

Accounting Beyond the West: Ukrainian Institutional Evolution and Practical Guidelines

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Abstract. The article examines the evolution and specifics of accounting and management control systems in the small and medium-sized business (SME) segment with an emphasis on the non-Western context, where Ukraine serves as the main case. The author analyzes the transformation of accounting functions: from basic transaction recording to strategic analysis in conditions of digital transformation. It is shown how the Ukrainian context formed its own development trajectory from local software solutions and the 1C/BAS ecosystem to the growth of cloud services and hybrid models. The historical role of the 1C/BAS platform, the influence of institutional factors and geopolitical sanctions on the formation of the Ukrainian automation school are examined.

Special attention is paid to comparative analysis of Western models oriented toward stability, and the Ukrainian approach, where the determining factor is system flexibility to changing legislation. Based on analysis of the software products market, practical guidelines for business regarding solution selection and management control construction are formulated. A conceptual vision of next-generation accounting system is presented, the key element of which is an embedded AI-auditor. The proposed model is based on integration of time-tested accounting logic (postings, registers) with the power of artificial intelligence operating in real-time for anomaly detection and strategic decision support.

The author concludes that modern accounting infrastructure is transforming into a continuous digital environment, where automation of routine processes, flexible analytics and data transparency become a strategic tool for SME economic sustainability.

Keywords: accounting; management control systems; digital transformation; automation of accounting; outsourced accounting; artificial intelligence in auditing.

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INTRODUCTION

In most countries, small and medium-sized enterprises (SMEs) create a significant portion of jobs and bring new ideas and flexible business models to the market. For these enterprises, effective and timely accounting and management accounting is important, as it forms the basis for conducting business. Over recent decades, automation of financial control and management processes has transformed from an additional tool into a necessity. It helps enterprises increase productivity, avoid errors and reduce risks. The development of automated systems has directly changed the daily practice of accounting, transforming it from mere bookkeeping to management analysis.

The understanding of the role and functions of the accountant has also undergone significant changes. In modern companies, the accountant often acts as a partner to business owners, providing them with necessary information for forecasting and planning (Greenman et al., 2024; Järvenpää, 2007; Zhang et al., 2020).

These factors determined not only the trajectory of accounting systems development, but also the nature of management control, forcing software solutions to adapt to new challenges. This is how the evolution occurred from automating only basic functions to integrating artificial intelligence (AI), continuous audit and predictive analytics (Appelbaum et al., 2017; Kokina & Davenport, 2017; Fotoh & Lorentzon, 2021; Oneshko, 2023; Vitali & Giuliani, 2024; Kokina et al., 2025; Tenyukh et al., 2022; Zhang et al., 2022).

Despite significant progress in accounting and control research, scientific literature focuses predominantly on Western practices (North America, Western Europe and Australia/New Zealand) (Hopper & Bui, 2016). In parallel with this, non-Western contexts remain significantly less researched (Uddin et al., 2017), although they demonstrate their own approaches to building accounting systems (Aderibigbe et al., 2023; Ayinaddis, 2025; Khan et al., 2024).

Note. In this article, the term non-Western is used in an operational sense to denote countries with unstable regulatory environments and accounting systems with deep local customization. The main focus is concentrated on the post-Soviet bloc, primarily Ukraine as the main case.

A good example of such unique approaches is Ukraine, where one software product “1C: Enterprise” (1C) actually became the main accounting tool for SMEs for two decades. This is explained by its flexibility, adaptability to frequent legislative changes and wide availability of programmers (Varennyk & Pestovska, 2021). The technical development of this system combined with administrative factors (legislative fluctuations, special role of chief accountant, sanctions and political restrictions) showed how local conditions determined their own path of digital transformation.

This development trajectory differs from the Western one, where similar platforms are often less dependent on regulatory constraints. Western accounting and control models are based predominantly on digital solutions built according to unified rules, which ensure transparency and stability of processes. In conditions such as Ukraine's, control is formed as a result of combining several layers: legislative requirements, technological innovations, administrative rules and culturally embedded role of the accountant. As a result, a complex package of elements is formed, consisting of IT artifacts, various services, human factor and local practices. Such multifacetedness explains the Ukrainian path in accounting automation, characterized by difference from Western standards and high adaptability to a changing environment.

The article expands understanding of accounting and control in non-Western contexts, showing that innovations here often arise not as imitation of Western trends, but as a response to local challenges and constraints. Using Ukraine as an example, the article examines the evolution of accounting systems from local programs to cloud solutions, the

influence of institutional factors such as legislation and sanctions, and prospects for creating a system with embedded AI. This study shows how small and medium-sized companies rebuild their accounting infrastructure under pressure of crises, institutional changes and digitalization, and how AI agents can additionally enhance transparency and efficiency.

Reliable and flexible accounting systems create a basis for tax discipline, business access to financing, investment attractiveness and SME sustainability. Therefore, all decisions at the level of accounting systems design in companies are directly related to economic development and quality of institutions.

The purpose of this article is to outline the features of SME accounting systems development in Ukraine as an example of non-Western context, describe characteristic patterns of management control systems construction and propose a conceptual vision of next-generation accounting system.

RESULTS

1. Methodology and Approach

The article relies on a practice-oriented and conceptual approach. The empirical basis consists of the author's many years of involvement in implementation and support of accounting information systems for SMEs and large enterprises in Ukraine, combined with analysis of regulatory legal acts, offerings in the accounting software market and relevant academic literature on AI integration, accounting and digital transformation.

The factual material includes implementation projects and consulting tasks that provide observational material on how Ukrainian SMEs transition from outdated local systems to cloud solutions, respond to regulatory changes and sanctions, and reorganize their accounting processes.

The research relies on two theoretical frameworks that help understand the specificity of the Ukrainian context.

1) Institutional

This approach emphasizes that accounting is always connected with rules of the game set by the environment (Otley, 1980; Chenhall, 2003). For Ukraine, key environmental factors were:

cultural: the chief accountant traditionally has high status (practically the second person after the director), which distinguishes the Ukrainian context from Western;

regulatory: constant and unpredictable legislative changes (for example, changes to VAT rules in 2015-2016) forced companies to update accounting practices "on the go";

political: sanctions against 1C in 2017 changed the market and accelerated the search for alternatives (President of Ukraine, 2017);

technological: emergence of software registrars of settlement operations (PRRO), mass implementation of electronic reporting and electronic signatures, active use of Application Programming Interface (API) for banking and payment integrations and e-commerce services ("Rozetka", "Prom.ua"), development of cloud technologies, as well as first steps toward automated checks and analytics based on big data (Tenyukh et al., 2022).

Reference. Electronic digital signature (EDS) in Ukraine has been operating since May 22, 2003 (Verkhovna Rada Ukrainy, 2003). The qualified electronic signature (QES) model was introduced from November 7, 2018 (Verkhovna Rada Ukrainy, 2017). PRRO officially started working from August 1, 2020 (State Tax Service of Ukraine, 2020).

2) Control

In post-Soviet countries, the control system was formed not as a single unified Enterprise Resource Planning (ERP) or Software as a Service (SaaS), but as a combination of interconnected elements forming a whole package (Malmi & Brown, 2008):

IT artifacts: 1C as the core (accounting, management accounting), industry configurations (trade, production, agricultural sector, service sector), extension modules (1CPP, Formex), extensions for specific processes (consignment notes (CN), exchange with client-bank, Customer Relationship Management (CRM)).

administrative services: electronic reporting, QES, PRRO for cash operations, electronic document management (EDM) services, integration with banking gateways and state registers.

human factor: the chief accountant acted not only as a registrar, but also as controller, manager and business owner advisor; often he determined which IT solutions to implement and how to adapt the system to environmental changes.

administrative mechanisms: internal regulations, job descriptions and policies that were coordinated with software systems capabilities; formation of internal control procedures (for example, separation of access to cash, warehouse, payroll).

- cultural practices: tradition of duplicating digital and paper registers as insurance, adaptation of systems to shadow or semi-legal activity, high level of accountant's personal responsibility.

2. Historical Development

Beginning of Accounting Automation

After the collapse of the USSR, enterprises faced the need to quickly create their own management and accounting systems (Bailey, 1995). Western ERP systems ("SAP R/3", Germany, 1992; "Oracle Financials", USA, 1989) and accounting packages ("QuickBooks", USA, 1992; "Sage", Great Britain, 1981) proved unsuitable for post-Soviet SMEs. The former – due to excessive cost and complexity, the latter – due to lack of localization. The formed vacuum was filled by the system 1C (1991). It offered simplicity, accessibility and extensive platform tools for adaptation to changing market conditions.

Initial versions of 1C worked on DOS and Windows operating systems, used databases in DataBase File (DBF) format and included their own configuration tools. An important step was the use of register-based accounting model, where business operations are reflected in the form of documents, the posting results of which are transformed into accounting entries. This allowed enterprises to keep accounts without needing to buy expensive specialized solutions.

The role of chief accountant in accounting deserves special attention. In post-Soviet organizations, he performed the role of co-manager, which caused close interweaving of accounting and managerial functions in control systems. Initially, accounting was viewed as a technical tool for recording enterprise work results (Solodchenko & Sucher, 2005). Later, analysis and even elements of strategic planning were added to accounting. The chief accountant combined functions of financial controller, manager and director advisor, often becoming the second person after the director with a high level of professional and even criminal responsibility (post-Soviet countries practice). This confirms that management control systems are formed under the influence of specific company context, and often people's skills and their interaction matter no less than the technical infrastructure itself (Chenhall, 2003).

Mass Implementation

At the turn of the 1990s-2000s, version "1C: Enterprise 7.7" (1C 7.7) became most widespread, which was the most popular business automation program for Ukrainian companies. Its key feature was that it was not only a ready-made software solution, but a full-fledged development platform. It allowed creating custom configurations and adapting the system to specific business processes. Based on this platform, localized configurations were created, developed by ABBYY Ukraine company: "1C 7.7: Accounting for Ukraine", "1C 7.7:

Trade and Warehouse”, “1C 7.7: Production + Services + Accounting”, “1C 7.7: Payroll and Personnel”. These *typical solutions* were adapted to Ukrainian legislation, which changed almost annually. But this alone did not ensure 1C's stable leadership in the market.

During this period, an extensive network of integrators (programmers and consulting companies) was formed, who not only implemented typical solutions but also adapted them to different industries (trade, restaurant sphere, production, logistics, service sector, etc.). Customization became common practice, when even small enterprises could order system refinements for their own needs, unlike Western ones where such possibility was limited. This stage can be considered the beginning of formation of the Ukrainian accounting automation school, which combined localized typical solutions, own developments and extensive network of implementers.

The Ukrainian accounting solutions market of late 2000s - early 2010s moved in three parallel directions:

- traditional boxed accounting systems (1C, “ISpro”, “Master: Accounting”, “AB Office”, “Debet Plus”);

- electronic reporting and EDM infrastructure (“M.E.Doc”, “Sonata”, “Art-Zvit”, “Fredo”, “Takser”);

- cloud accounting services (“iFin”, “SMART accounting”, “BookKeeper”, “Dilovod”, “SmartFin”, “FreeZvit”).

Also during this time, the practice of separating financial and management accounting became widespread. Accounting was traditionally kept in 1C or similar programs. And management accounting was implemented in various ways:

- within the same platform (separate configurations or parallel databases);

- in custom solutions, in the form of Excel tables;

- in the form of notes, when it existed only in the owner's or manager's memory without proper documentary or software representation.

This often led not so much to gaps in information flows, as to distortion of management data relative to accounting data. The owner did not receive a real picture of the business, since the accountant often formed accounting and reporting primarily for tax authorities' requirements.

For individual entrepreneurs (FOP), there was never a requirement to maintain full accounting, which stimulated use of simplified approaches such as basic tables or keeping only management accounting in appropriate programs.

Transition of 1C to New Platform

In 2003, “1C: Enterprise 8” (1C 8) appeared, which became a qualitative leap in platform development. Unlike version 7.7, which had simpler architecture and limited capabilities, *eight* introduced a three-tier client-server model, extended object system (information registers, tasks, business processes), improved security mechanisms and unified approach to configuration development and delivery. This made it more productive, scalable and attractive not only for small and medium, but also for large business. For Ukraine, localized configurations were created on this platform: “1C Enterprise 8: Accounting for Ukraine”, “1C Enterprise 8: Trade Management for Ukraine”, “1C Enterprise 8: Manufacturing Enterprise Management for Ukraine” and “1C Enterprise 8: Payroll and Personnel Management for Ukraine”.

Although the new 1C 8 platform contained significant technological innovations, the transition to it occurred quite slowly. A significant part of companies remained on proven 7.7 for several reasons. First, due to user inertia. Accountants and programmers knew 7.7 well, and training staff to work with the new platform required time and resources. Second, for many enterprises, rewriting existing configurations and refinements was economically

burdensome. Third, there was a large number of ready-made solutions that satisfied current business needs. Fourth, 7.7 had lower system requirements and could work even on outdated equipment, which made it attractive for small and medium business.

Companies often applied a combined approach, where accounting was transferred to 8th, while production or industry processes remained on 7.7 for a long time.

Thus, in the 2000s, two platforms coexisted simultaneously, forming a dual accounting landscape in Ukraine (Solodchenko & Sucher, 2005).

Geopolitical Factor of 2017

In May 2017, Ukraine imposed sanctions against Russian IT companies, among which was 1C (President of Ukraine, 2017). This practically closed the public sector for it and complicated private business work. In response, the Ukrainian brand “Business Automation Software” (BAS) emerged, which became 1C's successor. BAS developed independently by forces of Ukrainian companies that united in the professional community “Union of Business Automators”. This union took on the function of supporting and developing localized configurations.

At the same time, the 1C/BAS market faced personnel outflow. Young IT specialists increasingly oriented toward Western technologies or created their own SaaS products.

The imposed sanctions created a dual effect. On one hand, they became a risk for business that depended on 1C. On the other hand, they stimulated development of local alternatives. The market acquired a hybrid form, where some enterprises continued to work on 1C/BAS, while others transitioned to national developments and cloud SaaS solutions, the number of which was growing.

It should be noted that the sanctions policy regarding Russian software products started in 2017, including 1C, from the beginning of full-scale invasion has been steadily intensifying (Cabinet of Ministers of Ukraine, 2025; President of Ukraine, 2022; President of Ukraine, 2024). This may become a factor not only influencing business to transition to alternative national products, but also a trigger for accelerated development and expansion of the local accounting software environment.

Modern Trends

From the 2010s, the Ukrainian accounting automation market demonstrates movement toward cloud models (Tenyukh et al., 2022). The emergence and spread of light SaaS solutions occurred differentially by sectors. For restaurant and retail business, a segment of products like “Poster”, “SkyService POS”, “RestArt.Cloud”, “Servio POS Cloud” was formed. For FOP and small business – “iFin”, “SmartFin”, “BookKeeper”, “Dilovod”, “KeepinCRM”. For service sector – CRM solutions like “KeepinCRM”. The main component of the regulatory direction was electronic reporting and electronic document management services (“M.E.Doc”, “SOTA”, “FREDO”, “REPORT”, “Liga:REPORT”, “Vchasno”), which transformed from support tools into a mandatory element of business digital infrastructure.

The Western market is also dominated by subscription-based cloud products (“QuickBooks”, “Xero”, “Zoho Books”). They differ from Ukrainian analogues not in format, but in approach. Accounting models in these programs are oriented toward scalability, stability and predictability. Such solutions are oriented toward mature markets where rules of the game are clearly defined and rarely change. Relevant for business became investing in solutions with AI elements, which began transforming into a management control standard.

In Ukraine, a different approach to digital accounting transformation from Western is observed. In Western countries, unification strategy prevails, ensuring transparency and controllability of business processes. In the Ukrainian economic environment, the determining factor is that systems are developed taking into account frequent legislative changes, industry specifics and economic needs. This explains why 1C managed to maintain

the position of dominant solution in the post-Soviet space, in the presence of powerful global competitors.

3. Market Research

Comparative Landscape of Modern Solutions in Ukraine

Based on specialized reviews for selecting software for accounting and management accounting in Ukraine, the market can be conditionally divided into large groups:

1) Local Modular Platforms

This includes “BAS”, “ISpro”, “AB Office”, “Master: Accounting”, “Debet Plus” and others. They offer deep localization for national legislation, customization possibilities and wide integrations with state and commercial services (electronic reporting, EDM, PRRO, banking systems). Such systems are mostly oriented toward medium and large enterprises that need comprehensive functionality.

2) General Purpose Cloud Services

These are solutions such as “Dilovod”, “Bookkeeper”, “SmartFin” and “iFin”. They are optimal for FOP and small business, offering simple interface and ready-made modules for submitting reports, integration with PRRO, as well as basic set of tools for conducting operational activities (expense, income, counterparties accounting). Such services provide quick start and minimal infrastructure costs, but are usually limited in scaling capabilities.

3) Industry Cloud Solutions

They are represented by programs like “Poster”, “SkyService POS”, “RestArt.Cloud” and “Servio POS Cloud”. These programs are oriented toward restaurants, cafes, retail points and service sectors. The main emphasis is on automating sales, cash operations, warehouse and commodity accounting, personnel management. Data mostly enters the accounting system through integrations (API or file exchange), so these services do not replace accounting but complement it, creating a full cycle from front-office to back-office.

Based on the review and author's practical implementation experience, Fig. 1 summarizes key elements of Ukraine's digital accounting infrastructure (accounting platforms, ERP solutions and administrative reporting services) and presents their comparison according to five applied criteria.

In specialized reviews, a separate category of hybrid systems is sometimes distinguished. However, this term rather describes the deployment model than an independent market segment. It refers to products that combine elements of local and cloud approaches. In Ukrainian market practice, such cases manifest in three forms:

1) Technical Hybridity

Local platforms (“BAS”, “ISpro”) are deployed on remote servers or in private data centers, providing web access but preserving on-premise architecture.

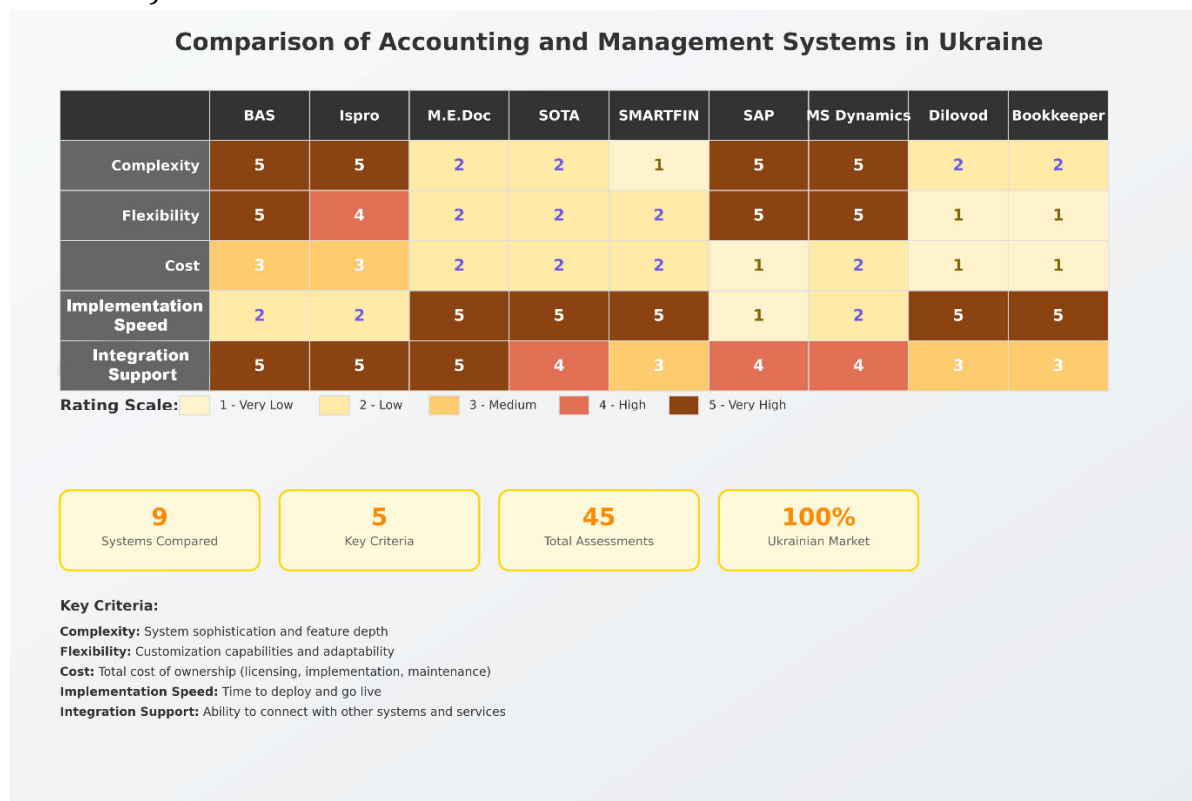
2) Functional Hybridity

Systems that integrate accounting and management accounting with external SaaS services (for example, “BAS” combined with POS systems or EDM services).

3) Marketing Hybridity

Positioning traditional solutions as cloud through use of Remote Desktop Protocol (RDP) or partner services in the cloud.

Fig. 1. Comparison of digital accounting infrastructure components in Ukraine (author's generalization).



Note. Assessment performed on a scale of 1-5; results are approximate and intended for analytical comparison, not for statistical measurement of market shares. The Cost indicator is interpreted as cost efficiency (1 – low, 5 – high).

Hybrid systems illustrate the transformational nature of market development. They combine infrastructure and architectural features of local solutions with service elements of SaaS, ensuring gradual business transition from traditional deployment models to fully cloud ecosystems.

Regarding international products such as “QuickBooks”, “Xero”, “Zoho Books”, “Microsoft Dynamics 365”, “Oracle NetSuite”, “SAP”, they require local integrations to meet Ukrainian specifics. They are available on the Ukrainian market, but cannot always fully ensure compliance with national business requirements. In this sense, local solutions have an advantage through quick updates and deeper access to state services and payment infrastructure.

Additional attention is deserved by market segmentation and key demand drivers. Demand shows certain duality. Individual entrepreneurs and small companies prefer SaaS solutions like “Dilovod”, “SmartFin” or “Bookkeeper”, while medium and large enterprises more often choose local flexible platforms such as “BAS”, “Ispro”, “AB Office” or “Debet Plus”. Such solutions offer balance between ease of use and functional depth, making them in demand among enterprises seeking the golden mean.

It is also worth emphasizing the role of the 1C/BAS ecosystem, which, despite sanctions and emergence of alternative solutions, still performs the function of accounting infrastructure foundation in Ukraine. This platform remains basic for both management and financial accounting. According to specialized research estimates, about two-thirds of enterprises continue to use 1C/BAS solutions, regardless of whether it's classic 1C versions or their successor BAS (Varennyk & Pestovska, 2021). Such sustainability is explained by deep localization for national legislation, wide customization possibilities for accounting specifics and historically extensive integrator network formed over decades.

Comparison of Approaches

1) Western Context (USA/EU)

The market here grew around cloud services, where each product closes its niche ("QuickBooks Online", "Xero", "Zoho Books", "Sage", "Oracle NetSuite", "Acumatica"). These systems focus mainly on stability. Updates are released regularly and predictably. Mostly APIs work clearly and stably, banking feeds connect without problems. Integrations are carried out through marketplaces, and the audit log is available in the system by default. Connecting e-commerce or CRM happens quite easily. Most regulatory requirements and industry rules are already embedded in the product, and the service provider is responsible for everything being up to date.

Convenience and stability have their price. Product ownership cost grows along with number of modules, users and connections. APIs have their limits, and some features simply disappear over time. Integration quality depends on marketplace and external services. For atypical processes or local requirements, adaptation depth is limited. Migrations are quite complex and often simply reduce to opening balances at date T_0 (without restoring all operational history). And the audit log, reporting and other functionality usually work only within the model defined by the provider.

2) Non-Western Context (Ukraine)

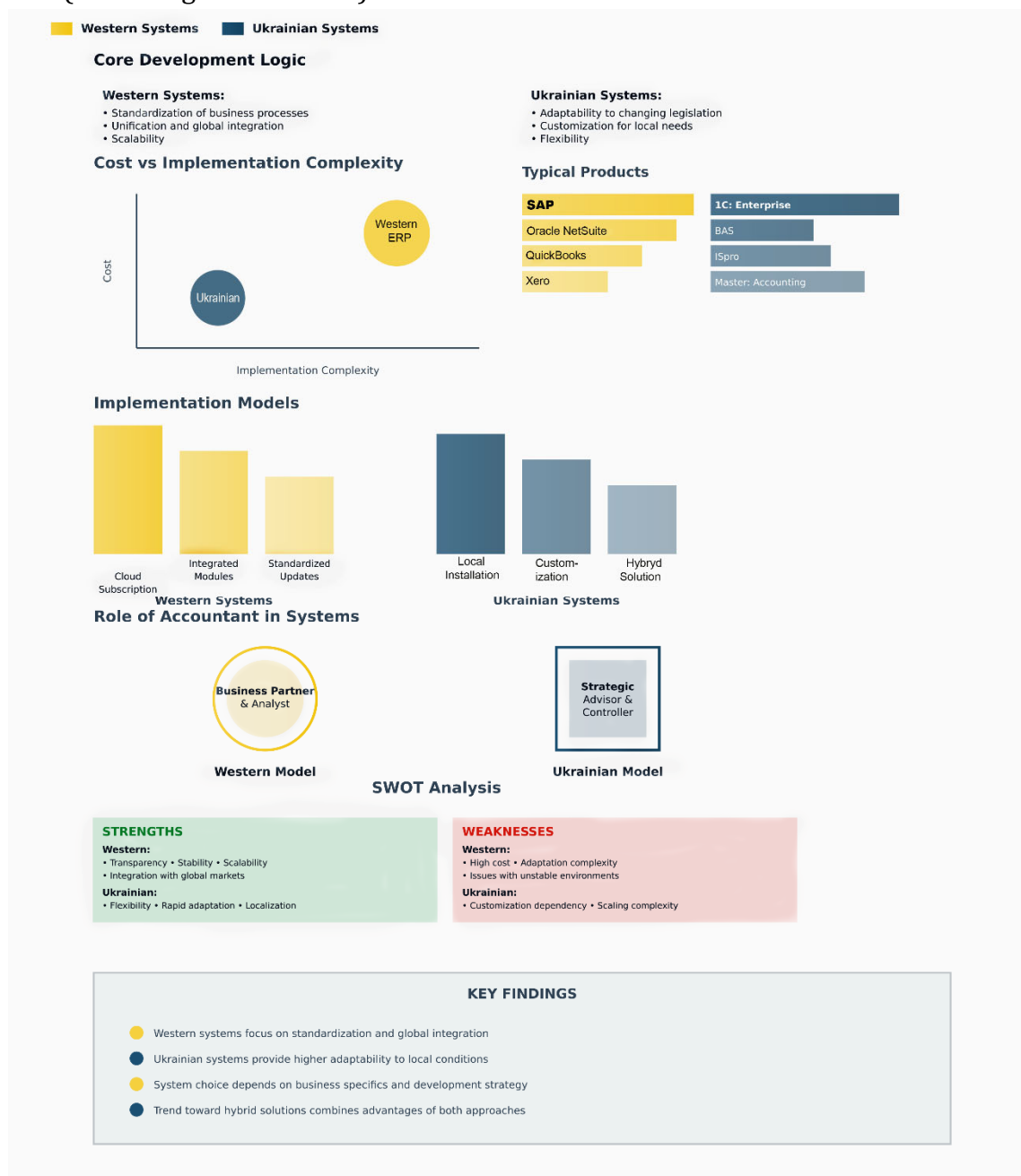
The Ukrainian market widely presents software products for accounting automation, among which are both light national SaaS solutions and international platforms. However, the 1C system was long the core of the management and accounting solutions market. Its strength is not in boxed functionality, but in three key factors. First, it is deep localization and regular updates ensuring compliance with constant legislative changes. Second, this program is distinguished by dense integration with national services such as M.E.Doc, EDM, PRRO or banking systems. And the most important advantage is the ability to adapt it to specific enterprise needs. This product can be refined almost without limitations, making it especially attractive for companies wanting to adapt the system for themselves. An additional factor is support economics. The cost of 1C/BAS programmer services has historically been relatively low (about \$15-30/hour), making individual refinements accessible even for small enterprises.

However, there is also a reverse side. Decreased interest of young specialists in this platform complicates long-term support of such systems and stimulates transition to alternative cloud SaaS. The search for alternatives is also facilitated by risks created by dependence on one supplier. This is especially pronounced in the political context, which is reflected in sanctions policy.

To summarize differences between Western and Ukrainian trajectories of accounting digital transformation, a conceptual scheme is presented that integrates system development logic, typical implementation models and the accountant's role in management control (Fig. 2).

The scheme shows that these two development trajectories form different strategic automation logics. In Western countries, priority is given to a unified approach to software solutions, stability and ensuring compliance with current norms and requirements already "out of the box". In contrast, in non-Western contexts, the key characteristics become elasticity, large toolkit of individual implementation possibilities and ability to quickly adapt to changing and often chaotic legislative environment (Chenhall, 2003; Mitter et al., 2024; Uddin et al., 2017).

Fig. 2. Conceptual comparison of Western and Ukrainian approaches to digital accounting systems (author's generalization).



Note.

The figure is illustrative and reflects the author's analytical generalization, not the result of quantitative measurement. Positioning on coordinate planes is presented as conceptual interpretation of typical implementation practices.

4. Practical Guidelines for Business

Market review allows making a number of conclusions that can be useful for both enterprises and professional community. They include software selection, determining key management control functions, building data protection system, and assessing risks associated with external environment and interaction with state structures.

System choice is largely determined by business scale. For small enterprises with up to twenty users, the most optimal are simple solutions with basic accounting and tax accounting modules. In transition economy countries, these are systems like "BAS: Accounting", while in Western countries these are "QuickBooks" or "Xero". Medium business (from twenty to two hundred users) already needs integrated solutions covering finance, warehouse, production

and customer work. Examples of such systems are “BAS: ERP”, “Microsoft Dynamics 365” or “Zoho Books” with CRM modules. Large enterprises with over two hundred users most often choose comprehensive ERP platforms such as “SAP”, “Oracle NetSuite” and others that provide international integration and support for complex management models.

Any software solution must include modules without which management control is impossible regardless of chosen system. This concerns control of accounts receivable and payable, cash flow management and forecasting, timely reporting updates according to tax requirements, as well as the ability to trace all operations to ensure transparency (Malmi & Brown, 2008). Important also is integration with CRM and e-commerce platforms, allowing combination of financial information with sales and customer data.

When choosing software, institutional risks are also considered. In countries with unstable regulatory environment, regularity of updates and compliance with current legislation is crucial. Use of products that are not supported or restricted in public sector creates risk of fines and forces companies to transition to alternative solutions. Additionally, political factors, sanctions and geopolitical restrictions, frequent tax legislation changes, and dependence on foreign software suppliers have an impact.

An important factor is accounting transparency, which goes beyond formal requirements of state bodies and becomes the basis of trust from partners and clients. Digital tools for ensuring data transparency and traceability are electronic document management, integrations with banking gateways and state registers, control logs (audit trail), role-based user access separation and automated reconciliations of key operations. However, to maintain trust, it is important that automated conclusions be not only accurate but also explainable and accountable, that is, with clear logic of reasons and ability to verify model decisions (Zhang et al., 2022; Raji et al., 2020).

For quick detection of various accounting deviations, risk-oriented internal control procedures are used. In modern conditions, internal control is increasingly integrated with internal audit, data analytics and cyber risk audit, since digital infrastructure itself becomes an object of control. This corresponds to systematic review conclusions regarding evolution of internal audit role in the digital era, where AI and data analytics are combined with cybersecurity practices (Ahmed & Japee, 2025). A significant role is played by tools that help detect anomalous operations and reduce fraud risk (Zhang et al., 2022).

Building long-term IT strategy has its emphases for different business categories. Small enterprises need to avoid excessive customization that complicates system updates and increases costs. Medium and large companies should transition to platforms that meet international norms and requirements and ensure integration into global processes. At the same time, investing in AI solutions is a priority for all categories, as modern competitiveness requires this.

For small and medium business, an effective model is dual accounting distribution, in which routine financial accounting is transferred to outsourcing to specialized companies, while internal managers focus on management accounting and analytics. Such approach allows both cost reduction and obtaining quality information for making management decisions.

The mentioned practical conclusions can be considered as a prerequisite for forming architectural vision of next-generation accounting systems. In literature, this transition is often described as movement from automation and analytics to AI audit and continuous control. In turn, authors emphasize practical integration barriers, organizational readiness and need for clear operational implementation framework (Kokina & Davenport, 2017; Leocádio et al., 2024; Kokina et al., 2025).

At the base of modern accounting platforms must remain simple and clear logic, well familiar to every accountant. First operations, then documents, then registers and postings.

This time-tested model should be the support of financial control, and future solutions should not destroy it but enrich it with modern automation tools and AI capabilities.

The central element of such systems is an embedded AI-auditor that acts as assistant and controller (Zhang et al., 2022). It works constantly in background mode, checks operations in real-time, detects suspicious or atypical actions and forms automatic reports. Using explainable AI (XAI), it explains its conclusions in language understandable to accountant (Zhang et al., 2022). Its main task is not to replace the accountant but to help in analytics, planning and making strategic decisions, opening a new level of professional work.

In this study, the AI-auditor is considered only at conceptual level as continuation of Ukrainian accounting systems evolution, not as a full-fledged research object. Detailed analysis of its architectural features, algorithmic models and application scenarios in accounting systems, as well as related security and trust issues, is subject of author's further research that goes beyond this article. In particular, the question of AI audit integration in developing countries has already been analyzed by the author in previous research, where an integrated AI audit readiness framework for jurisdictions with limited resources was proposed (Popel, 2025).

Another defining feature is flexible analytics. Modern accounting system must easily adapt to specific business needs, take into account industry specifics and quickly respond to legislative changes. Thanks to AI integration, such systems are capable of learning. Every correction or document adjustment forms corporate memory, which over time reduces number of errors and makes work more predictable and confident.

No less important are transparency and convenience. The owner should see key business indicators in the form of visual dashboards, the accountant should be able to work with detailed documents and registers, and managers receive understandable management reports necessary precisely for their tasks.

Also, such system must seamlessly interact with tax services and electronic reporting, integrate with banks for automatic document exchange, and combine with ERP, CRM and e-commerce solutions. In such digital environment, all business processes are connected to each other.

Next-generation system is not just another new software. It transitions to a new level of business and technology interaction. It combines time-tested accounting logic and AI power. Thanks to this, accounting transforms from routine process into strategic development tool.

5. Limitations and Further Research Directions

This study has several limitations due to its practical and conceptual focus. Since conclusions are largely based on personal professional experience and observations of specific projects, results somewhat depend on author's interpretation. At the same time, the author's practical focus on accounting systems implementation allows advancing hypotheses about management control mechanisms and local practices that often remain beyond dry statistical analysis.

Additionally, focus on Ukrainian context does not allow automatically extending these results to all developing countries, as each has its unique regulatory features.

Due to corporate information confidentiality, internal company data was not used in the work, so estimates of certain platforms' prevalence have character of expert generalizations, not precise statistical calculations. Analysis of external factors' impact, such as sanctions or legislative changes, is presented as context description, which does not allow establishing strict causal relationships. Finally, the concept of next-generation system and AI-auditor currently remains an architectural vision and hypothesis that needs further verification on practical prototypes.

Further research directions may include in-depth study of other transition economies, which would allow comparing different non-Western approaches to accounting digital transformation. It would also be advisable to conduct surveys and interviews with chief accountants and IT specialists regarding their perception of risks and advantages of new architectures. Perspective is also quantitative analysis of sanctions, martial law and regulatory changes impact on accounting systems structure, automation level and internal control configuration in SMEs. A separate direction is research of specific prototypes of AI agents and AI auditor in Ukrainian context, with assessment of their impact on data quality, procedure labor intensity and user trust.

CONCLUSIONS

This article describes SME accounting systems development in Ukraine as an example of non-Western accounting evolution under influence of institutional constraints, sanctions and digitalization. It shows how accounting automation developed along its own trajectory, different from Western. If in the West the main priority was adherence to unified rules for all and international norms, then in post-Soviet conditions the need to quickly respond to constant legislative changes and adjust programs even for the smallest business came to the forefront (Uddin et al., 2017). However, rapid development of IT technologies and AI, increase in data volumes and market globalization forces countries of both camps to adapt to new conditions and move in one common direction.

Today, management accounting is transitioning from recording facts to forecasting risks and supporting strategic decisions (Malmi & Brown, 2008; Nazarova, 2021). Business that ignores modern technologies quickly loses competitiveness. Therefore, AI audit is the next stage of accounting systems development. It is steadily transforming from innovation into a familiar tool (Kokina et al., 2025; Oneshko, 2023).

However, movement toward AI control and audit makes sense only on condition of results explainability and availability of accountability procedures that allow critically verifying model decisions, rather than thoughtlessly relying on them as on a *black box* (Kokina et al., 2025; Raji et al., 2020; Zhang et al., 2022). Therefore, the question of trust goes beyond technology and becomes politico-institutional. This requires rules for classification and AI risk management, as well as clear distribution of responsibility for its use in financial processes (Maghsoudi et al., 2025).

Many years of practice implementing ERP, POS and accounting systems confirms that the most valuable solutions are born where technologies, local conditions and human experience intersect (Tenyukh et al., 2022). The idea of next-generation accounting system precisely consists in preserving well-functioning register architecture with addition of latest AI approaches, thus combining local experience with Western innovations. This shows that non-Western approaches can influence even global trends (Zyznarska-Dworczak, 2018).

The Ukrainian example shows that SME accounting systems evolution is not only a technical or local management problem, but also a factor of broader economic development. The Ukrainian path of accounting digitalization is not simply a Western copy, but forms a separate logic. It relies on the ability to quickly adapt to unstable rules and unequal implementation conditions, which look different for SMEs than for large companies (Ayinaddis, 2025; Khan et al., 2024).

The ability of small enterprises to quickly adapt their accounting infrastructure to regulatory changes, sanctions restrictions, war risks and digital requirements determines their resilience, tax transparency and ability to attract financing. In this sense, implementation of more flexible, integrated accounting systems can be considered as a contribution to increasing trust in institutions, expanding the tax base, supporting entrepreneurship and economic recovery in conditions of prolonged crisis.

REFERENCES

1. Aderibigbe, A. O., Ohenhen, P. E., Nwaobia, N. K., Gidiagba, J. O., & Ani, E. C. (2023). Artificial intelligence in developing countries: Bridging the gap between potential and implementation. *Computer Science & IT Research Journal*, 4(3), 185-199. <https://doi.org/10.51594/csitrj.v4i3.629>
2. Ayinaddis, S. G. (2025). Artificial intelligence adoption dynamics and knowledge in SMEs and large firms. *Journal of Innovation & Knowledge*, 10, 100682. <https://doi.org/10.1016/j.jik.2025.100682>
3. Ahmed, E., & Japee, G. (2025). The evolving role of internal audit in the digital era (2019–2025): A systematic review of artificial intelligence (AI), data analytics, and cybersecurity practices. *Journal of Commerce, Economics & Computer Science*, 11(3), 213–227. <https://doi.org/10.62823/jcecs/11.03.8040>
4. Appelbaum, D., Kogan, A., & Vasarhelyi, M. A. (2017). Big data and analytics in the modern audit engagement: Research needs. *Auditing: A Journal of Practice & Theory*, 36(4), 1–27. <https://doi.org/10.2308/ajpt-51684>
5. Bailey, D. (1995). Accounting in transition in the transitional economy. *European Accounting Review*, 4(4), 595–623. <https://doi.org/10.1080/09638189500000042>
6. Cabinet of Ministers of Ukraine. (2025, October 22). *Resolution of the Cabinet of Ministers of Ukraine No. 1335*. <https://zakon.rada.gov.ua/laws/show/1335-2025-%D0%BF>
7. Chenhall, R. H. (2003). Management control systems design within its organizational context: Findings from contingency-based research and directions for the future. *Accounting, Organizations and Society*, 28(2–3), 127–168. [https://doi.org/10.1016/S0361-3682\(01\)00027-7](https://doi.org/10.1016/S0361-3682(01)00027-7)
8. Fotoh, L. E., & Lorentzon, J. (2021). The impact of digitalisation on future audits. *Journal of Emerging Technologies in Accounting*, 18(2), 77–97. <https://doi.org/10.2308/jeta-2020-063>
9. Greenman, C., Esplin, D., Johnston, R., & Richards, J. (2024). An analysis of the impact of artificial intelligence on the accounting profession. *Journal of Accounting, Ethics & Public Policy*, 25(2), 188–205. <https://doi.org/10.60154/jaepp.2024.v25n2p188>
10. Hopper, T., & Bui, B. (2016). Has management accounting research been critical? *Management Accounting Research*, 31, 10–30. <https://doi.org/10.1016/j.mar.2015.08.001>
11. Järvenpää, M. (2007). Making business partners: A case study on how management accounting culture was changed. *European Accounting Review*, 16(1), 99–142. <https://doi.org/10.1080/09638180701265903>
12. Khan, M. S., Umer, H., & Faruque, F. (2024). Artificial intelligence for low-income countries. *Humanities and Social Sciences Communications*, 11, Article 1422. <https://doi.org/10.1057/s41599-024-03947-w>
13. Kokina, J., & Davenport, T. H. (2017). The emergence of artificial intelligence: How automation is changing auditing. *Journal of Emerging Technologies in Accounting*, 14(1), 115–122. <https://doi.org/10.2308/jeta-51730>
14. Kokina, J., Blanchette, S., Davenport, T. H., & Pachamanova, D. (2025). Challenges and opportunities for artificial intelligence in auditing: Evidence from the field. *International Journal of Accounting Information Systems*, 56, 100734. <https://doi.org/10.1016/j.accinf.2025.100734>

15. Leocádio, D., Malheiro, L., & Reis, J. (2024). Artificial intelligence in auditing: A conceptual framework for integration and implementation. *Administrative Sciences*, 14(10), 238. <https://doi.org/10.3390/admsci14100238>
16. Maghsoudi, M., Mohammadi, N., & Bakhtiari, M. R. (2025). Artificial intelligence and sustainable development: Public concerns and governance in developed and developing nations. *Cleaner Environmental Systems*, 19, 100340. <https://doi.org/10.1016/j.cesys.2025.100340>
17. Malmi, T., & Brown, D. A. (2008). Management control systems as a package—Opportunities, challenges and research directions. *Management Accounting Research*, 19(4), 287–300. <https://doi.org/10.1016/j.mar.2008.09.003>
18. Mitter, C., Kuttner, M., Duller, C., & Sommerauer, P. (2024). Does national culture impact management control systems? A systematic literature review. *Review of Managerial Science*, 18(1), 209–257. <https://doi.org/10.1007/s11846-023-00661-w>
19. Nazarova, K. (2021). Digital audit as an imperative for Ukraine's way out from the COVID-crisis and a tool to increase the competitiveness of the state. *SHS Web of Conferences*, 100, 01012. <https://doi.org/10.1051/shsconf/202110001012>
20. Oneshko, S. (2023). Accounting and financial reporting in the IT sphere of Ukraine: Opportunities of artificial intelligence [Облік та фінансова звітність у IT-сфері України: можливості штучного інтелекту]. *Financial and Credit Activity: Problems of Theory and Practice*, 5(52), 79–88. <https://doi.org/10.55643/fcaptp.5.52.2023.4151>
21. Otley, D. (1980). The contingency theory of management accounting: Achievement and prognosis. *Accounting, Organizations and Society*, 5(4), 413–428. [https://doi.org/10.1016/0361-3682\(80\)90040-9](https://doi.org/10.1016/0361-3682(80)90040-9)
22. Popel, S. (2025). Artificial intelligence in auditing: Challenges of developing countries. *Social Development: Economic and Legal Issues*, (11). <https://doi.org/10.70651/3083-6018/2025.11.12>
23. President of Ukraine. (2017). *Decree of the President of Ukraine No. 133/2017 on the NSDC decision on the application of personal special economic and other restrictive measures (sanctions)* [Указ Президента України №133/2017 «Про рішення РНБО щодо застосування персональних спеціальних економічних та інших обмежувальних заходів (санкцій)»]. <https://www.president.gov.ua/documents/1332017-21850>
24. President of Ukraine. (2022, October 19). *Decree of the President of Ukraine No. 726/2022: On the decision of the National Security and Defense Council of Ukraine of October 19, 2022 "On the application and amendments to personal special economic and other restrictive measures (sanctions)"* [Указ Президента України № 726/2022: Про рішення Ради національної безпеки і оборони України від 19 жовтня 2022 року «Про застосування та внесення змін до персональних спеціальних економічних та інших обмежувальних заходів (санкцій)»]. <https://www.president.gov.ua/documents/7262022-44481>
25. President of Ukraine. (2024, September 2). *Decree of the President of Ukraine No. 601/2024: On the decision of the National Security and Defense Council of Ukraine of September 2, 2024 "On the application, cancellation, and amendments to personal special economic and other restrictive measures (sanctions)"* [Указ Президента України № 601/2024: Про рішення Ради національної безпеки і оборони України від 2 вересня 2024 року «Про застосування, скасування та внесення змін до персональних спеціальних економічних та інших обмежувальних заходів (санкцій)»]. <https://www.president.gov.ua/documents/6012024-52009>

26. Raji, I. D., Smart, A., White, R. N., Mitchell, M., Gebru, T., Hutchinson, B., Smith-Loud, J., Theron, D., & Barnes, P. (2020). Closing the AI accountability gap: Defining an end-to-end framework for internal algorithmic auditing. In *Proceedings of the 2020 Conference on Fairness, Accountability, and Transparency* (pp. 33–44). Association for Computing Machinery. <https://doi.org/10.1145/3351095.3372873>
27. Solodchenko, I., & Sucher, P. (2005). Accounting in Ukraine since independence: Real politik, problems and prospects. *European Accounting Review*, 14(3), 603–633. <https://doi.org/10.1080/0963818042000336755>
28. State Tax Service of Ukraine. (2020, July 31). *Introduction of software cash registers from August 1, 2020* [Повідомлення про запровадження програмних РРО з 1 серпня 2020 року]. <https://vl.tax.gov.ua/media-ark/news-ark/428356.html>
29. Tenyukh, Z., Pelekh, U., & Khocha, N. (2022). Application of digital technologies in accounting and auditing at enterprises of Ukraine. *Scientific Bulletin of Mukachevo State University. Series "Economics,"* 9(4), 46–55. [https://doi.org/10.52566/msu-econ.9\(4\).2022.46-55](https://doi.org/10.52566/msu-econ.9(4).2022.46-55)
30. Uddin, S., Hopper, T., & Wickramasinghe, D. (2017). Accounting and development: Practices in the Majority World. *Critical Perspectives on Accounting*, 47, 1–18. <https://doi.org/10.1016/j.cpa.2017.01.003>
31. Varenyuk, V. M., & Pestovska, Z. S. (2021). Optimization of accounting: BAS or 1C [Оптимізація обліку: BAS чи 1C]. *Nobel Visnyk*, 1(1), 14–22. <https://ir.duan.edu.ua/server/api/core/bitstreams/d35dbd8b-f2fc-42bb-83cb-30ad2a6c1ca3/content>
32. Verkhovna Rada Ukrainy. (2003). *Law of Ukraine on electronic digital signature No. 852-IV of May 22, 2003* [Закон України «Про електронний цифровий підпис» № 852-IV від 22 травня 2003 р.]. <https://zakon.rada.gov.ua/go/852-15>
33. Verkhovna Rada Ukrainy. (2017). *Law of Ukraine on electronic trust services No. 2155-VIII of October 5, 2017* [Закон України «Про електронні довірчі послуги» № 2155-VIII від 5 жовтня 2017 р.]. <https://zakon.rada.gov.ua/go/2155-19>
34. Vitali, S., & Giuliani, M. (2024). Emerging digital technologies and auditing firms: Opportunities and challenges. *International Journal of Accounting Information Systems*, 53, 100676. <https://doi.org/10.1016/j.accinf.2024.100676>
35. Zhang, Y., Xiong, F., Xie, Y., Fan, X., & Gu, H. (2020). The impact of artificial intelligence and blockchain on the accounting profession. *IEEE Access*, 8, 110461–110477. <https://doi.org/10.1109/ACCESS.2020.3000505>
36. Zhang, C. A., Cho, S., & Vasarhelyi, M. (2022). Explainable artificial intelligence (XAI) in auditing. *International Journal of Accounting Information Systems*, 46, 100572. <https://doi.org/10.1016/j.accinf.2022.100572>
37. Zyznarska-Dworczak, B. (2018). The development perspectives of sustainable management accounting in Central and Eastern European countries. *Sustainability*, 10(5), 1445. <https://doi.org/10.3390/su10051445>