



ACCOUNTING TRENDS IN THE MODERN WORLD

Natalya Melnyk

Ternopil National Economic University, Ukraine

E-mail: mnatalya2006@yahoo.com

Dar'ya Trachova

Dmitry Motornyi Tavriya State Agrotechnological University, Ukraine

E-mail: trachovad@gmail.com

Olena Kolesnikova

National University of Life and Environmental Sciences of Ukraine,

Ukraine

E-mail: kolesnikova.o.m@nubip.edu.ua

Olena Demchuk

Dmitry Motornyi Tavriya State Agrotechnological University, Ukraine

E-mail: lena_d81@ukr.net

Natalia Golub

Dmitry Motornyi Tavriya State Agrotechnological University, Ukraine

E-mail: natalija-golub@ukr.net

Submission: 8/20/2020

Revision: 8/26/2020

Accept: 9/8/2020

ABSTRACT

The purpose of the article is to determine the current directions and future trends in the development of accounting. The conclusions made on the basis of research materials, surveys, reports of reputable international and professional accounting organizations. Synthesis and analysis reveal that some trends and drivers among analyzed will be more significant (such as globalization of business and the profession; spread of digital technologies; expectations of business and professional accountants) than others (such as regulation and governance) and will, in varying degrees, affect specific accounting roles, skills, knowledge. As a result of research, was determined that modern accounting professionals move from performing technical accounting functions (hard skills) to support the companies` management and play a significant role in improving the development of society. It is established that the main thing in the strategy of accounting companies` progress (both large and SMEs) and accounting



specialists will be the development of the latest technologies, soft skills, professional flexibility. It is substantiated that the change of priorities will turn the challenges facing the accounting profession into its advantages.

Keywords: Accounting; trends; Professional; accountant; Knowledge; skills

1. INTRODUCTION

Changes are always difficult, especially for professions like accounting, where traditional, established rules and procedures prevail. According to Littleton (1928) since 1494 when bookkeeping's first printed book appeared, the underlying principles of double-entry are as simple and as fundamental as addition and subtraction, and therefore not at all subject to change.

But at present, accounting professionals are forced to adjust their previously static functions and face significant changes, as the combination of technological developments, innovations in the financial market, and changes in the business environment more than ever, affect the development of the profession and determine its future.

Islam (2017) noted that the accounting profession will face significant changes in the next three decades, and professional organizations, their members, and educational institutions should respond. The three changes – evolving smart and digital technology, continued globalization of reporting/disclosure standards, and new forms of regulation – are major challenges for the profession.

Modern accountants provide services related to financial reporting, taxation, auditing, solvency assessment, accounting information systems, budgeting, cost management, planning, and decision-making by companies and individuals, as well as advice on compliance and effective provision of current and strategic management. At the same time, at the macro- and microeconomic levels, conditions are created under which, the era of “old school” accounting ends, and new, modern and futuristic accounting will emerge, and such changes will reduce costs and increase business transparency.

2. LITERATURE REVIEW

According to Carnegie and Napier (2010), a society must acknowledge the time-specific status of accounting as an occupation rather than to take its status for granted. Negative factors, influential events can be global and debilitating for accounting, and as a result, we can face a process of DE professionalization. At the same time, the accounting professionals who



seek to please a client are a serious threat concerning integrity, independence, objectivity, and competence in the accounting field.

Diaconu (2007) in his study argues that globalization affects both the development and international harmonization of accounting. The new environmental factors of the global economy, the international monetary system, the Multinational Corporation, and foreign direct investment creates circumstances when business transactions, their conduct, measurement, and disclosure, takes the new and distinctive form which create the conditions for a specific accounting sub-discipline or accounting practices harmonization.

Economic globalization has a full impact on the whole field of accountancy and accountants, like the providers of one of the most needed services in the financial sector. The research, made by Wei (2008,) includes the seven major ways of globalization effect on accountants, namely, the rise of multinationals; the change in accounting standards; the application of technology; the increase in competition; the need to move up the value-chain; the growing importance of professional accounting qualifications; and the necessity to keep abreast of global financial issues.

Examining the development of the accounting profession, taking into account big data, cloud computing, artificial intelligence, start-ups, their reflections into business and effects on accounting, Özdoğan (2017) notes some predictions of the accounting future. According to his research, accounting, as an essential business function and management tool, has always been able to restructure itself in all important enterprise and societal transformations. These significant factors include both technological developments that transform the present form of accounting and intellectual conversions that transform the purpose and ways in which accounting is used in practice.

Society can pay a high price for the accounting profession's failure to meet the expectations of investors, creditors, and other users of financial statements (WYATT, 2004). Besides, the profession may no longer have incentives to promote the public interest or to innovate and change in response to changing conditions. Underlying problems arising from internal work differentiation as consulting work became more profitable and attractive and the development of a commercially oriented accounting work culture may continue to threaten the future of the profession.

At the same time, most scientists and researchers use theoretical conclusions to estimate future accounting trends and problems. But the need for accounting research to reduce its



dependence on quantitative databases and develop the methodological tools, institutional knowledge, and practice necessary to reduce gaps between scientific studies and the world of “accounting in action” is one of the most significant challenges posed by the current crisis to accounting study (ARNOLD, 2009).

The main purposes of this paper are: the first is to examine, summarize the accumulated data through the literature research, open data analysis, research materials, surveys, reports of reputable international and professional accounting organizations and defined the trends in business, economics, society, regulation, technology, which will influence the future of accountancy. The second purpose is to identify the skills and competencies which will be important for professional accountants in the modern world and will be necessary for future success.

3. METHODOLOGY

3.1. Trends that influence the future of accountancy

When determining the modern trends of accounting development, it is beneficial to pay attention to researches and reports of the authoritative international organizations which studied world tendencies of development of the labor market in general and an accounting profession in particular. In our opinion, these studies are based on large databases, are unbiased, and reflect the real practical problems of accounting and the accounting profession.

A survey conducted by the Chartered Institute of Management Accountants (CIMA) and the University of Bath showed that financial professionals around the world are embracing the increased responsibilities that come with a more strategic role for company management. Generally, they view this shift as necessary for both career progression and personal job satisfaction (VAN DER STEDE; MALONE, 2010).

The results of a survey conducted by CIMA allow us to draw conclusions about how accounting professionals distribute their time between different functional responsibilities (See Figure 1).

Of the total number of respondents, management accounting (forecasting, budgeting, cash flow management and other responsibilities) and accounting operations (internal financial reports and transaction processing) together account for almost half of the time spent by specialists – 22,4% and 20,4 % respectively. Management support of the company (for example, strategic counsel and risk management) occupy 18,3% of the accountant's working time.



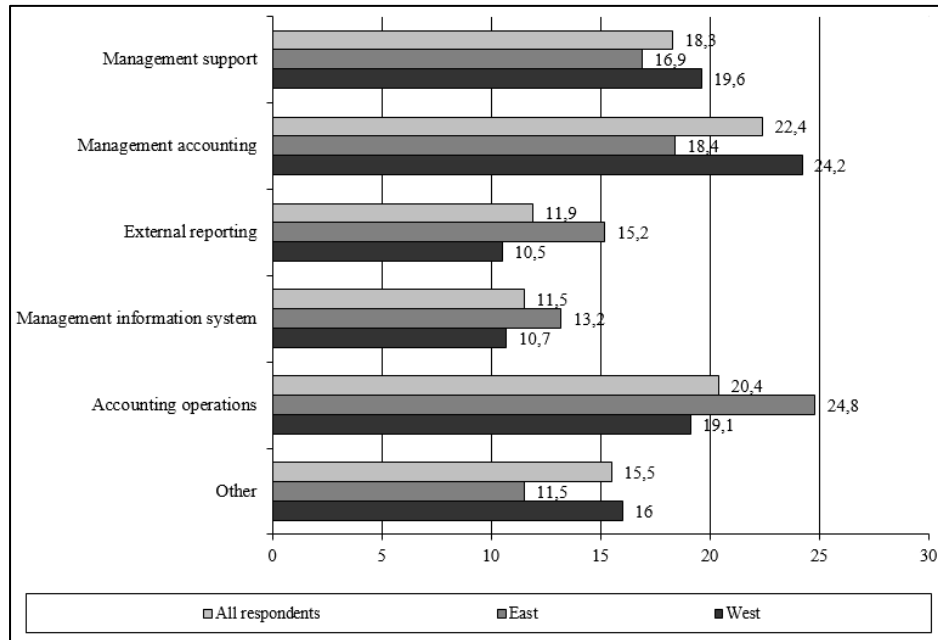


Figure 1: Distribution of time of accounting specialists among different functional responsibilities

Source: CIMA/University of Bath Global Survey (2010)

Survey results were analyzed by experts separately by two broad geographical areas, in order to find differences in the accounting professional's roles in the east and west. The study covers the western region primarily the Anglo-Saxon markets – Australia, New Zealand, North America and the United Kingdom (respondents from continental Europe were a small part of the overall survey pool) and the eastern region, which geographically covers Asia.

According to the data shown in Figure 1, in the eastern region, accounting specialists spend most of their time (24,8%) performing accounting operations, while in the west the balance of time is shifted to management accounting (24,2%). The time spent on management support of the company is similar between the two analyzed groups (16,9% and 19,6%). In general, this global study allows us to conclude that the role of accounting professionals is gradually transformed into activities that are directly aimed at supporting the management and strategic development of companies (VAN DER STEDE; MALONE, 2010).

Today, accountants play an important social role, working both to strengthen companies and to improve the economy as a whole. The report of the Center for Economics and Business Research (Cebr) of the International Federation of Accountants (IFAC) analyzes the relationship of the accounting profession with national economic growth and improving living standards in the countries studied (CEBR; IFAC, 2015). An important result of the study, in our opinion, is to prove the close relationship between the share of accountants in the total

employed population of the world and an increase in the gross domestic product (GDP) and improved human development (See Figure 2).

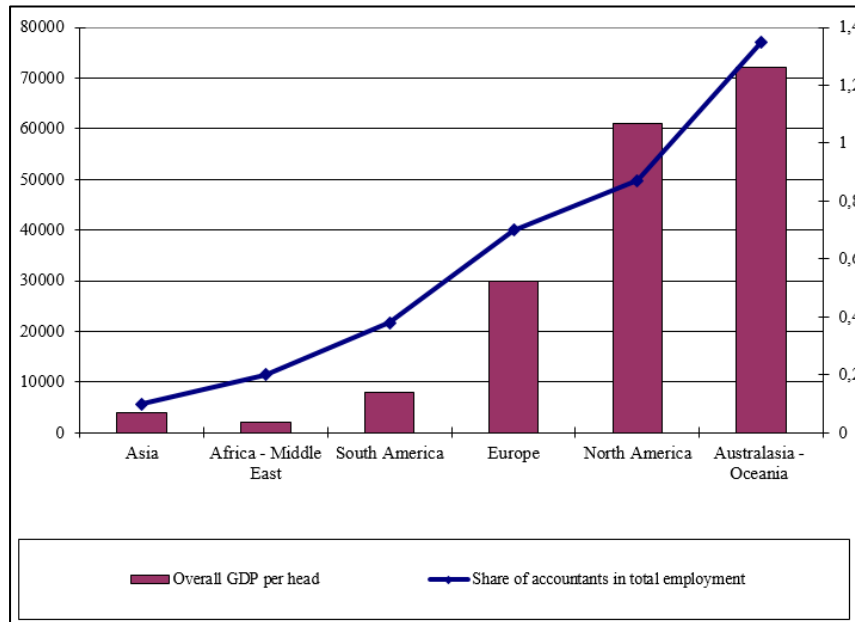


Figure 2: Overall GDP per capita and share of accountants in total employment
 Source: Cebr, IFAC report (2015)

Thus, economic development, measured by GDP per capita, correlates strongly with the proportion of accountants in the workforce. The correlation is strongest among emerging economies, and weaker among the least-developed economies.

The report of the International Federation of Accountants (CEBR; IFAC, 2015) states that professional accountants support economic growth at the microeconomic level, promoting transparency and efficiency of companies, and at the macroeconomic level their activities are crucial to creating and maintaining the investment climate needed to increase productivity and economic development. And as economies grow, they are able to move into higher value-added activities through better education and stronger institutions, which increases the prevalence of the service sector – particularly professional services.

Economic contributions are often described in “gross value added” (GVA) terms – roughly speaking, the sum of employee compensation, profits, surpluses, and taxes on production. In this case, accounting professionals add \$ 575 billion annually to the world economy, of which the professional organizations of the International Federation of Accountants (175 member organizations from more than 130 countries bring together 2,84 million professional accountants) bring in \$ 248 billion. According to the study (CEBR; IFAC, 2015), this gross value added can be compared with the share that individual small states contribute to the world economy. Accountants make the largest economic contribution to the

economies of European and North American countries, while other regions tend to gradually increase the importance of the studied profession.

The World Economic Forum (WEF) recently presented its report on the future of individual professions (WEF, 2018), which helps to understand the challenges of the labor market on a global scale and in the field of accounting in particular. In all industries surveyed in different regions of the world jobs expected to become increasingly redundant over the 2018–2022 period are currently occupied by mid-skilled “white-collar workers” (mid-level employees, data entry clerks, accounting and payroll clerks, secretaries, auditors, bank tellers and cashiers), i.e. professions that are particularly sensitive to the development of new technologies and process automation.

According to the WEF (2018) report, the future of the accounting profession is influenced by the following main trends:

- automation will take the main place in the company's development strategy;
- the greatest emphasis will be placed on professional development based on the latest technologies and soft skills;
- the transition to a gig economy will mean more flexibility needs to be provided in the workplace;
- accounting companies will need to look for employees for activities that were not previously typical.

Association of Chartered Certified Accountants (ACCA) in the report “Professional accountants – the future: Drivers of change and future skills” (ACCA, 2016) summarize that the accountancy profession will evolve significantly over the period up to 2025 and the main drivers for change that will have the most impact on the profession, are (See Table 1):

- increased regulation and governance;
- spread of digital technologies;
- changing expectations of business and professional accountants;
- globalization of business and the profession.

Synthesis and analysis reveal that some trends and drivers among analyzed will be more significant (such as globalization of business and the profession; spread of digital technologies; expectations of business and professional accountants) than others (such as regulation and



governance) across the accounting profession and will, in varying degrees, affect specific accounting roles, skills, knowledge.

Table 1: External drivers of change in accounting profession

Factors	% of respondents			
	Factors expected to have the highest impact		Factors considered to be most certain to have an impact	
	The next 3 to 10 years	After 2025	The next 3 to 10 years	After 2025
Increased regulation and governance	Rate of change and economic volatility (42%)	Changes in the direction for global governance and roles, and the influence of emerging global powers, regional and global institutions (52%)		
The spread of digital technologies	Development of intelligent automated accounting systems (55%) Adoption of cloud computing by business (41%)		Adoption of cloud computing by business (79%) Data mining and new analytical methodologies (75%) Future of digital publishing (72%)	Emergence of a cashless society (74%)
Changing expectations of business and professional accountants	Broadening measurement and expectations of business value and demands of external stakeholders (42%) Different aspirations and expectations of coming generations (39%)	Changing societal expectations and evolving scope and nature of what is considered accounting and the role of the accountant (50%)	Increasing female participation in workforce (76%) Broadening measurement and expectations of business value and demands of external stakeholders (74%) Resource conflicts (72%)	
Globalisation of business and the profession	Greater harmonisation of accounting and business standards (42%)		Greater harmonisation of global accounting and business standards (81%) Pressure to protect local jobs from foreign workers (72%) Governance and provision of outsourced public services (72%)	Use of carbon taxes and other market mechanisms to encourage more environmentally sound behaviour (72%)

Source: developed by the author based on the Association of Chartered Certified Accountants report (ACCA, 2016)

We think that the analyzed trends are relevant both for large companies in the market of accounting services and for medium and small.

For example, the International Accounting Bulletin has released its annual World Survey (INTERNATIONAL ACCOUNTING BULLETIN, 2019), finding the accounting industry in robust health. Despite a number of challenges to the industry, the accounting profession remains buoyant across the globe. This was particularly true at the top end of the market, with seven of the top 10 networks reporting double-digit growth. With over 50



accounting networks and associations participating in the survey, performance is broken down by both region and service line.

A global survey by the International Federation of Accountants (IFAC, 2018) showed that entrepreneurs working in small and medium-sized businesses (SMEs) use modern accounting technologies to better serve customers and attract and retain the best professionals. The study included 6,258 respondents from small and medium-sized businesses from 150 countries on the effectiveness of their companies in 2018 and the factors and threats of the market that are likely to affect them in the future.

The survey tracks important trends and challenges facing accounting professionals, which were reflected in the answers of respondents, in particular:

- 38% – consider the development of new technologies as a significant challenge;
- 28% – over the next 12 months are ready to invest more than 10% of total practice revenue to technology development;
- 23% – tend to recruit other specialists instead of accountants (for example, IT specialists, data scientist);
- 54% – have problems attracting “next-generation” employees with the necessary combination of skills and abilities.

Thus, despite the willingness of entrepreneurs working in small and medium-sized businesses to spend money on the latest technologies, accounting professionals are not ready for technological change, as 54 percent of IFAC survey respondents (IFAC, 2018) say that they had difficulty attracting and retaining in positions of qualified personnel, especially in an aging workforce, when it comes to the next generation of professionals. The main reasons pointed out by entrepreneurs were: lack of candidates with the right combination of skills (66% of respondents), competition from larger practices (57%), increased opportunities in other fields (44%), etc.

3.2. Skills and competencies of professional accountants in the modern world

Based on the review of the current developments of artificial intelligence and block chain technologies in the accounting profession, focusing on the Big Four accounting firms, Zhang et al. (2020) provided suggestions that there is no doubt that financial robots will replace humans in performing basic accounting tasks in the future, as they are already an important component of the accounting landscape. As a financial practitioner, it is important to



continuously improve one's professional knowledge and skills, including computer expertise, to complete more challenging tasks.

According to NIXON (2018) digitization of accounting, artificial intelligence and Internet-related changes meant that traditional accounting "hard skills" such as bookkeeping, information processing, data grouping, reporting, routine operations will be less and less needed in the near future to perform this work. All that was left for accountants to focus on was leading and managing the team, producing the numbers, negotiating adjustments based on judgment, presenting to and influencing users of management and financial reporting, and resolving strategic and operational conflicts arising. So, in this case, we are talking about "soft skills", which are related to social skills and allow being successful regardless of the specifics of the activity and the direction in which the specialist works.

It is difficult to define flexible skills because the meaning of the concept differs from profession to profession, from context to context and also depends on the characteristics of each country. Based on a review of researchers' publications on the subject, Villiers (2010) proposes five main categories of flexible skills: communication skills; problem solving and thinking skills; leadership and teamwork skills; ethical and moral values; self-management.

In this aspect, it is advisable to pay attention to the study of the Association of Chartered Certified Accountants (ACCA, 2016), which identifies the key factors that will have the greatest impact on the accounting profession, as well as the technical, ethical and interpersonal skills and competencies that will be needed in the future. The report presents the concept of "professional quotients" (PQ), which reflects the competencies and skills of a professional accountant. Thus, in the future, hard technical competence (TEQ) and experience (XQ) will be combined with an intelligence quotient (IQ) and digital DQ; interpersonal behavior, skills and qualities will be reflected in quotients for creativity (CQ), emotional intelligence (EQ) and vision (VQ). The combination of each professional accountant's PQ will also be different, and the "optimal mixture" should reflect the specialized areas, roles, organizations, industries and geographical regions.

By 2025, according to experts from the Association of Chartered Certified Accountants (ACCA, 2016), some technical knowledge and skills will increase in value, others will decrease, new knowledge and skills will be needed, which will depend on the further development of technology. The introduction of professional ratios and the use of their



individual components can create a standardized and structured approach to the career development of professional accountants and help employers in recruiting.

4. RESULTS

The modern world is changing fast and an accountant, as a professional, needs to ensure that to be an effective and competitive member of the accounting team, need to have the knowledge, skills, and abilities to help companies sustain economic growth and compete nationally and internationally. In general, this study allows us to conclude that the role of accounting professionals is gradually transformed from traditional accounting functions into activities that are directly aimed at supporting the management and strategic development of companies (see Figure 1). In a modern changing world, accountants are able to move into higher value-added activities through better education and stronger institutions.

Professional accountants support economic growth at microeconomic and macroeconomic levels, promoting transparency, efficiency, creating, and maintaining the investment climate which needs to increase companies' productivity and society's economic development.

We found events from the IFAC report (2015) that economic development, measured by GDP per capita, correlates strongly with the proportion of accountants in the workforce and this correlation is strongest among emerging economies, and weaker among the least-developed economies. Using these results and understanding the existence of such a correlation, countries and national professional accounting organizations should pay more attention to supporting professional accountants, promoting transparency and efficiency of the profession, its prestige, the quality of training of accountants, promoting their professional growth.

The main drivers for changing accounting as an industry and as a professional activity are considered almost equally by scientists and researchers, whose work we analyzed in the article, and are reflected in the research of international and professional organizations. The major challenges for accounting we can combine in such groups: globalization (globalization of reporting/disclosure standards, globalization of business and the profession) technological changes (smart and digital technology, big data, cloud computing, artificial intelligence); regulation (increased regulation and governance). Analyzed trends are relevant for large medium and small accounting companies and for individuals (professional accountants).



At the same time, it is necessary to take into account the changing requirements of companies for the accountants' competencies, as well as expectations of improving the business and professional qualities of accountants. Such expectations can be achieved through professional development based on the latest technologies and soft skills, greater flexibility in the workplace. If professional accountants do not take these expectations into account, companies will need to look for other professionals who can perform not only accounting but also other functions (IT professionals, data analysts, and scientists, professionals with a useful combination of skills and abilities).

Traditional accounting “hard skills” such as bookkeeping, information processing, data grouping, reporting, routine operations will be less and less needed in the modern world. To create an optimal combination of competencies and skills expected of a professional accountant, companies should use the “professional coefficients” offered by the Association of Chartered Certified Accountants (ACCA, 2016). These professional coefficients can be used to form special recruitment requirements for accounting professionals in accordance with the companies’ specifics. The combinations developed by the companies will reflect the company's expectations and can also help accountants to focus on their future professional growth and education.

5. CONCLUSIONS

This paper uses theoretical analysis and comparative analysis methods to analyze the surveys, researches, and reports of the authoritative international organizations which studied external factors, tendencies and drivers of the accounting profession development. Through the literature research and open data analysis, the paper summarizes the accumulated data and defined the trends in business, economics, society, regulation, technology, which will influence the future of accountancy and identifies the skills and competencies which will be important for professional accountants.

Modern accounting professionals are increasingly moving from purely technical functions to supporting company management and play an important strategic role for effective management at the microeconomic level and a prominent social role, working to improve the development of society at the macroeconomic level. At the same time, accounting professionals are forced to adjust their previously static functions in view of the development of the world economy, globalization, the latest technologies and technological developments, innovations and trends in the business environment. Since further changes are inevitable, and accounting is



a profession that is particularly sensitive to the above changes, the main place in the strategy of accounting companies and personal professional development will focus on the development of new technologies, soft skills, and professional flexibility. Such a change of priorities will turn the challenges facing the accounting industry and accounting profession into its advantages, as the development of modern technologies combined with soft skills can significantly improve the value and career prospects of accountants.

REFERENCES

ACCA (2016) **Professional accountants – the future**: Drivers of change and future skills. Available: <<https://www.accaglobal.com/content/dam/members-beta/images/campaigns/pa-tf/pi-professional-accountants-the-future.pdf>>. Access: 12 July 2020.

ARNOLD, P. J. (2009) Global financial crisis: The challenge to accounting research *Accounting, Organizations and Society*, v. 34, Issues 6–7, p. 803-809. DOI: <https://doi.org/10.1016/j.aos.2009.04.004>.

CARNEGIE, G. D.; NAPIER, C. J. (2010) Traditional accountants and business professionals: Portraying the accounting profession after Enron Accounting. *Organizations and Society*, v. 35, n. 3, p. 360-376. DOI: <https://doi.org/10.1016/j.aos.2009.09.002>.

CENTRE FOR ECONOMICS AND BUSINESS RESEARCH. IFAC (2015) **Nexus 2: The Accountancy Profession – A Global Value Add**. Available: <<https://www.ifac.org/publications-resources/nexus-2-accountancy-profession-global-value-add-2>>. Access: 20 July 2020.

DIACONU, P. (2007) **Impact of Globalization on International Accounting Harmonization**. Available: <https://ssrn.com/abstract=958478>. DOI: <http://dx.doi.org/10.2139/ssrn.958478>. Access: 03 August 2020.

IFAC (2018) IFAC global SMP **survey**: 2018 summary. Available: <<https://www.ifac.org/system/files/publications/files/IFAC-Global-SMP-2018-SUMMARY.pdf>>. Access: 27 July 2020.

INTERNATIONAL ACCOUNTING BULLETIN (2019) **World Survey**, n. 594. Available: <www.internationalaccountingbulletin.com>. Access: 31 July 2020.

ISLAM, M. A. (2017) Future of Accounting Profession: Three Major Changes and Implications for Teaching and Research. **Business Reporting, International Federation of Accountants (IFAC)**. Available: <<https://www.ifac.org/global-knowledge-gateway/business-reporting/discussion/future-accounting-profession-three-major>>. Access: 10 July 2020.

KHORUNZHAK, N.; BRUKHANSKYI, R.; IVANYSHYN, V. (2019) Logic-statistical information models in control function of Accounting. **Independent Journal of Management & Production**, v. 10, n. 7, p. 846-871. DOI: <http://dx.doi.org/10.14807/ijmp.v10i7.906>.

LITTLETON, A. C. (1928) Paciolo and Modern Accounting. **The Accounting Review**. v. 3, n. 2, p. 131-140. Published by: American Accounting Association. Available: <<https://www.jstor.org/stable/239334>>. Access: 26 July 2020.



NIXON, P. (2018) Soft skills and your future as an accountant. **A Plus. Hong Kong Institute Of Certified Public Accountants**. Available: <<https://aplusmag.goodbarber.app/home-order/c/0/i/22601839/soft-skills-and-your-future-accountant>>. Access: 22 July 2020.

ÖZDOĞAN, B. (2017) The Future of Accounting Profession in an Era of Start-Ups. **Accounting and Corporate Reporting - Today and Tomorrow**. DOI: 10.5772/intechopen.69264

SEMENYSHENA, N.; KHORUNZHAK, N.; SADOVSKA I. (2020) Evaluation of the adaptability of scientific theories for the development of Accounting Institute. **Intellectual Economics**. v. 14, n. 1, p. 113-129. DOI: <https://doi.org/10.13165/IE-20-14-1-07>.

SEMENYSHENA, N.; KHORUNZHAK, N.; ZADOROZHNYI, Z.-M. (2020) The institutionalization of Accounting: the impact of national standards on the development of economies. **Independent Journal of Management & Production**, v. 11, n. 8, p. 695-711. DOI: [dx.doi.org/10.14807/ijmp.v11i8.1228](https://doi.org/10.14807/ijmp.v11i8.1228).

VAN DER STEDE, W. A.; MALONE, R. (2010) Accounting trends in a borderless world. **Chartered Institute of Management Accountants**. Available: <[https://www.cimaglobal.com/Documents/Thought_leadership_docs/Accounting Trends.pdf](https://www.cimaglobal.com/Documents/Thought_leadership_docs/Accounting_Trends.pdf)>. Access: 20 July 2020.

VILLIERS, R. D. (2010) The incorporation of soft skills into accounting curricula: preparing accounting graduates for their unpredictable futures. **Meditari Accountancy Research**, v. 18, n. 2, p. 1-22. DOI: <https://doi.org/10.1108/10222529201000007>.

WEI, H. Ch. (2008) Globalisation and Its Effects On Accountants. **Asian Journal of Accounting Perspectives**, v. 1, n. 1, p. 81-84. Available: <<https://ajap.um.edu.my/article/view/3619>>. Access: 07 August 2020.

WORLD ECONOMIC FORUM (2018) **The Future of Jobs Report**. Available: <http://www3.weforum.org/docs/WEF_Future_of_Jobs_2018.pdf>. Access: 30 June 2020.

WYATT A. R. (2004) Accounting Professionalism - They Just Don't Get It! **Accounting Horizons**, v. 18, n. 1, p. 45-53. DOI: <https://doi.org/10.2308/acch.2004.18.1.45>.

ZHANG, Y.; XIONG, F.; XIE, Y.; FAN, X.; GU, H. (2020) The Impact of Artificial Intelligence and Blockchain on the Accounting Profession. **IEEE Access**, v. 8, p. 110461-110477. DOI: 10.1109/ACCESS.2020.3000505.

