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Transformation of Accounting in the Challenging Context of Digital Era

Abstract

This paper explores the transformation of accounting in the context of the digital era, where rapid technological advancement and changing socio-economic dynamics are reshaping the role, methodology, and conceptual framework of accounting. The traditional view of accounting as a static, compliance-driven practice is increasingly seen as insufficient in addressing the complexities of modern business environments. The paper analyzes emerging challenges, such as the declining relevance of conventional financial reporting, the rise of alternative performance indicators, and the need to account for intangible and non-financial assets. Special attention is given to the impact of digital technologies on the recognition, valuation, and taxonomy of new digital assets—including tokens and usage rights—as well as the dual role of accounting in both reflecting and generating digital data. The study also emphasizes the importance of a multiparadigmatic approach to accounting theory, incorporating elements of functionalism, constructivism, and critical theory to better align with the evolving demands of society and the economy. Overall, the research underscores the necessity of expanding the scope and functions of accounting to maintain its relevance and utility in the digital and knowledge-based economy.

Keywords: *accounting, digital transformation, traditional financial reporting, digital data, digital accounting*

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Müasir rəqəmsal dövrün çətin şəraitində mühasibat uçotunun transformasiyası

Xülasə

Bu məqalə müasir rəqəmsal dövrdə baş verən texnoloji tərəqqi və dəyişən sosial-iqtisadi dinamikanın mühasibat uçotunun rolu, metodologiyası və konseptual çərçivəsini necə yenidən formalaşdırdığını araşdırır. Mühasibatlığı yalnız statik və uyğunluğa əsaslanan bir praktika kimi qəbul edən ənənəvi yanaşma artıq müasir biznes mühitinin mürəkkəbliyini əhatə etməkdə yetərsiz hesab olunur. Məqalədə ənənəvi maliyyə hesabatlarının aktuallığının azalması, alternativ fəaliyyət göstəricilərinin artması və qeyri-maddi, maliyyə xarakterli olmayan aktivlərin uçotunun zəruriliyi kimi yeni çağırışlar təhlil edilir.

Xüsusi diqqət rəqəmsal texnologiyaların yeni aktivlərin – o cümlədən tokenlərin və istifadə hüquqlarının – tanınması, qiymətləndirilməsi və təsnifləndirilməsi (taksonomiyası) üzərindəki təsirinə, həmçinin buxalteriyanın həm rəqəmsal obyektləri əks etdirməsi, həm də rəqəmsal məlumat məhsulu yaratması kimi ikili funksiyasına yönəldilmişdir. Tədqiqat həmçinin mühasibatlıq nəzəriyyəsinin funksionalizm, konstruktivizm və tənqidi nəzəriyyə elementlərini birləşdirən multiparadigmatik yanaşma əsasında inkişaf etdirilməsinin əhəmiyyətini vurğulayır. Ümumilikdə, araşdırma göstərir ki, mühasibatlığın əhatə dairəsinin və funksiyalarının genişləndirilməsi onun rəqəmsal və bilik əsaslı iqtisadiyyatda aktual və faydalı olaraq qalması üçün zəruridir.

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Açar sözlər: *mühasibatlıq, rəqəmsal transformasiya, ənənəvi maliyyə hesabatları, rəqəmsal məlumat, rəqəmsal mühasibat*

Introduction

In recent decades, accounting has increasingly been subjected to criticism and attacks as a conservative and insufficiently effective information practice; even the very fact of its continued existence is being questioned in the context of the rapid expansion of information and communication technologies.

A significant number of works by domestic and foreign scholars are devoted to the transformation of accounting under modern conditions, particularly in the context of digitalization. These studies address the development of accounting theory, methodology, and, consequently, practice (Shapovalova et al, 2023; Jesus, 2024; Das, 2025).

The sources used in the writing of this paper include articles and studies published in English language academic literature over various years. The article is written using logical and theoretical-cognitive approaches; among the methods applied by the author are comparative analysis, and logical analysis.

Challenging Transformation of Accounting in the Digital Era

When analyzing the problems of the current state of accounting, several of the most apparent issues can be identified. First and foremost, for more than a decade now, there has been a growing tendency to question the quality of indicators derived from financial reporting data. For instance, B. Lev notes in his research the increasing dissatisfaction among investors with the usefulness of corporate financial reporting, highlighting its declining ability to reflect actual current performance, forecast future outcomes, or explain stock price movements and returns. According to survey data, many executives believe that financial reporting is degenerating into an increasingly burdensome "compliance exercise" rather than serving its original purpose of informing stakeholders. As a result, company leaders, fully aware of the diminishing relevance of financial information, are increasingly turning to alternative operational data and introducing various adjustments to financial figures—often referred to as "street earnings" (Lev, 2018).

Research

In making investment and managerial decisions, modified financial indicators are increasingly being used—such as Economic Value Added (EVA), Cash Value Added (CVA), Cash Flow Return on Investment (CFROI), and Market Value Added (MVA), as well as alternative performance measurement systems like the Balanced Scorecard (BSC). The issue of insufficient objectivity in financial reporting indicators largely stems from the inherent subjectivity of the principles and assumptions applied in the recognition and valuation of accounting objects, as well as the somewhat formalistic nature of the calculation methods themselves (Dillard et al, 2016).

In the context of the new economy, there is not only a dematerialization of value flows but also a gradual shift of these flows into a virtual digital environment. Effective management of value-creating factors requires information about capital-forming resources such as corporate social responsibility, environmental sustainability, knowledge, human and organizational capital, trust and reputation, strategy, systematic and innovative management approaches, as well as the quality and speed of business processes (Mehera, 2019).

Most of this information is not generated within the framework of traditional accounting practices.

Digital transformation, the crisis-driven nature of the economy and the instability of the external environment, new requirements for the financial and economic management system, changes in business models, the emergence of new asset types, associated transactions and forms of interaction, fundamentally new technological capabilities in the formation and use of information, the growing emphasis on non-financial information, and the objectively necessary move toward the internationalization of reporting and audit standards—all of these factors significantly impact accounting and its development potential (Scardovi, 2017; Zheng et al, 2022).

In light of these characteristics, the perception of the role of accounting in the information environment is undergoing a shift, along with several of its substantive and methodological features (Arnold, 2018). The realities of the modern economy influence the content and nature of accounting information, the format of reporting products, the methodology and structure of the accounting system, and the classification of different types of accounting (Monteiro & Cepêda, 2021). They also shape the definition of accounting's conceptual framework, its scope and objects, and the criteria for their recognition, measurement, and systematization.

When discussing the development of accounting in modern conditions, one must begin with an understanding of its key functions—as a system of informational support for economic and managerial processes that forms the decision-making environment both at the global level and within any socio-economic entity.

First and foremost, this involves recognizing the place, role, and positioning of accounting within the socio-economic system. The traditional view of accounting solely as a practice of generating and transmitting economic (mainly financial) information to interested users narrows its potential application and limits its prospects for development (Schroeder et al, 2022).

By considering accounting merely as a tool for recording past events and presenting information in a commonly accepted, systematized format—restricting its scope to only those subjects that can be measured in monetary terms and reflect the elements of the overall reproduction process, the movement of value flows, and their distribution—we confine it within predetermined boundaries. This approach excludes the possibility of developing its functionality and integrating it with other informational practices.

Such a perspective leads to an underestimation of accounting's societal significance, reduces it to its technical, easily algorithmized component, and opens the door for its gradual replacement by artificial intelligence technologies.

Therefore, there arises a need to understand and clarify two fundamental aspects.

The first is *the expansion of the scope of accounting under modern conditions*—redefining its conceptual domain. This domain now encompasses not only the elements of the overall reproduction process, the movement of value flows, and the relationships surrounding their distribution, but also a wide range of related aspects of organizational activity (Melnyk et al, 2022).

For example, it includes the interests of various groups and institutions that act as stakeholders and, to varying degrees, influence accounting information—social practices, relationships with nature, authorities, territorial entities, market forces, and social strata.

Accounting increasingly addresses temporal and probabilistic factors in value creation, seeks to identify the value characteristics of assets, and considers those aspects of enterprise functioning that cannot be quantified in monetary terms—such as anthropogenic impacts, social responsibility and fairness, contributions to sustainable societal development, and more (Barker et al, 2022).

The second important point is the *multiparadigmatic nature of accounting*. This type of approach is increasingly emphasized in English-language academic literature, where, in recent years, there has been a growing focus on the need to combine the mainstream—or functionalist—paradigm of accounting with elements of constructivism and criticism. In each of these paradigms, the content of accounting and the practices it supports are shaped by the nature and essence of the socio-economic phenomena taking place (Kirian, S., & Radchenko, 2022).

Multiparadigmatism enables the diversification of research and the development of accounting theory, making it more responsive to the needs of the socio-economic environment. This approach allows accounting to be defined not merely as a system that passively fulfills the information needs of economic agents or records economic events, but as one that actively constructs forms of interaction between actors, institutions, and groups. It influences both the market and society, possessing a broad range of functions and intersecting with other discursive fields.

From the perspective of its impact on accounting, digital transformation has a number of significant consequences.

First, it should be noted that, the conceptual framework that underpins the semantics of accounting is, to some extent, undergoing a shift. Traditional meanings of such key categories as *assets*, *claims to assets*, *liabilities*, *resources*, *ownership rights*, and *usage rights* are being expanded and redefined.

For example, assets have traditionally been considered economic resources controlled by an organization as a result of past events and possessing the potential to generate economic benefits. According to the *Conceptual Framework for Financial Reporting*, each right held by an entity constitutes a separate asset; however, for accounting purposes, a set of related rights is often presented as a single unit of account. Ownership of an asset may confer multiple rights—such as the right to use, sell, or pledge it as collateral (Barker et al, 2014).

In the context of the modern economy, an asset may be represented by only a single right—such as the right to use a resource—while control over the asset may be limited, particularly in cases involving shared or leased usage (sharing economy models).

Second, fundamentally new objects of accounting are emerging, requiring identification, valuation, and classification into existing or newly defined categories of accounting elements to be presented within the overall body of accounting information for stakeholders (Akin, I., & Akın, 2024).

While some of these assets—such as virtual digital assets—can be relatively easily categorized based on their economic nature and existing asset recognition criteria (e.g., as intangible assets), other digital-origin objects are harder to assign definitively. For example, tokens may represent claims to services, debt/equity instruments, or access rights, and do not always align clearly with existing asset or liability categories.

The reflection of such new digital objects calls for not only the adaptation of traditional accounting methods, but also the development of new frameworks for their classification, recognition, and taxonomy.

Third, in the digital era, accounting performs a dual function: it reflects digital assets while also producing digital output itself—in the form of multidimensional digital information or encapsulated functionalities that users can access through electronic platforms. In other words, accounting is both *digitized* and *a generator of digital products* (Agostino et al, 2022).

Significant changes are also occurring not only in accounting techniques but in the methodological core of accounting itself. Nearly all elements of the accounting method are being transformed in the context of the knowledge economy and digital technologies. To preserve accounting's identity as an *info-sourcing practice*, it is advisable to move away from viewing these elements as fixed or unchangeable.

While maintaining its methodological foundation, it is crucial to develop and broaden the range of applied methods, ensuring their relevance and adequacy in addressing both existing and emerging challenges in accounting.

Conclusion

The transformation of accounting in the digital era is not merely a technological shift—it represents a fundamental rethinking of the role, scope, and methodology of the discipline. The growing complexity of economic processes, the emergence of new digital assets, and the increasing importance of non-financial and multidimensional data require accounting to evolve beyond its traditional boundaries.

Today's accounting must not only record and report past events but also provide meaningful, forward-looking information that supports strategic decision-making in a volatile and digitized business environment. This involves recognizing and integrating intangible resources such as human capital, reputation, innovation, and sustainability—elements that are crucial for value creation but often lie outside conventional accounting frameworks.

The development of a multiparadigmatic approach, incorporating functionalism, constructivism, and critical perspectives, allows for a deeper and more context-sensitive understanding of accounting phenomena. Such diversity enriches the theoretical foundations of accounting and aligns it more closely with the demands of modern socio-economic realities.

Ultimately, to remain relevant and effective, accounting must embrace digital technologies, expand its conceptual scope, and develop new models of recognition, measurement, and reporting. By doing so, it can continue to serve as a vital information system for both financial and broader socio-economic decision-making in the 21st century.

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