world. In these advisory roles, accountants' future-proofed soft KSAs and agility, among others, are emphasized (IFAC, 2020, p.2; Botes et al., 2023, p.77). Moreover, industry 4.0 and pandemic conditions require from accountants of today and those of the future the need to possess an optimal balance of hard, soft and ethical KSAs or, in other words, a right balance of competencies. The accounting profession is of a crucial importance in the crisis periods, like the COVID-19 pandemic, as well as other natural or humanitarian disasters', to countries, governments, entities and society as a whole (IFAC, 2020; Papadopoulou and Papadopoulou, 2020; Leoni et al., 2021; 2022; Rinaldi, 2022; Ng, 2021). Accounting practices enable all entities to 'keep the pandemic under control', by increasing the visibility of and being at "the intersection among alternative values and needs, such as fairness, social equity, global, national and individual health", but there also exist "critical issues and drawbacks" (Leoni et al., 2021, p.1310). Accountants have been oriented towards helping companies' governance structures to understand the financial effects of the COVID-19 crisis, which emphasized their role as the co-creators of business value (Botes et al., 2023, p.77). Accountants should serve its stakeholders as '*storytellers*' by communicating how the value is created, explaining the performance beyond general financial reports, guiding the narratives regarding the likely effects of managerial decisions and visualizing the financial and operational requirements of future initiatives (Ng, 2021, p.653).

"As a profession, we cannot passively accept change; we must seize the opportunities change creates while also anticipating and mitigating risks. We have the guiding principles to do this, and international standards with regards to financial reporting, audit and assurance, ethics, public sector, and, hopefully soon, sustainability" (IFAC, 2020, p.4). Accountants need to adjust their actions and reactions to the stage of economic development, and cannot act in the same manner in the upward and downward scenarios. Accounting frameworks and regulations need to be adapted for crises, because guidance that are designed for business-as-usual

conditions may not be effective in unusual conditions (Leoni et al., 2022, Rinaldi, 2022). Ng (2021) proposes a framework for accounting roles (i.e., *idea creation machine, dialogue machine, learning machine*) for all crisis' phases for entity's survival, recovery and revolution.

#### **4.2. Recommendations for the Accounting Profession's Future Development**

Accounting functions need to transform their business-as-usual activities by accelerating hybrid ways of working, adopting innovative technologies and digitalizing their business processes (IFAC, 2020; Papadopoulou and Papadopoulou, 2020; Leoni et al., 2021; 2022; Tsiligiris and Bowyer, 2021; Rinaldi, 2022; Saad et al., 2022; Botes et al., 2023). Furthermore, they need to develop trust-building relationships with their key partners and stakeholders, as well as add value by providing authentic and engaging communication (IFAC, 2020; Ng, 2021). To be successful, their talent management strategies also need to be updated, by adopting non-traditional staffing strategies, like offshoring, outsourcing, fractional staffing, hiring retirees and stay-at-home moms, as well as throughout hybrid working practices' benefits from hiring diverse talent from different geographies (Saylor, 2022).

Trends in online (virtual) and hybrid education at universities have occurred a long before the COVID-19 pandemic outbreak, but just a few ones fully adopted and incorporated it in their business models. Therefore, the COVID-19 pandemic accelerated the adoption of digital approaches to teaching and assessments in accounting courses and revolutionized the universities' practices (IFAC, 2020; Ng, 2021; Tsiligiris and Bowyer, 2021; Botes et al., 2023; Carnegie et al., 2023). PABs also embraced online (virtual) ways of training due to the COVID-19 pandemic (IFAC, 2020; Botes et al., 2023). Online and hybrid teaching practices raised the demand for different (digital) skills and equipment, reduced the importance of lecture theatres, and accelerated the already existing trend of declining in-class attendance (Ng, 2021, p.660). Therefore, the benefits of remote learning and training, like no need for physical classrooms, connectivity through modern ICTs and DTs, sharing and receiving knowledge from the world best professors, lecturers and practitioners, etc., should be adopted and incorporated in 'new ways of education'. There should also be more partnering in education and training between universities, PABs and practitioners around the globe.

When accountants finish their initial professional development, they must continually upgrade their KSAs throughout continuing professional development. In the contemporary era, changes, developments and enhancements to the higher education curriculums (i.e., initial professional development), professional credentialing and other training programs (i.e., continuing professional development) are inevitable (IFAC, 2020; Tsiligiris and Bowyer, 2021; Mbizi et al., 2022; Botes et al., 2023; Carnegie et al., 2023). Therefore, modern accountant needs to have a well-rounded, interdisciplinary and future-proofed KSAs' set that combines core technical 'accounting', business 'conceptual', digital, ethical and soft 'interpersonal' KSAs that are rooted in critical thinking, problem-solving, (big) data analytics, relationship-building and communication KSAs (IFAC, 2020; Tsiligiris and Bowyer, 2021; Mbizi et al., 2022; Saylor,

2022; Botes et al., 2023; Carnegie et al., 2023). The emphasis is especially on agility, emotional intelligence and change management, as well as, on the new business and regulatory issues whose importance is arising every day, like sustainability, cybersecurity, digital trust and fraud, crisis management, etc. (IFAC, 2020; Tsiligiris and Bowyer, 2021; Mbizi et al., 2022; Saylor, 2022; Botes et al., 2023; Carnegie et al., 2023).

The key recommendations for accounting profession's future development that need to be considered and undertaken by academia, PABs and accounting professionals due to the fourth industrial revolution and the COVID-19 pandemic crisis are summarized in the *table 3*.

**Table 3.** The key recommendations for accounting profession's future development due to the industry 4.0 conditions and the COVID-19 pandemic

Accounting function's 'to do' list	Accounting education imperative	Future accountants' KSAs
<ul style="list-style-type: none"> <li>✓ to accelerate new, hybrid ways of working</li> <li>✓ to adopt innovative ICTs and DTs</li> <li>✓ to digitalize accounting processes</li> <li>✓ to develop trust-building relationships with key stakeholders</li> <li>✓ to add value by providing authentic and engaging communication</li> <li>✓ to adopt and accelerate non-traditional staffing strategies (e.g., offshoring, outsourcing, fractional staffing, hiring retirees and stay-at-home moms)</li> <li>✓ to hire diverse talent from different geographies</li> </ul>	<ul style="list-style-type: none"> <li>✓ to postulate optimal or right balance of technical, conceptual, digital, ethical and soft KSAs</li> <li>✓ to transform the infrastructure and create dynamic curriculums <ul style="list-style-type: none"> <li>✓ to establish partnering relationships for improving education and training between academia, PABs, educators and practitioners around the globe</li> </ul> </li> <li>✓ to develop agile credentialing programs, dynamic onsite, hybrid and/or online education and training programs</li> <li>✓ to continually professionally develop and upgrade accountants' KSAs</li> </ul>	<ul style="list-style-type: none"> <li>✓ future-proofed and agile KSAs</li> <li>✓ core technical 'accounting' KSAs</li> <li>✓ business 'conceptual' KSAs <ul style="list-style-type: none"> <li>✓ digital KSAs</li> <li>✓ ethical KSAs</li> </ul> </li> <li>✓ soft 'interpersonal' KSAs</li> <li>✓ critical thinking and complex problem-solving KSAs</li> <li>✓ relationship-building and communication skills <ul style="list-style-type: none"> <li>✓ teamwork skills</li> <li>✓ emotional intelligence</li> </ul> </li> <li>✓ change management abilities</li> <li>✓ digital trust and integrity</li> <li>✓ environmental, social and corporate governance (ESG) framework <ul style="list-style-type: none"> <li>✓ cybersecurity skills</li> </ul> </li> <li>✓ and other emerging KSAs areas in uncertain, crisis times</li> </ul>

Source: Authors' Preparation

As Carnegie et al. (2023, pp.12-13) remarked, future of accounting is not merely about accountants just technically applying prescribed accounting techniques, concepts, procedures and generally accepted practices, but on their activities that impact social and moral side of businesses. *Accounting as a social practice* considers the implications of accounting activities on entities, government, society, environment, or the whole planet (Carnegie et al., 2023, p.13). Last, but not least, *accounting as a moral practice* is vital because morality is at its core as "it is a practice whose actions and inactions affect others, now and in the future. It contributes to shaping the moral order and accountability infrastructures of organizations and society,

reflected in the overarching responsibility to act in the public interest and accord with the *Code of Ethics for Professional Accountants*" (Carnegie et al., 2023, p.12).

## **5. CONCLUSION**

Today, the accounting profession is particularly impacted by the emerging DTs, which digitalize and automate accounting processes and significantly affect how accountants use, analyze, share, and access information. Accountants have always needed to adjust to disruptions in the business environment since all business transactions 'flow' into the accounting information systems, where they should be adequately recorded and analyzed. Parallel to the development of technology, the tasks, roles, responsibilities, and KSAs of accountants are changing. In the past, the main role of an accountant was to record transactions and to prepare financial statements. Nowadays, the role of an accountant is that of a 'dynamic thinker' who adds value to a company.

The COVID-19 pandemic outbreak fundamentally changed established ways of accounting. Its implications for the accounting profession are multiple. It can be concluded that already existing transformational trends and developmental perspectives in the accounting profession were significantly affected by the COVID-19 'new normal' imposed conditions. Accountants' tasks, roles, and responsibilities changed drastically, and have grown primarily in the advisory capacity. Accountants emerged from the pandemic reimagined as a 'trusted value advisers and partners' of company's governance structures. Stakeholders renewed their trust in the accounting profession. Accountants' KSAs changed and now include different KSAs beyond just core technical 'accounting' KSAs. Accounting function's leaders need to manage their employees' well-being at work effectively. 'New normal accounting ways of working' are unimaginable without some DTs adoption. Accounting education is also disrupted, from online and hybrid learning practices, to dynamic credentialing and guest lecturers from all around the globe.

The COVID-19 pandemic significantly emphasized the importance of previously initiated digitalization processes and ICT's adoption in the accounting profession. Furthermore, new KSAs' acquisitions are of high importance for contemporary accountants, so academia and PABs need to change existing, in one-way, outdated education curriculums and training programs. Therefore, the COVID-19 pandemic did not just change already existing transformational trends and developmental perspectives in the accounting profession, but it accelerated their introduction, adoption and usage at warp speed.

The future research should apply a systematic literature review research methodology in order to better treat the limitations of the present research methodology by including more papers in the analysis, as well as, due to the time-lapse, extending covered period of analysis.

## REFERENCES

- ACCA (2012). “100 Drivers of Change for the Global Accountancy Profession”, The Accountancy Futures Academy, retrieved from <https://www.accaglobal.com/pk/en/technical-activities/technical-resources-search/2012/september/100-drivers-of-change.html> [January 14, 2023]
- ACCA (2020a). “Future Ready: Accountancy Careers in the 2020s”, retrieved from [https://www.accaglobal.com/in/en/professional-insights/pro-accountants-the-future/future\\_ready\\_2020s.html](https://www.accaglobal.com/in/en/professional-insights/pro-accountants-the-future/future_ready_2020s.html) [January 14, 2023]
- ACCA (2020b). “The Digital Accountant: Digital Skills in a Transformed World”, retrieved from [https://www.accaglobal.com/in/en/professional-insights/technology/The\\_Digital\\_Accountant.html](https://www.accaglobal.com/in/en/professional-insights/technology/The_Digital_Accountant.html) [January 14, 2023]
- AICPA & CIMA (2020). *Building Finance Resiliency and Returning the Business to Scale*, Agile Finance Reimagined, retrieved from <https://contentcrowd.com/categories/digital/building-finance-resiliency-and-returning-the-business-to-scale/5f630e27edafd645816eb819> [January 14, 2023]
- Blood, B., & Hong, E. (2021a). “The Accountancy Profession in the New Normal”, Developing the Accountancy Profession, IFAC, February, retrieved from <https://www.ifac.org/knowledge-gateway/developing-accountancy-profession/discussion/accountancy-profession-new-normal> [January 13, 2023]
- Blood, B., & Hong, E. (2021b). “The Accountancy Profession: This Way Forward”, Developing the Accountancy Profession, IFAC, September, retrieved from <https://www.ifac.org/knowledge-gateway/developing-accountancy-profession/discussion/accountancy-profession-way-forward> [January 13, 2023]
- Botes, V., Davey, H., Esposito, D., & Smit, B.R. (2023). How accountants responded to the financial fallout owing to the COVID-19 pandemic. *Pacific Accounting Review*, 35(1), 66-85. <https://doi.org/10.1108/PAR-09-2020-0177>
- Bughin, J., Hazan, E., Lund, S., Dahlström, P., Wiesinger, A., & Subramaniam, A. (2018). “Skill Shift: Automation and the Future of the Workforce”, McKinsey Global Institute, May, retrieved from <https://www.mckinsey.com/featured-insights/future-of-work/skill-shift-automation-and-the-future-of-the-workforce> [January 16, 2023]
- Carnegie, G.D., Gomes, D., & McBride, K. (2023). COVID-19 and accounting as multidimensional technical, social and moral practice: A framework for future research. *Meditari Accountancy Research*, 31(1), 1-26. <https://doi.org/10.1108/MEDAR-10-2022-1826>

- Ceran, M.B., Güngör, S., & Konya, S. (2016). The role of accounting information systems in preventing the financial crises experienced in businesses. *Economics, Management and Financial Markets*, 11(1), 294-302.
- Chua, F. (2013). “*Technology Trends: Their Impact on the Global Accountancy Profession*”, The Accountancy Futures Academy, ACCA, retrieved from <https://www.accaglobal.com/uk/en/technical-activities/technical-resources-search/2013/may/technology-trends.html> [January 13, 2023]
- Chua, F. (2016). “*Professional Accountants – The Future: Drivers of Change and Future Skills*”, retrieved from <https://www.accaglobal.com/an/en/technical-activities/technical-resources-search/2016/june/professional-accountants-the-future-report.html> [January 13, 2023]
- Dai, J. and Vasarhelyi, M. A. (2016). Imagineering Audit 4.0. *Journal of Emerging Technologies in Accounting*, 13(1), 1-15. <https://doi.org/10.2308/jeta-10494>
- Dražić Lutilsky, I., Gulin, D., Mamić Sačer, I., Tadijančević, S., Tušek, B., Vašiček, V., Žager, K., & Žager, L. (2010). *Računovodstvo*, HZRIF, Zagreb.
- Dunbar, K., Laing, G., & Wynder, M. (2016). A content analysis of accounting job advertisements: Skill requirements for graduates. *E-Journal of Business Education and Scholarship of Teaching*, 10(1), 58-72.
- Gulin, D., Hladika, M., & Valenta, I. (2019). Digitalization and the challenges for the accounting profession. *ENTRENOVA*, 5(1), 428-437. <https://hrcak.srce.hr/251037>
- Guo, S.Y. and Pippin, S.E. (2022). “*The Accounting Profession and the Pandemic*”, The CPA Journal, February, retrieved from <https://www.cpajournal.com/2022/02/23/the-accounting-profession-and-the-pandemic/> [January 14, 2023]
- Hart, L. (2017). “*How Industry 4.0 Will Change Accounting?*”, Journal of Accountancy, AICPA, September, retrieved from <https://www.journalofaccountancy.com/Newsletters/2017/Sep/Industry-4-0-Change-Accounting.html> [January 14, 2023]
- IFAC (2019). “*Future-Fit Accountants: CFO & Finance Function Roles for the Next Decade*”, retrieved from <https://www.ifac.org/system/files/publications/files/IFAC-Future-Fit-Accountant-ROLES-V5-Singles.pdf> [January 10, 2023]
- IFAC (2020). “*Accountancy Skills Evolution: Impact of COVID-19 & The Path Forward*”, retrieved from <https://www.ifac.org/system/files/publications/files/IFAC-Accountancy-Skills-Evolution.pdf> [January 10, 2023]

- Leitner-Hanetseder, S., Lehner, O.M., Eisl, C., & Forstenlechner, C. (2021). A profession in transition: actors, tasks and roles in AI-based accounting. *Journal of Applied Accounting Research*, 22(3), 539-556. <https://doi.org/10.1108/JAAR-10-2020-0201>
- Leoni, G., Lai, A., Stacchezzini, R., Steccolini, I., Brammer, S., Linnenluecke, M., & Demirag, I. (2021). Accounting, management and accountability in times of crisis: Lessons from the COVID-19 pandemic. *Accounting, Auditing & Accountability Journal*, 34(6), 1305-1319. <https://doi.org/10.1108/AAAJ-05-2021-5279>
- Leoni, G., Lai, A., Stacchezzini, R., Steccolini, I., Brammer, S., Linnenluecke, M., & Demirag, I. (2022). The pervasive role of accounting and accountability during the COVID-19 emergency. *Accounting, Auditing & Accountability Journal*, 35(1), 1-19. <https://doi.org/10.1108/AAAJ-10-2021-5493>
- Mbizi, R., Sifile, O., Gasheja, F., Twesige, D., Gwangava, E., Makurumidize, S., Matowanyika, K., Chinofunga, S., & Sunday, K. (2022). Accountants in Africa and the evolving Fourth industrial revolution (4IR): Towards a Competency Framework. *Cogent Business & Management*, 9(1), 2117153, <https://doi.org/10.1080/23311975.2022.2117153>
- Ng, F. (2021). Accounting at your service: University survival, recovery and revolution from COVID-19. *Pacific Accounting Review*, 33(5), 652-664. <https://doi.org/10.1108/PAR-09-2020-0172>
- Papadopoulou, S., & Papadopoulou, M. (2020). The accounting profession amidst the COVID-19 pandemic. *International Journal of Accounting and Financial Reporting*, 10(2), 39-59. <https://doi.org/10.5296/ijaf.v10i2.17001>
- PWC (2018). “*Digitalisation in Finance and Accounting and What it Means for Financial Statement Audit*”, retrieved from <https://www.pwc.de/de/im-fokus/digitale-abschlusspruefung/pwc-digitalisation-in-finance-2018.pdf> [January 10, 2023]
- Rinaldi, L. (2022). Accounting and the COVID-19 Pandemic Two Years On: Insights, Gaps, and an Agenda for Future Research. *Accounting Forum*, <https://doi.org/10.1080/01559982.2022.2045418>
- Saad, M., Lutfi, A., Almaiah, M.A., Alshira’h, A.F., Alshirah, M.H., Alqudah, H., Alkhassawneh, A.L., Alsyouf, A., Alrawad, M., & Abdelmaksoud, O. (2022). “Assessing the intention to adopt cloud accounting during COVID-19. *Electronics* 11(24), 4092. <https://doi.org/10.3390/electronics11244092>
- Saylor, T. (2022). “*The Trends that Will Affect CPAs in 2023*”, *Journal of Accountancy*, retrieved from <https://www.journalofaccountancy.com/issues/2022/dec/trends-that-will-affect-cpas-in-2023.html> [January 10, 2023]

- Schmitz, J., & Leoni, G. (2019). Accounting and auditing at the time of blockchain technology: A research agenda. *Australian Accounting Review*, 29(2), 331-342. <https://doi.org/10.1111/auar.12286>
- Shipway, P. (2022). “*Three Technology Trends to Watch in Accounting and What They Mean for CAs*”, ICAS, May, retrieved from <https://www.icas.com/news/three-technology-trends-to-watch-in-accounting-and-what-they-mean-for-cas> [January 16, 2023]
- Tsiligiris, V., & Bowyer, D. (2021). Exploring the impact of 4IR on skills and personal qualities for future accountants: A proposed conceptual framework for university accounting education. *Accounting Education*, 30(6), 621-649, <https://doi.org/10.1080/09639284.2021.1938616>
- Wang, Y., & Kogan, A. (2018). Designing confidentiality-preserving blockchain-based transaction processing systems. *International Journal of Accounting Information Systems*, 30, 1-18. <https://doi.org/10.1016/j.accinf.2018.06.001>
- WEF (2020). “*The Future of Jobs Report: 2020*”, World Economic Forum, October, retrieved from [http://www3.weforum.org/docs/WEF\\_Future\\_of\\_Jobs\\_2020.pdf](http://www3.weforum.org/docs/WEF_Future_of_Jobs_2020.pdf) [January 16, 2023]