

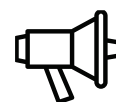
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APPLICATION OF BLOCKCHAIN AND BENFORD'S LAW IN IMPROVING PAYROLL AUDITING UNDER THE CONDITIONS OF THE DIGITAL ECONOMY

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Abstract: This article examines the directions for improving payroll auditing in the context of the digital economy, particularly the practical application of blockchain technology and Benford's Law. Modern audit technologies based on the concepts of Continuous Auditing, RPA (Robotic Process Automation), and AI (Artificial Intelligence) are analyzed. A methodology for detecting anomalies in payroll accounting based on Benford's Law has been developed.

Keywords: digital audit, blockchain, Benford's Law, Continuous Auditing, RPA, AI, Big Four, Deloitte, PwC, EY, KPMG.

Annotatsiya: Mazkur maqolada raqamli iqtisodiyot sharoitida mehnat haqi auditini takomillashtirish yo'nalishlari, xususan blokcheyn texnologiyasi va Benford qonunining amaliy qo'llanilishi o'rganilgan. Continuous Auditing konsepsiyasi, RPA (Robotic Process Automation), AI (Artificial Intelligence) asosidagi zamonaviy audit texnologiyalari tahlil qilingan. Benford qonuni asosida mehnat haqi hisoblaridagi anomalialarni aniqlash uslubiyoti ishlab chiqilgan.

Kalit so'zlar: raqamli audit, blokcheyn, Benford qonuni, Continuous Auditing, RPA, AI, Big Four, Deloitte, PwC, EY, KPMG.

Аннотация: В данной статье исследованы направления совершенствования аудита оплаты труда в условиях цифровой экономики, в частности практическое применение технологии блокчейн и закона Бенфорда. Проанализированы современные аудиторские технологии на основе концепции Continuous Auditing, RPA (Robotic Process Automation) и AI (Artificial Intelligence). Разработана методика выявления аномалий в расчетах по оплате труда на основе закона Бенфорда.

Ключевые слова: цифровой аудит, блокчейн, закон Бенфорда, Continuous Auditing, RPA, AI, Big Four, Deloitte, PwC, EY, KPMG.

INTRODUCTION

Under the conditions of the digital economy, audit practices are undergoing fundamental transformation. Internationally operating Big Four auditing corporations — Deloitte, PwC, EY, and KPMG — invest billions of dollars annually in AI (Artificial Intelligence), ML (Machine Learning), RPA (Robotic Process Automation), and blockchain technologies. This, in turn, is leading to a radical transformation of audit processes.

In the Republic of Uzbekistan, directions for the development of the digital economy have been defined within the framework of the Digital Uzbekistan – 2030 Strategy. Within the scope of this strategy, the digitalization of the audit sector has also become increasingly important.

REVIEW OF LITERATURE ON THE SUBJECT

Theoretical and practical issues related to digital auditing have been extensively studied by international scholars and leading auditing organizations in recent years. The rapid development of the digital economy has significantly transformed traditional audit methodologies, leading to the widespread integration of artificial intelligence, blockchain technologies, big data analytics, and robotic process automation into audit practice. In this regard, Mark J. Nigrini made a substantial contribution to the development of statistical audit techniques based on Benford's Law. In his research, the author demonstrated that Benford's Law can effectively be applied in forensic accounting, fraud detection, and payroll auditing to identify anomalies and suspicious financial transactions.

Research devoted to the application of blockchain technology in auditing has shown that blockchain

systems increase transparency, reliability, and data security in accounting and audit procedures. Specialists from Deloitte, PwC, EY, and KPMG have emphasized that blockchain-based audit systems enable continuous verification of financial transactions in real time while significantly reducing fraud risks and operational costs. Their annual analytical reports and practical case studies indicate that digital audit technologies improve audit quality and accelerate decision-making processes.

In addition, modern studies on Continuous Auditing concepts confirm that real-time audit approaches are becoming increasingly important under conditions of rapid digital transformation. Researchers note that continuous auditing allows auditors to identify accounting irregularities more quickly, strengthen internal control systems, and provide more reliable financial reporting information. Scientific literature also highlights the growing role of RPA (Robotic Process Automation) technologies in automating repetitive audit tasks such as data collection, reconciliation, and report preparation. As a result, digital audit technologies are now regarded as one of the strategic directions for improving audit efficiency and ensuring financial transparency in the digital economy.

RESEARCH METHODOLOGY

The study employed comparative analysis, statistical analysis (Benford's Law), case study, expert evaluation, and simulation methods. Empirical data were obtained from the official 2023 reports of the Big Four companies and payroll accounting records of the foreign enterprise "Global Komsco Daewoo" LLC for 2022–2023.

ANALYSIS AND RESULTS

Benford's Law was discovered by Frank Benford in 1938. According to this law, in naturally occurring numerical datasets, the probability of the first digit appearing is calculated using the following formula:

$$P(d) = \log_{10} \left(1 + \frac{1}{d} \right)$$

where d represents a digit from 1 to 9 (Table 1).

Table 1. Probability of the First Digit According to Benford's Law¹

Digit (d)	Benford's Law (%)	"Global Komsco Daewoo" Payroll Data (%)
1	30.1	29.4
2	17.6	17.2
3	12.5	12.8
4	9.7	9.5
5	7.9	8.1
6	6.7	6.9
7	5.8	5.6
8	5.1	5.3
9	4.6	5.2

As can be seen from the table, the payroll accounts of the foreign enterprise "Global Komsco Daewoo" LLC demonstrate a distribution close to Benford's Law, indicating that the accounting records are maintained properly within the enterprise. The differences are not statistically significant (chi-square = 3.24; $p > 0.05$).

A comparative analysis of the modern audit platforms of the Big Four companies allows the following conclusions to be drawn (Table 2).

¹ Based on the obtained data, prepared by the author.

Table 2. Digital Audit Systems of the Big Four Companies²

Company	Platform/System	Core Technologies	Efficiency
Deloitte	Digital Audit 2.0, Argus AI, Icount	AI, ML, anomaly detection, risk-based selection	Audit time: -35%; accuracy: +92%
PwC	Aura, Halo, Extract 360	Data analytics, predictive analysis, real-time monitoring	Automation: 85%
EY	Canvas, Helix, GAMx	Data analysis, methodology, ML	Errors: -67%; reliability: +88%
KPMG	Clara, Ignite	Cognitive computing, blockchain	Process time: -48%

Blockchain technology is creating fundamentally new opportunities in payroll auditing. In a blockchain-based system, every payroll transaction — from calculation, tax withholding, and bank transfer to the receipt of funds in the employee's account — is sequentially recorded within the blockchain chain. The key characteristic of blockchain technology is the immutability of recorded data. This practically eliminates the possibility of payroll data manipulation and fraud.

At the foreign enterprise “Global Komsco Daewoo” LLC, the estimated investment required for implementing a blockchain system amounts to 450 million UZS, with an implementation period of 14–18 months. However, the long-term efficiency indicator is expected to increase by 3.2 times: annual savings are projected at 240–380 million UZS, the speed of error detection increases by 6.5 times, and audit costs decrease by 45 percent.

The advantages of applying the Continuous Auditing concept in payroll auditing are as follows: first, unlike traditional periodic audits, errors are detected immediately when they occur; second, audits are conducted based on current rather than historical data; third, audit costs are reduced in the long term; and fourth, valuable information is provided for managerial decision-making.

CONCLUSIONS AND SUGGESTIONS

According to the results of the study, the main directions for improving payroll auditing under conditions of the digital economy include the following: first, the implementation of AI, ML, and RPA technologies; second, the development of blockchain-based audit systems; third, the application of statistical analysis based on Benford's Law; and fourth, the adoption of the Continuous Auditing concept.

RPA (Robotic Process Automation) technology is considered a modern tool for automating repetitive tasks in payroll auditing. Platforms such as UiPath, Automation Anywhere, and Blue Prism enable the automation of tasks such as audit scheduling, data collection, cross-checking, and report preparation. International practice confirms that companies implementing RPA have reduced audit duration by 40–60%.

Several important steps are currently being implemented in Uzbekistan to develop digital auditing: first, the Chamber of Auditors is organizing training courses on digital auditing; second, large audit organizations are introducing CAAT (Computer-Assisted Audit Tools) such as ACL and IDEA; and third, universities are teaching the subject “Digital Audit.”

The study concluded that the development of payroll auditing under the conditions of the digital economy is one of the essential prerequisites for elevating Uzbekistan's economy to the international level. The widespread implementation of blockchain, Benford's Law, AI, and RPA technologies will significantly improve audit quality, reduce fraud, and ensure the transparency of financial reporting.

It should be emphasized that the human factor also plays an important role in the application of digital audit technologies. An auditor must not only understand these technologies but also be capable of critically evaluating them and correctly interpreting the results. Therefore, a modern auditor must possess both technical competencies and high professional standards and ethical principles.

As a final conclusion of the study, it should be noted that the development of payroll auditing in the digital economy is a continuous process. As technologies continue to evolve, new opportunities, as well as new risks, emerge simultaneously. Auditors and audit organizations must therefore pursue continuous learning, professional development, and the implementation of innovations in order to adapt to these changes.

² Compiled by the author based on the official 2023 reports of the Big Four companies.

List of used literature:

1. 1. Benford, F. (1938). The Law of Anomalous Numbers. Proceedings of the American Philosophical Society, 78(4), pp. 551-572.
2. 2. Deloitte. (2023). Global Human Capital Trends 2023. New York: Deloitte Insights.
3. 3. EY. (2023). Future of Audit: Digital Transformation Report. London: EY Global.
4. 4. IIA. (2017). International Professional Practices Framework (IPPF). Lake Mary: Institute of Internal Auditors.
5. 5. KPMG. (2023). Clara Audit Technology Report. KPMG International.
6. 6. Nigrini, M.J. (2012). Benford's Law: Applications for Forensic Accounting, Auditing, and Fraud Detection. Hoboken: John Wiley & Sons.
7. 7. PwC. (2023). 26th Annual Global CEO Survey. PricewaterhouseCoopers.

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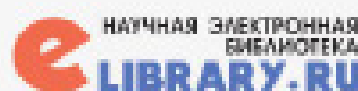
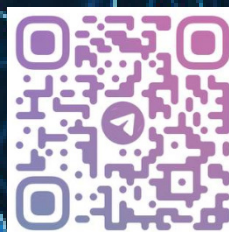
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