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Chapter 2.2. Digitization of Accounting Processes in the Formation of Reporting Indicators under IFRS

Alexander Bradul[1], Vira Shepeliuk[2], Olga Roeva[3]

[1]Doctor of Science (Economics), Professor, Professor of the Department of Accounting, Taxation, Public Management and Administration, Kryvyi Rih National University, Kryvyi Rih, Ukraine, e-mail: bradul@knu.edu.ua, ORCID: https://orcid.org/0000-0001-9544-2175

[2]Ph.D. in Economics, Associate Professor, Associate professor of the Department of Accounting, Taxation, Public Governance and Administration, Kryvyi Rih National University, Kryvyi Rih, Ukraine, e-mail: shepeliuk@knu.edu.ua, ORCID: https://orcid.org/0000-0001-6270-5936

[3]Doctor of Philosophy (PhD), Associate Professor, Associate Professor of the Department of Accounting, Taxation, Public Governance and Administration, Kryvyi Rih National University, Kryvyi Rih, Ukraine, e-mail: Olha.roieva@gmail.com, ORCID: https://orcid.org/0000-0003- 2964-8188

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Abstract. *The modern global economy demands the modernization of accounting and financial reporting systems from enterprises. The digitization of accounting processes has emerged as a key strategy, offering enhanced data utilization, increased transparency, and strengthened financial security. The digitization of accounting processes has become a crucial factor in the modernization of financial reporting systems. This paper examines the role of digitization in the formation of financial reporting indicators under IFRS, highlighting the benefits, challenges, and potential advancements in the field. This study aims to analyze the impact of digitization on accounting processes, particularly in the formation of financial reporting indicators under IFRS. The research focuses on identifying key digital tools such as cloud computing, blockchain, artificial intelligence (AI), and Enterprise Resource Planning (ERP) systems that optimize financial reporting. Additionally, it evaluates the regulatory landscape, the role of technology in compliance, and the broader economic implications of digital transformation in accounting. The study employs a mixed-methods approach, combining qualitative and quantitative analysis. Empirical data is collected through structured surveys and expert interviews with financial professionals, accountants, and regulatory bodies. Statistical analysis is used to assess the effectiveness of various digital tools in ensuring compliance with IFRS and improving financial reporting accuracy. The comparative analysis of traditional and digital accounting practices further highlights the advantages and limitations of digitization. The findings indicate that the digitization of accounting processes significantly enhances financial reporting accuracy, efficiency, and compliance with IFRS. Cloud-based accounting platforms provide secure and accessible financial data management, while AI-driven analytics streamline decision-making. privacy concerns, and the need for regulatory adaptation remain significant. The study underscores the necessity of a structured regulatory framework to facilitate a seamless transition to digital accounting practices. Further research should focus on developing standardized frameworks for digital accounting integration, addressing cybersecurity concerns, and assessing the long-term economic impact of digitization in financial reporting.*

Keywords: *accounting; information; accounting process; accounting digitization; IFRS compliance; financial reporting; digitization; cloud accounting; data accuracy; regulatory standards.*

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1. Digitization of accounting processes: conceptual foundations and key technologies. The current global economic conditions impose new requirements on Ukrainian enterprises regarding the modernization of accounting systems and the preparation of financial statements. These requirements for digitization stem from the necessity to implement modern digital tools that not only ensure more effective utilization of accounting information but also contribute to enhancing the security of enterprise information systems.

Considering the complex challenges of recent years, driven by economic, social, and political factors, the issues of ensuring financial security for economic entities have gained particular significance. In this context, the transformational processes occurring in enterprises are increasingly analyzed for their potential impact on the level of financial security. This necessitates the integration of digital solutions capable of optimizing financial resource management, minimizing risks, and improving the transparency of financial reporting.

Research on digitization in accounting is gaining momentum both in Ukraine and globally. Ukrainian studies primarily focus on the integration of digital tools to address local economic challenges and regulatory requirements. Key topics include the implementation of automated systems for financial reporting and IFRS compliance.

For instance, researchers such as V. Panasiuk, T. Burdeniuk, and N. Muzhevych (Panasiuk, Burdeniuk & Muzhevych, 2021) highlight the introduction of modern digital tools into accounting systems, emphasizing the specific features of each tool. They identify key aspects of automating accounting processes and analyze the advantages and disadvantages of tools such as cloud technologies, ERP systems, and analytical platforms.

The works of A. Poltorak and V. Palamarchuk (Poltorak & Palamarchuk, 2019) are noteworthy as they focus on the transformation of accounting under the influence of digitization. Their studies examine the integration of artificial intelligence into accounting systems, the automation of routine operations, and the use of blockchain technology to ensure the transparency of financial data.

Similarly, I. Spilnyk and M. Paliukh (Spilnyk & Paliukh, 2019) emphasize the strategic advantages of digitization for enhancing enterprise competitiveness. Their research demonstrates how the use of big data and analytical models can optimize decision-making processes.

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Special attention is also drawn to the work of Y. Popivniak (Popivniak, 2020), which examines the evolution of accounting in the era of digital technologies. The author provides a detailed analysis of the impact of digitization on key accounting functions, including the automation of financial analysis, preparation of IFRS-compliant reports, and the integration of digital solutions in an international context.

At the international level, researchers focus on the role of artificial intelligence, blockchain, and big data in transforming accounting practices. For instance, D. Tapscott, in his book *Blockchain Revolution: How the Technology Behind Bitcoin is Changing Money, Business, and the World* (2016), examines the application of blockchain in accounting processes. He describes how companies like IBM use blockchain to register transactions, significantly reducing audit time and enhancing transparency.

R. Kaplan and S. Johnson, in their works *Relevance Lost: The Rise and Fall of Management Accounting* (Johnson & Kaplan, 1987), emphasize the need to modernize accounting systems through automation, highlighting the role of digital platforms such as QuickBooks and Xero in ensuring real-time accounting. While their studies underline the benefits of real-time financial analysis and simplification of auditing processes, challenges such as cybersecurity, data integrity, and a shortage of qualified professionals remain relevant.

Globally, digitization in accounting is a transformative process involving the use of information technology to automate accounting processes, process financial data, and integrate modern innovations into daily accounting practices. Digital tools help minimize errors, improve the quality of financial reporting, and ensure transparency for investors and regulatory authorities.

In today’s globalized and volatile market conditions, along with increased transparency requirements for financial information and the necessity of rapid adaptation to change, digitization has become a key strategic direction for enterprise development.

The processes of digitalization represent a contemporary trajectory for the development and modernization of accounting systems, emphasizing the transformation of traditional accounting methods through the application of digital technologies.

Researchers such as Huseva O. Yu. and Legominova S. V. (Huseva & Legominova, 2018) describe digitalization as a "deep transformation and

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penetration of digital technologies aimed at optimizing and automating business processes, improving productivity, and enhancing communication with consumers."

Key Features of Modern Digitalization in Accounting:

- shifting entirely from manual, paper-based processes to digital systems;
- ensuring the legal validity of documents in a digital environment through the use of electronic signatures;
- integrating accounting processes directly into production cycles without disruptions;
- adhering to laws such as "On Electronic Documents and Electronic Document Flow" and "On Accounting and Financial Reporting in Ukraine," including the creation of legally significant electronic documents with electronic signatures;
- employing comprehensive software systems that facilitate the closed-loop integration of digital technologies into business processes, enabling rapid and effective decision-making;
- replacing traditional paper archives with digital archiving solutions;
- creating tools that simplify tasks and enhance the efficiency of accounting work (Benko & Sopko, 2010).

According to Bagatska K. and Heidor A. (Bagatska & Heidor, 2019), the digitalization of accounting in Ukraine proceeds through several key stages:

- involves the automated generation of accounting documents using specialized accounting software;
- ensures the fast and accurate processing of information;
- achieved through the use of digital platforms and automated financial tools.

Numerous researchers define digitalization as an effective tool for optimizing and modernizing contemporary business processes. Huseva O. and Legominova S. (Huseva et al., 2018) emphasize digitalization as the deep transformation and penetration of digital technologies into business operations, focusing on automation, productivity enhancement, and improved communication with consumers.

Loboda N. and Chabaniuk O. (Loboda & Chabaniuk, 2021) broaden this perspective, asserting that digitalization encompasses not only the automation of accounting operations but also strategic enterprise management processes as a whole.

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An analysis of scholarly sources reveals that the concept of "digitalization of accounting" lacks a clear and unequivocal definition. The primary reason for this ambiguity lies in the fact that digitalization is closely linked to adjacent categories, complicating its study and precise delineation.

For example, Artemieva O. and Tomsh A. (Artemieva & Tomsh, 2020) provide an interpretation tied to the automation of enterprise management, where accounting is viewed as a functional component of management. They define this process as the foundation for creating a highly organized environment that integrates information systems, telecommunications, software, information technologies, networks, knowledge databases,other informational resources.

This interpretation emphasizes digitalization as more than a technical advancement—it is a holistic approach to streamlining and automating the various layers of an enterprise's operations, with accounting playing a pivotal role within this integrated framework.

Thus, digitalization is not merely a technical process but a strategic approach to optimizing business processes. It integrates the use of digital technologies, automation of accounting and management tasks, reduction of expenses on informational resources, enhancement of decision-making efficiency, and improved transparency in enterprise operations.

Based on an analysis of the conducted studies, the authors propose the following definition of "digitalization of accounting":

Digitalization of accounting is a comprehensive process of integrating digital technologies and information systems into traditional accounting processes. Its purpose is to optimize and automate these processes, enhance the accuracy and timeliness of accounting information, prepare financial reports in compliance with international standards (IFRS), and ensure the transparency, security, and real-time integration of financial data.

This concept implies that accounting processes within business entities are automated and optimized for transition to digital platforms. These platforms facilitate accounting practices by reducing paper-based operations, improving the accuracy of accounting data, and accelerating the processing of information.

2. Digital Tools in Accounting Processes. In the era of digitization, financial reporting has transitioned to automated, fast, and accurate formation processes utilizing modern digital tools. These tools ensure compliance with

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International Financial Reporting Standards (IFRS) and enhance the transparency of financial indicators.

International standards enable the integration of digital technologies with IFRS, effectively adapting financial reporting to global requirements. This reduces errors and ensures compliance while making financial information accessible to stakeholders.

Thus, the digitization of accounting is an innovative approach that combines accounting processes, automation, financial reporting, and international standards. It aims to modernize accounting methods, improve transparency, enhance financial management efficiency, and optimize communications between businesses and their stakeholders.

Accounting processes are undergoing intensive digitalization, driven by the need to increase the speed, accuracy, and efficiency of accounting information. Modern digital tools automate routine tasks, reduce accounting errors, ensure compliance with IFRS, and enhance financial transparency.

To implement accounting digitization, enterprises need to select programs that meet their specific needs. The most common specialized software tools for enterprise accounting include Debit-Plus, SAP, BAS, iBuh Online, SMARTfin.ua, Zarplata 24, TORGSoft, FIT Budget, KBS, BookKeeper, MASTER: Accounting, IT-Enterprise, and others. For online form completion and automatic submission of reports, businesses use tools such as MEDoc, Sota, BAS Accounting, iFin, Liga: Report, iBuh Online, Privat24 Electronic Accounting, Sonata, among others.

The following table consolidates the primary modern digital tools employed for automating processes, analyzing data, processing financial information, and enhancing accounting practices in enterprises (Table 2.5).

The main technologies used in digital accounting include the following:

- BAS – Covers all business functions of an enterprise. The software is designed for both large corporations and small and medium-sized businesses. It aims to automate accounting, management, and tax reporting for entities engaged in any type of commercial activity. Accounting and tax records are maintained in accordance with the current legislation of Ukraine.
- SAP ERP and Oracle ERP Cloud – Integrated platforms for managing business processes, which include accounting, financial reporting, budgeting, supply chains, and more.

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Table 2.5. Modern Digital Tools for Digitizing Accounting Processes in Ukrainian Enterprises

No.	Digital Tools	Description	Key Functions
1	Accounting Automation Systems	Software solutions for automating accounting functions and financial planning.	Automating accounting processes, preparing reports, and controlling expenses.
1.1	BAS	A popular Ukrainian platform for accounting automation.	Automatic report generation, expense tracking, and integration with local and international standards.
1.2	QuickBooks	An intuitive tool for small and medium-sized businesses.	Finance management, expense tracking, and payroll calculation.
1.3	Xero	A cloud-based accounting service.	Monitoring expenses, preparing financial reports, and integrating financial data.
2	Cloud Accounting Services	Technologies enabling access to accounting data in a cloud environment.	Network services for storing accounting data and collaborative document management.
2.1	Google Workspace, Microsoft Azure	Cloud infrastructures for accounting information storage.	Cloud storage, team information exchange.
3	Artificial Intelligence (AI) Tools	AI-based tools for analyzing accounting data, identifying risks, and forecasting.	Financial data analysis, anomaly detection, and indicator forecasting.
3.1	IBM Watson Analytics	An analytical tool with AI capabilities.	Financial indicator analytics and forecasting.
3.2	Microsoft Power BI	Data visualization and AI-based analytics.	Data analytics, financial report creation, and analytical forecasting.
4	Blockchain Technology	Decentralized technology for transparent and secure financial data storage.	Immutable record creation, audits, and data security.
4.1	Blockchain for Financial Accounting	Blockchain-based tools ensuring accounting data transparency.	Automated audits and enhanced trust in accounting data.
5	ERP Systems (Enterprise Resource Planning)	Integrated systems combining accounting with other business processes on a single platform.	Financial planning, accounting, analytics, and supply chain management.
5.1	SAP ERP	A comprehensive system for accounting and resource planning.	Integrated accounting, report preparation, analytics, and inventory management.
5.2	Microsoft Dynamics 365	A platform for managing financial and accounting operations.	Financial reporting, analytics, and customer relationship management (CRM).
6	Electronic Document Management Tools	Services for effective document exchange between counterparties and within companies.	Supporting electronic document exchange and ensuring legal validity.
7	Analytical Platforms	Specialized tools for financial analysis and business performance monitoring.	Financial indicator reviews, trend analysis, and risk forecasting.
7.1	Tableau, QlikView	Business analytics platforms.	Financial data analysis, visualization building, and forecasting.

Source: systematized by the authors

– SaaS – Tools for the automatic preparation of reports in compliance with international standards (IFRS).
– Electronic Document Management (e-docs) – Software solutions that ensure efficient exchange of accounting documentation between counterparties.

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– BigData – Enables the storage and processing of accounting data, management, and review of all accounting information related to a particular enterprise.
– Microsoft Office 365 – Allows multiple users to work with data simultaneously, providing the ability to process, verify, and edit information.
– BookKeeper Digital Accounting Service – Provides capabilities for maintaining accounting records, preparing and submitting financial reports to relevant authorities, recording fixed asset operations, acquisition and sale of fixed assets and other non-current assets, calculating depreciation, controlling balances at the end of the reporting period, and inventory management.

The listed tools promote productivity, accounting efficiency, compliance with standards, and also provide better interaction with real-time information.

Currently, the most "digitally advanced" economy in the world is that of the United States. The country demonstrates a high level of digitalization, as one-third (33%) of its Gross Domestic Product (GDP) is influenced by digital technologies. Furthermore, a significant portion of the financial sector—approximately 60%—has already transitioned to a digital foundation, making it one of the most digitally advanced in the world. The communications sector in the United States is actively developing in the direction of digitalization, emphasizing the importance of creating and maintaining modern, resilient digital platforms that will ensure long-term development and sustainability in the global market.

Another country with active digitalization of its economy is China. The China Research Institute identifies six key areas that define the development of the digital economy (Nazarenko, 2020):

1.*Infrastructure* – this refers to the construction, expansion, and continuous improvement of modern digital infrastructure. It includes the establishment of high-speed internet networks, data centers, and cloud computing resources, which serve as the backbone of digital transformation. The focus on digital infrastructure ensures that businesses and government agencies have the necessary tools to implement advanced technologies and improve service delivery.

2.*Integrated programs* – the development of comprehensive, integrated programs aims to facilitate the effective implementation of digital solutions across various sectors of the economy. These programs often involve cross-sector collaboration, unifying efforts from government agencies, private enterprises,

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and technology providers. The goal is to ensure that digital technologies are seamlessly adopted and integrated into existing business processes and governance structures, driving both efficiency and innovation.

3.*Business transformation* – the transition of companies to new technological platforms and the automation of business processes is a critical aspect of China's digital economy. This involves adopting cutting-edge technologies such as artificial intelligence (AI), big data analytics, and cloud-based solutions to enhance operational efficiency, reduce costs, and drive innovation. Companies are also rethinking traditional business models, adapting them to the digital age by creating new value propositions and improving customer experiences.

4.*Transformation of government agencies* – the introduction of digital innovations into the public sector is another vital area of focus. The Chinese government has been actively modernizing its public administration systems by implementing digital technologies for e-governance, data-driven policymaking, and enhanced service delivery. This transformation allows for better management of public resources, improved transparency, and faster decision-making, which ultimately results in more effective governance.

5.*Regional development* – the application of digital tools at the regional level is essential for achieving balanced economic development across China. By leveraging technologies such as digital platforms, smart cities, and data analytics, regions are able to improve their economic competitiveness, streamline local services, and foster innovation. Digital tools help address regional disparities in development, ensuring that smaller or less developed areas benefit from the country's overall digital growth.

6.*Digital governance* – the optimization of management functions through digital technologies involves the use of digital tools and platforms to enhance decision-making, resource allocation, and governance practices. Digital governance in China includes the automation of routine tasks, improved data management systems, and the use of digital tools for better policy formulation and implementation. This leads to more efficient and transparent governance, as well as the ability to quickly adapt to changing conditions.

These six key areas represent the cornerstone of China's approach to fostering a digital economy, which is not only revolutionizing its domestic

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landscape but also positioning the country as a global leader in digital transformation.

We will give examples of key countries that have taken significant steps in the direction of digitalization of IFRS-Reporting (Table 2.6).

Table 2.6. International Experience in Implementing Digital Technologies in IFRS Reporting

Country	Digital Technologies / Tools	Examples of Application	Implementation Results
USA	XBRL (eXtensible Business Reporting Language)	Standardized reports via XBRL at the SEC (Securities and Exchange Commission)	Automated analysis, quick access to data, reduced reporting preparation time
United Kingdom	Cloud services, Artificial Intelligence (AI)	Use of cloud platforms for processing financial data	Faster report generation, increased transparency of financial information
Australia	XBRL, Blockchain, Cloud technologies	ATO (Australian Taxation Office) applies blockchain and electronic document management	Improved financial data exchange, increased audit efficiency
Germany	ERP systems, Artificial Intelligence	Use of SAP for automating accounting processes	Increased efficiency, reduced data processing costs
Canada	Cloud platforms (Microsoft Azure, Google Cloud)	Integration of cloud solutions for processing financial information	Reduced costs, fast access to data, technology integration into financial reports

Source: systematized by the authors

Digitalization in accounting processes is a key area of modernization in the financial and managerial sectors in Ukraine. In Ukraine, digitalization in accounting is being achieved through the integration of modern information technologies, automation of business processes, electronic document management, and other innovations.

A significant portion of accounting tasks in Ukraine is automated using accounting programs such as BAS, QuickBooks, SAP, and ERP systems, which help reduce manual labor, increase the speed of information processing, and minimize the likelihood of errors.

The implementation of electronic document management allows for the automation of information exchange between counterparties, taxpayers, banks, government agencies, and others. The use of electronic signatures in Ukraine, in accordance with legal requirements, simplifies document verification and ensures their legal validity.

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Cloud services are actively used for the storage and processing of accounting data, allowing real-time access to information, remote access to accounting systems, and enhancing data security.

Electronic reporting systems enable businesses to submit reports to tax authorities in real-time, reducing processing time and minimizing the likelihood of errors. In Ukraine, platforms such as the Electronic Taxpayer Cabinet are actively used, providing the ability to submit reports, check account statuses, and perform other financial operations.

Innovations such as artificial intelligence, blockchain, analytical tools, and big data are applied to enhance the effectiveness of accounting, financial data analysis, and forecasting based on analytical information.

3. Prospects for the digitalization of accounting in Ukraine. The digitalization of accounting processes in Ukraine is a necessary step to improve accounting efficiency, ensure the transparency of financial reporting, and adapt to international standards. The implementation of modern information technologies, automation of accounting tasks, and electronic document management will enable Ukrainian enterprises to enhance their financial performance, reduce costs, and ensure access to global markets.

Enterprises in Ukraine that have public interest, as well as corporations, use various information technologies for managing accounting processes. Therefore, under current conditions, there is an increasing demand for information that reflects the status and results of corporate activities. In any system, there is information that must be processed according to specific rules. The description and tracking of data processing rules are performed by a specialized system – a business process management system (often referred to as a Workflow system), which supports methodological consistency.

Workflow, or Business Process Management System, is a specialized information tool used to automate, organize, and optimize business processes within enterprises, particularly those that have public interest or function as large corporations. From a scientific perspective, Workflow represents a set of interconnected tasks, operations, information flows, and rules that ensure the effective execution of business processes, including the processing of accounting information, financial reporting, and decision-making based on analytical data.

To manage, monitor, and optimize work related to the processing of accounting information and financial reports, a business process management

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system is employed. The system ensures methodological consistency, enabling enterprises to meet modern requirements for transparency, efficiency, and compliance with international accounting standards. Workflow systems integrate with various information platforms, facilitating seamless data transfer between different company departments and enabling the integration and consolidation of accounting, financial, and analytical information.

Through the implementation of Workflow, enterprises can ensure compliance with national and international standards and ensure the timely preparation and submission of reports in accordance with legal regulations. The system automates routine accounting operations, including the processing of financial data, report generation, cost analysis, risk assessment, and more.

In general, accounting can be considered as a comprehensive information system, with each of its sections functioning as a subsystem and a set of tasks. These tasks differ from the system in that they contain result-oriented information about qualitatively different assets: material, labor, and financial, which correspond to the sections of accounting.

All subsystems, modules, and tasks have varying degrees of generalization of information about the objects of accounting on both analytical and synthetic accounts. Each subsystem is characterized by the following features:

1.It has specific informational inputs and outputs;

2.The output information (intermediate, reporting) is suitable for direct use in management and has logical completeness;

3.The output information (reporting indicators) is generated based on a specific methodology grounded in current legislation;

4.The synthetic accounting of subsystems and computerized accounting information systems (CAIS) reflects the formation of indicators for the preparation of account reconciliations;

5.The analytical accounting of subsystems and CAIS details and specifies synthetic indicators;

6.The output information from both synthetic and analytical accounting is transferred to CAIS or other subsystems;

7.The reporting tasks, including the formation of reporting indicators, are solved within the subsystem or in CAIS according to the adopted corporate strategy.

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A comprehensive information and accounting system (CIAS) is an integrated system that ensures accounting, analysis, financial reporting, enterprise management, and other functional tasks. However, defining clear boundaries between CIAS, subsystems, modules, and tasks is often challenging due to their interdependence, complexity, and multifunctionality.

Key functions of CIAS:

- accounting for business transactions;
- formation of financial reporting;
- resource planning and decision-making;
- analysis of financial flow effectiveness;
- support for compliance with international accounting standards (IFRS).

Subsystems are individual functional components of CIAS that specialize in performing specific tasks or groups of tasks. Each subsystem covers a particular block of business processes.

In the accounting of material resources, for example, in a subsystem, their analytical accounting is conducted in the following directions:

Current accounting of the receipt and disposal of material values, including small household property, in both physical and monetary terms (at accounting prices) by types of materials;

1) accounting for the sale of material circulating assets;
2) preparation of statistical reporting;
3) issuance of output information on claims;
4) control of warehouse inventories and material consumption norms.

However, accounting with suppliers can be centralized within the CIAS and handled in the following ways:

a) Based on the supplier invoice information for materials entered autonomously;

b) Based on the supplier invoice information for materials automatically transmitted from the subsystem to the CIAS.

The separation of information flows helps organize the distribution of specific tasks (subtasks) between subsystems and the CIAS. Accounting information contains double-entry bookkeeping, forming a closed loop of information links in accounting.

A distinctive feature of CIAS is that it integrates all sections (subsystems) of economic information under a unified principle—double-entry bookkeeping in

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both synthetic and analytical accounts. This implies that when designing subsystems for accounting information, it is necessary to define the account reconciliations (entries) formed within these subsystems, through which the information will be transferred from the subsystems to the CIAS.

Our research on the target design of the organizational structure of accounting in CIAS provides grounds for highlighting the features of designing the following informational subsystems:

1.*Subsystem "Accounting of Material Resources",* intended for accounting all types of resources that have a physical form and are used in the production activity of the enterprise. It covers the accounting of resources such as raw materials, materials, finished products, spare parts, goods, and other resources that ensure the continuous production and management process. The use of modern digital tools ensures the accuracy, transparency, and timeliness of information, allowing effective cost management and minimizing financial risks associated with resource shortages or their improper use.

2.*Subsystem "Accounting of Labor Resources"*. This subsystem is responsible for the accounting of wages by types and employee numbers (hourly and piecework pay, payments based on average earnings, vacations, bonuses, insurance payments for temporary disability), deductions (taxes, court orders, damages from work errors, etc.), preparation of payroll and payment documents, personal accounts, and reports. A key feature of the "Accounting of Labor Resources" subsystem in corporations is that it is based not only on payroll programs, computerization of time tracking, and human resources department operations, but also on the corporation's strategic mission and the impact of labor resources on it.

3.*Subsystem "Accounting of Financial Resources"*. This subsystem ensures the accounting of all financial resources of the enterprise, allowing management to perform analysis, planning, and effective control over the financial activities of the organization.

4) *Subsystem "Accounting of Production and Sales of Finished Goods"*. This subsystem accounts for unfinished production, defects, auxiliary production, the cost of finished goods, and the movement of finished goods into stock and their delivery in both physical and accounting values. It includes the tracking of shipped goods, monitoring delivery performance, and compiling reports on production costs, as well as generating financial performance indicators.

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5) *Subsystem "Reporting".* In this subsystem, the General Ledger is maintained, consolidated balance sheets are prepared, and reports for business units and business processes are created. It also covers tax reporting and special-purpose reports, ensuring that the enterprise complies with regulatory and reporting standards.

Table 2.7. Types of accounting in the "Financial Resources Accounting" subsystem

Type of Accounting	Description and Functions
Cash Accounting	Accounts for the movement of cash within the enterprise, controls balances on accounts, and monitors the movement of financial flows between different accounts.
Accounts Receivable Accounting	Includes tracking amounts that customers owe to the enterprise, monitoring debt repayment deadlines, and assessing risks of non-payment.
Accounts Payable Accounting	Records the enterprise's debts to suppliers, banks, and other counterparties, and controls payment deadlines.
Investment Accounting	Covers accounting for financial investments made by the enterprise, monitors investment effectiveness, and assesses profitability.
Financial Reserves Accounting	Includes accounting for reserves created to cover financial risks, unforeseen expenses, and potential losses.
Expense and Funding Source Accounting	Accounts for expenses incurred in business activities and analyzes the sources of financing for the enterprise.
Capital Movement Accounting	Tracks financial flows coming from shareholders, investors, and the allocation of these funds for the development of the enterprise.

Source: systematized by the authors

These subsystems ensure that the enterprise's accounting processes are transparent, accurate, and aligned with business objectives, providing the necessary tools for effective decision-making and operational efficiency

4. Inline XBRL as a key tool for IFRS reporting. Financial (accounting) reporting is a crucial tool that reflects the actual financial condition of an enterprise, its financial results, and development prospects. Ensuring the accuracy, transparency, and completeness of information in financial statements is one of the state's priority tasks, particularly through regulatory bodies. The transparency of financial statements has a direct impact on the investment climate in a country and the possibility of effective cooperation with developed Western countries.

Modern trends in digitalization significantly influence all stages of financial reporting — from its preparation to submission, processing, and analysis of indicators. Digital transformations are changing the traditional reporting format, transforming it into an interactive, adaptive, and dynamic tool that is generated

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in real-time, which is an important factor for improving the effectiveness of management decisions and the transparency of financial flows.

An especially important component of the digitalization of financial reporting is the introduction of the XBRL (eXtensible Business Reporting Language) standard in Ukraine. XBRL reporting involves the use of the widely adopted XBRL standard, which is used in many countries worldwide, as it enables the processing of large volumes of information and represents a unified system for the interaction of management, financial, and tax accounting. The application of this system simplifies the exchange of information between different structural units of a single enterprise as well as between various enterprises. This technological solution allows the presentation of financial statements in a standardized electronic format, which is part of the International Financial Reporting Standards (IFRS). In Ukraine, a system is in operation based on the Inline XBRL format, in compliance with the national UA XBRL IFRS taxonomy, following the "single window" principle (Popivnyak, 2020). This approach ensures the unification, standardization, and simplification of the exchange of financial data between different market participants and also enhances the level of transparency in financial information.

The transition of Ukrainian enterprises to prepare financial statements in accordance with IFRS and the accompanying digital innovations can be considered a strategic step in the fight against the shadow economy. This process allows for more effective control of financial flows and minimizes risks associated with data falsification. The task of ensuring transparency and the speed of information processing necessitates the full automation of the reporting process and the implementation of cutting-edge digital technologies.

On the other hand, the introduction of international standards and the digitalization of reporting open up new opportunities for Ukrainian enterprises in the international market and also promote the attraction of foreign investments.

Digital, electronic, or IT-oriented financial reporting is a modern format that relies on structured, computer-oriented forms. It is the result of integrating information technology into accounting processes and is oriented towards handling larger volumes and greater complexity of accounting information. This approach ensures rapid processing, high accuracy, integration of large data sets, and efficient transmission of accounting information in a digital environment (Spilnyk & Palyukh, 2019).

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Online reporting refers to the process of generating and publishing financial statements in real-time on an enterprise's official website after registering each business transaction in accounting entries, which function as synthetic accounts. The online approach ensures transparency, timeliness, and accessibility of information for all stakeholders in real time.

Digital innovations such as online reporting and IT-oriented formats contribute to the implementation of advanced methods for processing accounting data, ensuring high-quality information for making strategically significant management decisions. Thus, the digitalization of financial reporting according to IFRS in Ukraine is not just a technical innovation, but also an important strategic tool that enhances transparency, accountability, and the integration of the Ukrainian economy into the global financial community.

5. Cloud accounting systems, blockchain: economic benefits and implementation challenges. Among the contemporary trends in digital technology development, particularly in accounting processes related to the preparation and submission of financial statements, are cloud technologies and blockchain.

A modern trend in accounting innovation is the adoption of cloud technologies, which provide businesses with increased flexibility, efficiency, and accessibility in managing accounting processes. Cloud technologies are a model for processing and storing digital information on remote server capacities. All businesses, regardless of ownership structure or industry, utilize cloud technologies for accounting purposes. Cloud accounting systems enable companies to store and process data online, ensuring flexibility and accessibility from any location.

This approach to accounting has distinct advantages compared to traditional on-premise systems. Accounting data is stored in the cloud, allowing it to be accessed from any location and on any device with internet access. Cloud accounting systems typically operate on a subscription basis, allowing businesses to pay only for the resources they use. This is especially cost-effective for small and medium-sized enterprises.

Most cloud accounting systems adhere to high security standards, including data encryption. Regular data backups ensure security and recovery in case of necessity. Storing and managing business operations in the cloud provides near-

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total protection against malware and unauthorized access. Access to any service is controlled by the service provider and the business owner.

One of the key benefits of cloud solutions for businesses is the ability to scale their IT infrastructure up or down as needed. Starting with a single database, a business can gradually scale up, building its own cloud-based business space. This scalability provides companies with significant operational flexibility and efficiency, making cloud accounting a highly attractive choice.

Many cloud accounting systems have the ability to easily integrate with other business applications, such as customer relationship management (CRM) systems or supplier relationship management (SRM) systems, which allows the creation of a unified ecosystem to support various business processes.

Cloud technologies also deserve attention in the context of the processes involved in the formation of financial reporting (Kulynych & Zhylenko, 2019; Putsenteylo & Dovbush, 2021; Semanyuk, 2018). The use of cloud technologies typically involves one of three models:

1.Infrastructure as a Service (IaaS) – providing access to a virtual PC that can be used like a regular computer for performing current tasks.

2.Platform as a Service (PaaS) – providing a platform for developing and using web applications, including those related to financial accounting and reporting.

3.Software as a Service (SaaS) – providing software that operates on a virtual computer for performing financial and accounting operations.

Let us consider the use of cloud technologies for BAS accounting software (bas-hmara). This service allows users to work in the program and access all its products without being tied to a specific location. Data storage is secured through encrypted information transmission channels. Local issues, such as hardware server malfunctions, internet problems, or electricity outages, will not affect the data. Remote access is available only to the client. Cloud-based online accounting does not require clients to purchase a virtual server, manage the infrastructure, or subscribe to updates. All that is needed is an internet connection and payment for the rental fee. BAS is deployed on the cloud server of the provider. The client receives a password, which allows them to connect to the system from any device via the internet without installing additional software. The client always works with the latest version of BAS and does not need to address technical matters.

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BAS hosting is an optimal solution for businesses that need to ensure the uninterrupted operation of the program and the database.

Recently, both globally and in Ukraine, enterprises have been adopting the operational method of accounting known as Cloud accounting. This approach to accounting organization has become an integral part of modern accounting processes, ensuring automation, accessibility, and the efficiency of managing financial activities within enterprises.

The implementation of "cloud accounting" is an innovative approach to managing accounting processes, providing flexibility, resource savings, and access to advanced technologies. For example, in the United States and European Union countries, most small and medium-sized enterprises use cloud accounting to automate tax reporting and financial management.

In Ukraine, the MEDoc system is an example of the use of this method. The MEDoc system is actively used by economic entities for electronic document management, particularly in the preparation of accounting reports.

"Cloud accounting" is a fundamentally new model of bookkeeping that differs from traditional methods.

Firstly, the implementation of "cloud accounting" does not require enterprises to invest in purchasing servers, backup systems, software licenses, or antivirus programs. Small and medium-sized businesses can use less powerful computers, as the main data processing is carried out in the cloud environment. This implementation of the accounting method reduces company costs. Users can access data at any time and from any device connected to the Internet, including mobile phones and tablets. Limitations related to the capabilities of local devices are eliminated, which contributes to increasing employee productivity.

Cloud-based accounting software ensures a high level of security. Data is stored on servers of companies specializing in cloud services, which invest significant resources in protocols to protect against network attacks. Thus, the risks associated with physical disasters (fires, thefts, floods), which are characteristic of traditional accounting systems, are reduced. Cloud services guarantee continuity of operations through data backup and the geographic distribution of servers. This ensures data protection even in the event of force majeure circumstances.

As we can see, "Cloud accounting" demonstrates significant advantages over traditional methods due to its cost-effectiveness, flexibility, high security,

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and resilience to external threats. Therefore, the development of the "cloud accounting services" process is expected in the coming years. This approach to organizing accounting meets modern requirements for the automation of accounting processes and creates new opportunities for businesses in the context of digital transformation.

Thus, organizing accounting in a cloud environment brings changes to the process of bookkeeping, documentation, and submission of reports to interested users. The use of cloud technologies enables efficient communication with company employees, investors, contractors, banks, and other regulatory bodies by providing access to the information needed by the respective user, regardless of geographical location or time.

When discussing the prospects of blockchain technology, it stands out as the most innovative and promising digital technology that is transforming approaches to accounting processes, as well as the generation and submission of financial reports. Its implementation in the field of financial reporting provides a new level of transparency, reliability, and data protection. Blockchain ensures decentralized data storage, where every participant has access to real-time updated information, reducing the risk of data falsification, as all changes are recorded and confirmed by network participants.

Blockchain technology enables the integration of business accounting systems into a decentralized network, where all data is automatically updated in real-time, ensuring accuracy and relevance in financial reporting. The use of blockchain technologies allows companies to create standardized reports that are easily adaptable to international standards, such as IFRS. Blockchain can be used to create a unified system for submitting reports. Each company submits its financial statements into the blockchain network, where regulators gain access to verified data, minimizing the need for additional checks.

Thanks to cryptographic methods, blockchain technology ensures a high level of information security, reducing the risks of unauthorized access to financial data. Thus, the use of blockchain technology in the creation and submission of reports has significant potential to enhance the transparency, efficiency, and reliability of financial information. The implementation of blockchain in reporting allows Ukrainian companies to meet international standards and compete in global markets.

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Integrated reporting in the context of digitalization requires the implementation of advanced technologies that enhance its quality, usability, and accessibility for stakeholders. The integration of Artificial Intelligence (AI) into accounting processes and financial reporting opens new possibilities for automation, accuracy, and flexibility in financial accounting. Among the most effective tools in this process are AI technologies, machine learning, Robotic Process Automation (RPA), and modern data visualization methods.

AI and machine learning technologies can be used to automate the analysis of large volumes of financial data, helping to identify trends, deviations, and risks. For example, AI systems automatically analyze current financial indicators and generate forecasts based on historical data.

To optimize integrated reporting, businesses can leverage machine learning to adapt reporting models to user needs, generating reports that take into account specific requests or standards. For instance, learning algorithms provide personalized reports for specific groups of investors or regulatory authorities.

Robotic Process Automation (RPA) is a key tool for automating routine tasks such as data collection, processing, and reporting. Automated data gathering using RPA bots enables the retrieval of information from various sources, including ERP systems, financial platforms, and databases, consolidating them into a unified structure and automatically generating reports in compliance with IFRS (International Financial Reporting Standards). These reports can then be submitted electronically to regulatory authorities through "single window" systems.

Visualization and interactive presentation of data using dashboards, interactive charts, and infographics greatly ease the understanding of complex financial indicators. Tools such as Power BI, Tableau, or Google Data Studio can be used to create dynamic data presentations for each reporting item.

Modern companies are increasingly adopting interactive communication tools, such as chatbots, which can respond to user inquiries and provide necessary financial reporting information. Therefore, integrating chatbots for interaction with investors or clients can offer instant responses to questions regarding key financial indicators of a company.

Thus, the use of Artificial Intelligence (AI) in accounting opens up vast opportunities for improving efficiency, automating processes, reducing the

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human factor, and ensuring compliance with the challenges of digital transformation.

In conclusion, the digitalization of accounting processes is a key direction in the transformation of the modern business environment, driven by the growth of global integration and the increasing demand for transparency and timeliness in financial reporting. In the context of globalization, companies are faced with the need to implement innovative solutions that optimize accounting functions, improve their efficiency, and comply with international standards.

Modern digital technologies, such as cloud computing, blockchain, artificial intelligence, and the Inline XBRL standard, create new opportunities for automating accounting processes and integrating national economies into the global financial system. Cloud services provide real-time data access, flexibility in decision-making, and cost reduction in accounting infrastructure. Blockchain technologies ensure transparency, security, and data integrity, which is especially important in the context of increasing information volumes. The use of Inline XBRL simplifies the standardization of reporting and ensures its accessibility to international investors and regulators.

The transition of small and medium-sized enterprises to cloud technologies reduces infrastructure costs, improves data security, and ensures flexible access to accounting information. Cloud services guarantee the reliability of accounting processes even in the event of force majeure situations.

At the same time, the digitalization of accounting processes is accompanied by a number of challenges. These include the need to protect data from cyber threats, adapt the regulatory framework to international standards, and address the shortage of qualified personnel capable of effectively working with modern technologies. Solving these issues requires a comprehensive approach, which includes legislative reform, improving cybersecurity, and developing educational programs to train the next generation of specialists.

For Ukraine, the digitalization of accounting is not only a necessity of the times but also a strategic imperative for enhancing the competitiveness of the national economy. The integration of digital solutions enables businesses to adapt to global standards, attract foreign investment, and improve the efficiency of financial resource management.

On the international level, examples of successful digital technology adaptation in countries such as the USA, the United Kingdom, and China

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demonstrate significant advantages of automating accounting processes: cost reduction, increased data accuracy, and faster reporting. Ukraine can draw on this experience to implement innovations in its own accounting practices, particularly through the popularization of cloud services, blockchain integration, and the standardization of reporting under the "single window" principle (Inline XBRL).

Thus, digitalization is not only a technical update of accounting processes but also a strategic tool for development, contributing to sustainable growth, economic security, and Ukraine's integration into the global economy. The effective implementation of this strategy depends on the synergy of state regulation, business support, and the development of educational initiatives focused on the digitalization of the accounting field. This will create new opportunities for businesses, ensure transparency and trust from investors, and serve as the foundation for the country's sustainable economic growth in the context of globalization.

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