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The accounting system and its specialists versus the VUCA environment

System rachunkowości i jego specjaliści a środowisko VUCA

Keywords:
accounting, business administration, information and knowledge

Abstract: The acronym VUCA (Volatility, Uncertainty, Complexity, Ambiguity) defines four challenges that business units are forced to face in today's – volatile, uncertain, complex and ambiguous environment. This concept is reflected not only in the context of business strategy or management, but also in accounting. Each variable contributes to running a business, managing it and making decisions within it in a certain way.

The purpose of the article is to answer the question of whether the accounting information system and its specialists are prepared to function in the business environment under VUCA conditions.

The considerations carried out in the article are concerned with identifying the way in which the variables of VUCA affect the accounting system, identifying the tools used to mitigate the effects of VUCA, and pointing out the necessary participation of accounting professionals in the environment, identifying their characteristics and skills in the VUCA world. In illustrating the selected aspects, the literature on the essence of VUCA, the tools of the accounting information system that can be used in a VUCA environment was used, including the institutional regulations issued during the Covid-19 pandemic and the war in Ukraine. The considerations were supplemented with the results of research conducted in the area of issues concerning the characteristics of leaders in the VUCA world. The results were used to determine the hierarchy of characteristics of accounting professionals in a volatile, uncertain, complex and ambiguous environment.

The research findings indicate that accounting, as an informational system, demonstrates adaptability in any conditions, providing reliable and useful information regardless of its nature and the changing regulations. A key role in this process is played by specialists, whose

competencies and willingness for continuous improvement enable them to effectively identify, record, and report information, even in a dynamic and unpredictable environment.

Słowa kluczowe:
rachunkowość, zarządzanie biznesem, informacja i wiedza

Streszczenie: Akronim VUCA (ang. Volatility, Uncertainty, Complexity, Ambiguity) definiuje cztery wyzwania, z jakimi we współczesnym – zmiennym, niepewnym, złożonym i niejednoznacznym otoczeniu, jednostki gospodarcze są zmuszone mierzyć się z różnego rodzaju problemami. Pojęcie to znajduje odzwierciedlenie nie tylko w kontekście strategii prowadzenia biznesu czy zarządzaniu, ale także w rachunkowości. Każda zmienna przyczynia się do prowadzenia działalności, zarządzania nią i podejmowania w jej ramach decyzji w określony sposób.

Celem artykułu jest udzielenie odpowiedzi na pytanie, czy system informacyjny rachunkowości i jego specjaliści przygotowani są na funkcjonowanie w otoczeniu biznesu w warunkach VUCA.

Prowadzone w artykule rozważania dotyczą identyfikacji sposobu oddziaływania zmiennych VUCA na system rachunkowości, wskazania narzędzi wykorzystywanych do łagodzenia skutków VUCA oraz wskazania na niezbędny udział specjalistów ds. rachunkowości w środowisku, określenia ich cech i umiejętności w świecie VUCA. W ilustracji wybranych aspektów wykorzystano literaturę z zakresu istoty VUCA, narzędzi systemu informacyjnego rachunkowości możliwych do wykorzystania w środowisku VUCA, w tym dokonano instytucjonalnych regulacji wydanych w okresie pandemii COVID-19 oraz wojny w Ukrainie. Rozważania uzupełniono wynikami badań prowadzonych w obszarze zagadnień dotyczących cech liderów w świecie VUCA. Wyniki wykorzystano do określenia hierarchii cech specjalistów rachunkowości w zmiennym, niepewnym, złożonym i niejednoznacznym środowisku.

Uzyskane wyniki badań wskazują, że rachunkowość jako system informacyjny charakteryzuje się zdolnością do adaptacji w każdych warunkach, dostarczając rzetelnych i użytecznych informacji niezależnie od ich charakteru i zmieniających się regulacji. Kluczową rolę w tym procesie odgrywają specjaliści, których kompetencje i gotowość do ciągłego doskonalenia pozwalają skutecznie identyfikować, ewidencjonować i raportować informacje, nawet w dynamicznym i nieprzewidywalnym otoczeniu.

JEL:
M41, M19, D83

Introduction

VUCA reflects the modern world in which the unpredictable and unexpected have become the norm. The term best reflects the current global situation, i.e. the time of the Covid-19 pandemic, the war in Ukraine, emigration problems, technological development, rapid digitization, or the elimination of global borders. It is as a result of these that changes are taking place not only in the business environment, but also in the economic and social environment [Codreanu, 2016]. VUCA is a metaphor to describe a different kind of current state of affairs, regardless of industry or organization. Each element of the VUCA acronym represents different, unique aspects of each issue analyzed in its context. However, recognizing and understanding the essence of the phenomenon, including the unique differences, allows one to think constructively about the strategy and/or approach to managing a given situation [Mohd et al., 2021].

The indispensable supporting element for dealing with variability, uncertainty, complexity and ambiguity, invariably remains information. From the point of view of any organization operating in a VUCA environment, an effective tool for its identification, collection of processing into information useful for business decision-making, also remains the accounting system [Baran, 2017]. Both financial and management accounting systems, operating in accordance with formal regulations and the needs of managers, have appropriate tools. They are successfully suited to feed information to areas exposed to the occurrence of all VUCA variables. For forecasting and evaluating the results of actions taken and planned, including valuation, as well as the creation and implementation of strategies and the evaluation of individually defined aspects, such as the assessment of public awareness [Baran, 2022].

As in the implementation of strategy and management, so also in accounting, the presence of specialists is necessary, who, through their knowledge and skills, will contribute to reducing the degree of ignorance or unawareness of the recipients of information. As a result, they will lead to a change in their understanding of economic phenomena and reality, influencing their behavior and helping them make the right decisions [Baran, 2017]. Considering the VUCA environment, it will be necessary to take advantage of the significantly changed role of accounting professionals, from typically technical, towards business, personal and leadership skills [AIC, 2014; Baran, 2017] that fit into the characteristics of VUCA leader traits [ÇIçeklioğlu, 2020].

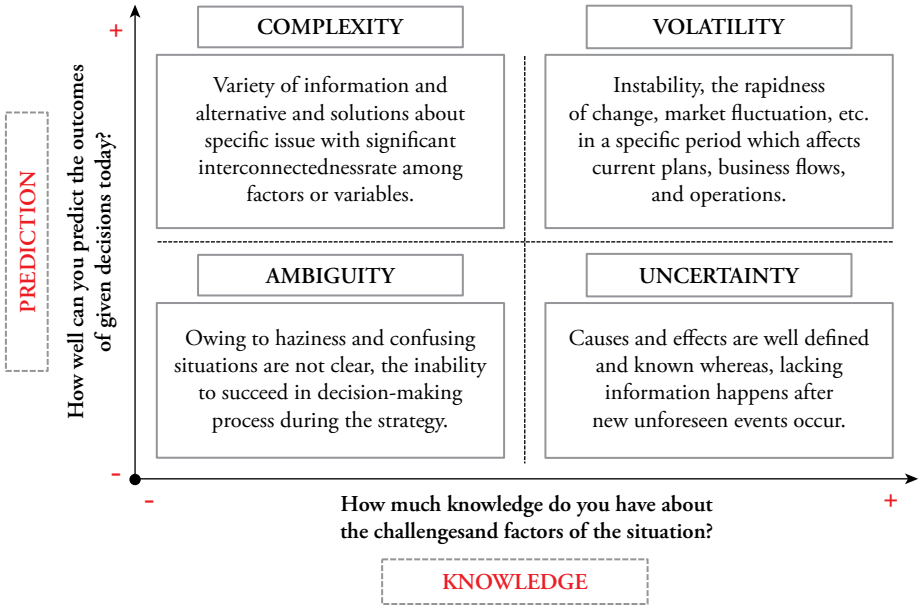
The purpose of the article is to answer the question of whether the accounting system and accounting professionals are prepared to operate in a volatile, uncertain, complex and unclear environment and the phenomena within it. Achieving such a goal was possible, among other things, thanks to the knowledge of the essence of the accounting information system and the role of accounting specialists. In relation to them, the author had the conviction that they have the ability to adapt to apply in any conditions

of business operation and its environment. For the purpose of this article, a literature review was conducted on the concept of VUCA and the role of leadership in the VUCA environment. In addition, a Delphi survey was conducted to determine the hierarchy of characteristics of an accounting professional operating in the VUCA world.

The VUCA conceptual framework and its impact on the accounting system

The VUCA concept was introduced to provide a clear vision, differentiate thinking and provide flexibility in the military's strategic operations such as offense, defense and combat training [Allen, Coast, 2009]. It derives from a military term and captures the turbulence of global systems, surprising, controversial and questionable world order [Ramakrishnan, 2020]. Currently, it is seen widely reflected in both state policies and daily life decisions. It is also faced by individuals operating in the wider business environment, where volatility, uncertainty, complexity and ambiguity have become, and will remain, natural features of management. In order to understand volatility in the business world, it is advisable to analyze the VUCA variables, which are captured in a so-called conceptual framework (Figure 1).

Figure 1. The VUCA Concept Framework



Source: [ÇIçeklioğlu, 2020, after Bennet, Lamoine, 2014].

The VUCA conceptual framework presented in Figure 1 can be interpreted and understood in two ways. A narrow approach, as independent characterizations of VUCA variables, which can significantly limit countering the defined phenomena. A broad approach, as holistic measures to provide a way out of an unclear/confusing situation. This will enable a good identification of causes and effects, it is necessary to continuously analyze them, and correctly identify a variety of information, including alternatives that take into account the identification of cause-and-effect relationships.

In an attempt to sort out the meaning of the concepts of VUCA variables, however, in the context of accounting systems, as this world is also affected by Volatility, Uncertainty, Complexity and Ambiguity due to globalization, digitalization, changing regulations, reporting standards, among others, Table 1 characterizes the VUCA variables, gives examples of risks indicating the need for action in the area of access to information.

Table 1. Risks and actions in financial and managerial accounting in the VUCA environment

Risks	Actions – Financial Accounting	Actions – Managerial Accounting
Votality – due to the VARIABILITY of the environment, the challenges faced by business relate to **outdated information**, slower reactions and the tendency to avoid risks		
Sudden changes in regulations, exchange rates, inflation, unpredictable market events.	Ongoing analysis of regulatory changes, flexible reporting systems.	Scenario modeling, financial trend forecasting.
Uncertainty – due to the INDEPENDENCE prevailing in the environment, there is a risk of **incomplete information** and a strong impulse to return to old ways of working		
Lack of stable data for decision-making, uncertainty about future results.	Implementation of consistent accounting principles and internal control systems.	Dynamic data analysis tools, financial simulations.
Complexity – Can lead to analysis paralysis due to the **overwhelming amount and scope of information**; risk of resorting to short-term solutions		
Multiple data sources, complex decision-making processes, globalization of reporting	Standardization of accounting processes, use of advanced ERP systems	Decision support through managerial reporting and multidimensional analysis
Ambiguity – may result in misunderstanding of the meaning of events and inability to take appropriate action due to **lack of clear information**; risk of unclear solutions		
Difficulty in interpreting data, lack of clear regulations, various approaches to presenting information	Consistent classification of accounting events, transparent financial reporting	Strategic risk analysis, support in operational decision-making

Source: own study based on [Baran et al., 2024; Sinha, Sinha, 2020; Sequeira, 2021].

The approach presented in Table 1 emphasizes that the entire data processing process in the financial accounting system ensures the reliability and accuracy of reporting, while in the management accounting system, it provides useful tools that support decision-making. Considering the informational nature of the accounting system, each

VUCA variable in Table 1 has been linked to an informational aspect – from the lack of up-to-date data, through incompleteness, overwhelming volume and scope, to the absence of clear interpretation. In the section on risks and actions, tools characteristic of both financial and managerial accounting have been identified, enabling effective adaptation in a dynamic environment. In both systems, the final product is information that presents the reality of an economic entity in a reliable, understandable, credible, relevant, and comparable manner [Accounting Act 1994; IFRS, 2020], while in managerial accounting, it is primarily useful for decision-making processes [Baran, 2017].

Tools for leveling the action of VUCA variables in the field of accounting

In response to the VUCA phenomena, studies have appeared, which show that the phenomenon in question can be counteracted by creating appropriate strategies. As a remedy for VUCA, the VUCA Prime approach is proposed, which recommends so-called reactive measures. In a simple model with the same acronym, the elements necessary in responding to the challenges of the VUCA world are indicated. VUCA Prime stands for: V – vision, U – understanding, C – clarity, and A – agility [Johansen, 2007]. Like the VUCA variables, the strategies defined under VUCA Prime also have a visible informational element strongly emphasized by open, clear and effective communication (Table 2).

Table 2. VUCA Prime strategies in the aspect of the VUCA world

VUCA	VUCA Prime	
Votality	Vision	Vision (of the company) – acting in accordance with its concept, goals provides flexibility (redefining plans, mobilizing resources).
Uncertainty	Understanding	Understanding the situation, including its causes, business needs, including information. Understanding of each other's parties, including effective communication.
Complexity	Clarity	Clarity (of the situation) – a clear system of action, clarity of processes; having information that explains "mysteries", including the ability to synthesize it.
Ambiguity	Agility	Agility – the ability to communicate openly and clearly to establish proper feedback mechanisms.

Source: own study based on [Baran et al., 2024; Johansen, 2007; Cooke, 2013; Mohd et al., 2021].

Information, as well as communication, both should be identified as the most important domains in the accounting system. Thus, they will guarantee that the results of actions taken, under all conditions, especially VUCA, will correspond to reality and be useful.

As a result, the information communicated will offset the impact of VUCA variables on the quality of information and feed VUCA Prime strategies with relevant information.

In the VUCA environment, accounting plays a key role in providing companies with tools and information for risk management, financial planning and responding to sudden changes. With the proper use of modern tools such as predictive analytics, automation and blockchain, accounting can help companies not only survive, but thrive in an unpredictable environment.

Table 3. Management tools: EPM, ABC i Risk Management w świecie VUCA

Specification	Benefits of using management tools
Enterprise performance management (EPM)	▪ **Better performance monitoring**: EPM allows you to track financial and operational performance in real time. Provides quick response to adverse changes and make adjustments. ▪ **Increased efficiency of operations**: EPM helps identify and eliminate inefficient processes, leading to better resource management and cost reduction. ▪ **Accurate forecasting and planning**: EPM supports forecasting of future financial performance, enabling decisions to be made based on data rather than conjecture. This has the effect of increasing the organization's flexibility and adaptability. ▪ **Support in strategy implementation**: EPM allows better control of strategic objectives, adjusting plans and budgets to changing market conditions.
Cost management (e.g. Activity-Based Costing, ABC)	▪ **Precise cost allocation**: the ability to assign costs to specific activities, products or services. Better understanding of which elements of the business generate the most costs and which are the most profitable. ▪ **Optimization of processes and** costs: ABC identifies costly, often unnecessary activities, enabling more efficient use of resources. ▪ **Supporting pricing and strategic decisions**: ABC provides precise cost information that helps determine optimal prices for products and services. It can also support decisions to withdraw unprofitable products. ▪ **Better management of customer profitability**: ABC helps identify the most profitable customers and those generating the highest costs.
Risk management (RM), including sensitivity analysis and scenario analysis	▪ **Minimizing potential financial losses**: RM allows early identification of risks so that preventive action can be taken and losses minimized. ▪ **Protection against market volatility**: With tools such as sensitivity analysis and hedging, it is possible to protect against sudden changes in exchange rates, commodity prices or interest rates. ▪ **Increasing stakeholder confidence**: Effective RM sends a signal to investors, customers and business partners that the organization strives for stability and is prepared for volatile market conditions. ▪ **Improved decision-making**: Risk analysis and monitoring allow for more informed investment and operational decisions. RM allows better planning and response to possible risks.

Source: own study based on [Cokins, 2009; Cokins, 2001; Wolke, 2017].

With the variables of VUCA in mind, accounting must evolve to meet dynamic and complex challenges. Traditional methods and tools are being supplemented with modern technologies and strategies to better manage risk, anticipate change and adapt

to unpredictability. Among the key tools in the VUCA environment are universal tools like Enterprise Performance Management (EPM), Activity-Based Costing (ABC), Risk Management, the main benefits of which are presented in Table 3.

Identification, collection, processing and reporting of information in the VUCA world requires the use of tools that fit into the so-called new technologies, which will enable the processing of large amounts of data, increase its security and accessibility to it in real time (Table 4).

Table 4. Key tools in the accounting information system in the VUCA world

Specification	Characteristics of accounting information tools
Big Data and predictive analytics	These technologies help predict market changes, customer behavior and financial trends, which is particularly important in an environment characterized by volatility and complexity. These algorithms can identify hidden patterns that traditional accounting methods might overlook. They provide an increase in flexibility that ensures faster strategy adjustments through rapid data analysis and algorithm-based predictions, which is particularly valuable in a VUCA environment.
Business Intelligence (BI) and real-time reporting	BI is a set of tools that enables real-time analysis of financial and operational data. BI Ensures better responsiveness to change and faster decision-making, which is critical in a VUCA environment where market conditions can change quickly. BI provides better visibility into key financial metrics, such as cash flow, profits and profitability, which provides a real-time assessment of an organization's health. BI, through real-time data analysis, allows you to anticipate and respond quickly to risks, including minimizing their impact.
Blockchain and distributed ledger technology	Blockchain in accounting is becoming a tool to increase transparency, certainty of financial data and reduce the risk of fraud. In an environment of complexity and uncertainty, the technology allows for faster, safer and more transparent financial transactions and reporting.
Automation of financial processes (Robotic Process Automation, RPA)	RPA is used to automate routine accounting tasks, such as invoice processing and transaction posting. Automation increases efficiency and reduces the risk of errors, which is especially important in the rapidly changing VUCA environment.
Cloud Accounting	Storing and processing accounting data in the cloud allows companies to access financial information from anywhere at any time. This is crucial in a VUCA environment where flexibility and the ability to respond quickly to change are essential.

Source: own study based on [Zhou et al., 2017; Negash, 2003; Chang et al., 2022; Doguc, 2019; Atadoga et al., 2024].

The tools indicated in Table 4, in addition to the management accounting system, are also used in the financial accounting information system. Financial accounting, thanks to its fundamental features, provides organizations with the tools and information necessary to function in a VUCA world. In a dynamic environment full of uncertainty, accounting features such as reliability and credibility of data provide a solid basis for decision-making strengthening confidence in analysis and reports. Transparency and

transparency of financial information facilitates communication with stakeholders such as investors, lenders and business partners, which is particularly important when the environment is volatile and uncertain. Finally, regulatory compliance, including adherence to international financial reporting standards and regulations, will ensure that organizations minimize legal and operational risks and adapt to local and global challenges[1].

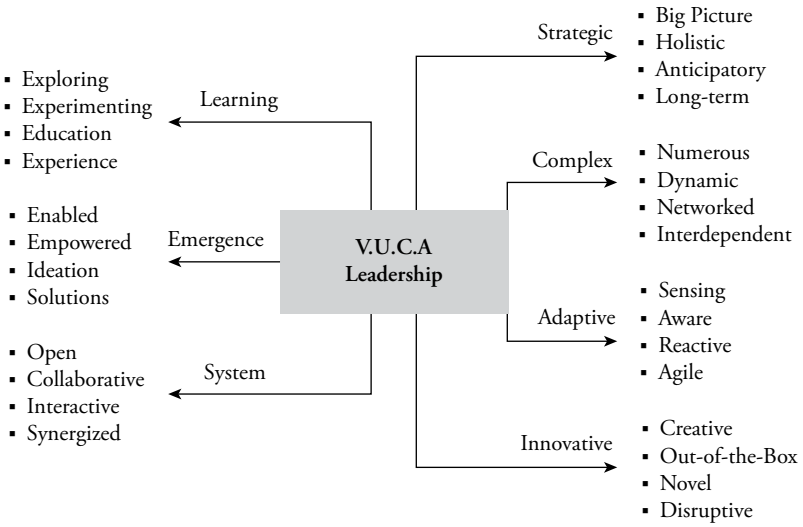
The totality of issues presented in para. 3 issues, from the basic product of the accounting system, which is reliable and useful information, to management tools that level VUCA variables, to effective information processing and reporting tools, speak for the adaptability of accounting to all conditions. However, this requires accounting professionals to be able to use these tools. Currently, it remains to point out the qualities of accounting socialists, without which none of the tools presented will work.

Traits and role of accounting professionals in VUCA environment

The VUCA phenomenon defines a modern world in which classical leadership skills are not sufficient and reformist decisions are made at the point of leadership. In a VUCA world, the need for leaders to overcome uncertainty plays a key role [ÇIçeklioğlu, 2020]. VUCA refers to the complex and changing business cycles that corporations and individuals face [Sullivan, 2012]. The concept of VUCA, which is often used in political contexts, has now also established a very close connection with the business world. In the past, while companies planned to deal with uncertainty, today uncertainty has become an expected feature of business management. However, managers and leaders need to take an agile and proactive approach to effectively carry out this management. The last thing managers and leaders should do is be reactive. Instead, they need to be first and design the future [Sharma, Kirkman, 2015]. Similar behavior is to be expected in areas where there is a need to present reliable information about an organization's situation, as well as information useful for making decisions in an unpredictable environment. In addition to skills related to knowledge of management tools (Table 3) and the use of advanced analytical tools (Table 4), the literature points to the characteristics of a leader in a VUCA world (Figure 2).

[1] In Poland, regulatory institutions such as the Ministry of Finance, the Polish Financial Supervision Authority, the Polish Chamber of Statutory Auditors, published during the Covid-19 pandemic, but also in connection with the ongoing war in Ukraine, a number of information concerning, among other things, regulations in the area of valuation, provisioning, etc. for financial reporting and in the area of tax regulations [MF, 2020; KNF, 2020; Podatki, 2020; PIBR, 2020].

Figure 2. 21st Century Leadership in a VUCA Environment



Source: [Sinha, Sinha, 2020].

The world of VUCA requires leaders to have specific competencies and attitudes to effectively manage organizations and teams in a dynamically changing environment. The qualities of a leader presented in Figure 1 are key, but their hierarchy depends on the context in which the leader operates. To determine their significance, a Delphi study was conducted with the participation of six experts practicing in various areas of information management. This ensured a diversity of perspectives, with the experts also having experience in all positions related to accounting specialists. Table 5 presents the hierarchy of qualities from two points of view (manager and accounting specialist) justifying the choice in terms of the VUCA environment.

As a result of the survey, it was difficult to clearly define the hierarchy of qualities of an accounting specialist operating in the VUCA world. Ultimately, in the third round, at an 85% level of agreement, it was determined with a primary focus on understanding the complexity of the situation, a systemic approach, and adaptability. This was followed by continuous improvement that ensures the ability to find oneself in any situation and to take part in strategic activities. Innovativeness in action was identified as the last characteristic, pointing out, however, that it can be important in a situation of seeking new solutions/new approaches in the face of difficult challenges. All experts agreed that the set of qualities of an accounting specialist can be taken as constant, regardless of the conditions of the business environment.

Table 5. A set of leadership competencies from the point of view of a manager and accounting specialist in the VUCA world

Hierarchy of qualities of a manager under VUCA conditions		Hierarchy of qualities of an accounting specialist under VUCA conditions	
Adaptive	Flexibility and readiness to adapt are key in a VUCA environment where change can be rapid and unpredictable. A manager must be prepared to respond immediately to new challenges, adjust strategies and make quick adjustments to the action plan. Adaptability is the foundation that allows a leader to maintain stability under uncertainty and respond quickly to changing external factors.	Complex-taking into account the complexity of the problems	Accounting in the VUCA world requires consideration of complex, dynamic economic circumstances and frequently changing regulations. A professional must understand the dependencies and complexities of the financial, tax and market environment in order to properly analyze and report data. This trait allows one to see financial risks that may not be obvious at first glance.
Emergency-finding themselves in emergency situations	The ability to deal with emergency situations is very important, as the world of VUCA is characterized by rapid change and the need to respond immediately to crises. A leader operating in such an environment must be able to make quick, well-considered decisions and "keep a cool head" in the face of sudden challenges in order to provide the team with a sense of security and stability.	System-taking a systemic approach to action	In accounting, it is important to see the system as a whole – how the various elements of accounting, finance and internal control affect each other. A systems approach allows the professional to understand how changes in one area of finance can affect others and thus effectively manage risk. A systems approach also supports the accuracy and integrity of financial data.
Learning	Continuous learning allows a leader to update his knowledge and adapt his methods of operation to new realities, which is extremely important in the changing world of VUCA. A manager who strives for continuous development will be better prepared for future challenges and is able to adapt new solutions faster, which in the long run translates into the effectiveness of his or her actions.	Adaptive	Adaptability is particularly important in the face of constant changes in tax regulations and accounting standards, which may require rapid adjustment of accounting procedures and methods. Adaptability helps a specialist effectively adjust to external changes, such as new regulations, accounting technologies or changing audit requirements.
Strategic-taking a strategic approach to action	While adaptability and quick response to change are key, a leader must also have the ability to look at the situation from a strategic perspective. This enables him or her to make decisions that not only address current issues, but also fit into the organization's long-term goals. Strategic thinking allows, in a VUCA world, to maintain direction despite changing conditions.	Learning	Accounting requires constant updating of knowledge, especially in the context of dynamic changes in regulations and international standards. An accounting professional must be oriented to continuous education and keep abreast of changes in order to be compliant with legal requirements and ensure the integrity of financial data.

cont. Table 5

Hierarchy of qualities of a manager under VUCA conditions		Hierarchy of qualities of an accounting specialist under VUCA conditions	
Complex-taking into account the complexity of the problems	The world of VUCA is full of complex, multidimensional challenges that require a leader's ability to see multiple relationships. The ability to understand the complexity of problems allows you to make better decisions that take into account a broad spectrum of factors. This perspective helps minimize the risks of an oversimplified approach.	Emergency-finding themselves in emergency situations	In accounting, crisis situations occur less frequently, but professionals must be ready to act quickly in case of emergencies, such as errors in reports, unexpected audits or the need to react quickly to new tax regulations. The ability to find oneself in such situations helps preserve the financial stability of the company and minimize the risk of errors.
System-taking a systemic approach to action	A systems approach enables a leader to analyze the interrelationships between different elements of an organization and understand how one decision affects the entire system. This is a valuable skill that promotes efficiency in operations, although in the world of VUCA, sometimes quick adaptation is more important than perfect analysis of the entire system.	Strategic-taking a strategic approach to action	Although accounting professionals tend to focus on the details, a strategic approach can be useful in assessing the long-term impact of financial decisions and in preparing forecasts and budgets. However, this feature, since the more strategic tasks usually lie with the management or finance department.
Innovative	Innovation is valuable, but not always necessary in the first place. In the world of VUCA, it is more important to adapt quickly and solve problems than to create novelties.	Innovative	Innovation in accounting is useful, but not essential. Professionals can implement new tools or technologies to automate processes. In day-to-day work, what matters most is accuracy, compliance with regulations and maintaining conservatism.

Source: own study based on [Sinha, Sinha, 2020; Shah, 2023; Krawczyńska-Zaucha, 2019; Mohd et al., 2021; Sharma et al., 2015; Bennett, Lemoine, 2014; Shah, 2023; Baran et al., 2024].

Conclusion

As the research shows, accounting, as an information system, is prepared to function in a volatile, uncertain, complex and ambiguous environment, in a VUCA world. Functioning means the ability to prepare reliable and useful information, the use of which is necessary to report actual results and use to form the basis for management decision-making.

All of the indicated activities require the involvement of accounting specialists, which is part of the so-called personalization of the accounting information system [Baran, 2017]. Indeed, none of the activities in the accounting system, from identification, to collection, processing, reporting, interpreting and communicating, will be possible without the participation of the human factor. Even the use of new technologies will require the appropriate formulation of queries, including the introduction of many different variables. The quality of the necessary information will be determined not only by the characteristics of the accounting leader in the VUCA world identified in this article, but also by the inherent standards of ethical conduct of accounting professionals that are characteristic of the profession.

The VUCA leveling tools identified in the course of the research thus define the skills that an accounting professional must possess. These will include the ability to use tools to manage corporate performance, costs, risks (Table 3) and new technologies like big data, business intelligence, blockchain, process automation or cloud accounting (Table 4).

Familiarity with the identified tools will benefit accounting professionals by enhancing all the identified characteristics inherent in accounting professionals (Table 5). As a result, it will be possible to operate accounting information systems at a level that supports organizations in dealing with the challenges of the VUCA world, helping them to increase competitiveness, efficiency and the ability to respond quickly to changes in the business environment.

In conclusion, the research findings hold significant value both in practical and scientific terms. From a practical perspective, they confirm the adaptability of the accounting information system in VUCA conditions, providing valuable guidance for practitioners and decision-makers in adjusting accounting tools to a changing environment. They also highlight the crucial role of accounting specialists, whose competencies, flexibility, and commitment to continuous improvement enable effective information management even in dynamic and unpredictable circumstances.

From a scientific perspective, the study expands knowledge on the impact of VUCA variables on the accounting system and the competencies necessary for effective functioning in such an environment. Identifying the hierarchy of traits required for accounting specialists may serve as a foundation for further research on skill development and the

adaptation of educational programs to the demands of the modern labor market. Consequently, these findings contribute to a better understanding of the role of accounting in a turbulent world and to the development of strategies for enhancing information management efficiency within organizations.

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