



ARTIFICIAL INTELLIGENCE IN ACCOUNTING AND AUDITING

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Annotation:

Artificial intelligence has a significant impact on the world of accounting and finance. By saving time and money and providing information, AI-enabled accounting and finance systems help finance professionals and their companies stay competitive and attract the best employees and customers.

Key words: Artificial intelligence, robotic Process Automation (RPA), accounting procedure, analytical coefficients.

New technologies are changing the way people work in every industry. It also changes the expectations of customers when working with companies. The same applies to accounting. Artificial intelligence can help accountants be more productive and efficient. Reducing the time to complete tasks by 80-90% will allow accountants to pay more attention to advising their clients. Adding artificial intelligence to accounting operations will also improve quality, as errors will be reduced.

When accounting firms use artificial intelligence in their practice, the firm becomes more attractive as an employer and service provider to customers. As all accounting firms apply artificial intelligence, they will be able to provide the data made possible by automation, while those who are not committed to this technology will not be able to compete.

Robotic Process Automation (RPA) allows machines to perform repetitive, time-consuming tasks in business processes, such as document analysis and processing. Intelligent automation is a more sophisticated version of RPA. In many cases, intelligent automation can mimic human interaction, such as understanding the intended meaning in communicating with a customer and using historical data to adapt to the activity. There are several applications of RPA and intelligent automation in accounting work.

AI can often provide real-time information about the state of financial matters, as this technology can process documents using natural language processing and computer vision faster than ever, making daily reports possible and inexpensive.



This understanding allows companies to take the initiative and adjust the course if the data shows unfavorable trends. Automatic authorization and document processing using artificial automation technology will improve several internal accounting processes, including purchasing, invoicing, purchase orders, expense reports, accounts payable and receivables, and more. In accounting, there are many internal corporate, local, state, and federal rules that must be followed. AI-enabled systems help support audits and ensure compliance by allowing documents to be tracked in accordance with regulations and laws and flag issues. Machine learning algorithms can quickly sift through huge amounts of data to identify potential fraud or suspicious activity issues that might have been missed by humans, and flag them for further review.

The concept of artificial intelligence often suggests a distant future, where all the most important work for doctors, lawyers, and, including, professional accountants, is done by machines. One way or another, all the most important professions in the world will be affected by technological progress, but to what extent, and what exactly artificial intelligence will actually represent – these questions organizations do not have a clear answer.

Accounting, reporting and auditing are the areas of professional activity in which their participants are at least sure that changes are coming. In the UK, for example, the review "Future of Accounting" ("The Future of Accounting") from software manufacturer FreeAgent revealed the absolute confidence of 96% of respondents that by 2022 all or a significant part of their work will be automated.

It is worth noting that automation is only one aspect of the arrival of AI, but even with such an incomplete representation of the consequences, almost all professional accountants are aware that their role is about to change. According to Jonathan Bareham, director of the British audit firm Raedan, AI will be "the next step in the automation and efficiency expansion that cloud software has already provided." According to him, this will increase time savings, reduce errors and increase compliance. "All of this means that we will all have more time to do meaningful work, truly helping customers manage their business – analyzing the data rather than introducing it," he added.

Paul Jenkinson, partner and founder of Whitespace, a cloud technology company, compares the impact of AI to that of the introduction of spreadsheets: in the United States, it reduced the number of reporting-related jobs by 400,000, but at the same time created 600,000 new accounting jobs.



It is not certain that artificial intelligence will create new jobs, but it can be expected that it will significantly simplify the work of audit companies. Here are some examples.

The above-mentioned audit company Raedan uses the online platform Xero, integrated with Receipt Bank, which allows the use of machine learning, and the forecasting tool Fluidly based on artificial intelligence technologies is used by them to estimate cash flows. Expensify is used to analyze and process customer costs.

Darren Glanville, director of Operations at the Valued audit campaign, says that such technology products in their case have not only reduced costs and increased efficiency, but also improved the quality of services. Costs are lower, margins are higher, but what is more important, in his opinion, is the enthusiasm of the staff about this, as a result of which the indicators of attracting and retaining qualified personnel have become higher. This has always been a problem, but with AI, really talented people feel that they can do exactly the work that they enjoy.

AI technologies play an important and increasingly significant role in how we understand and interact with the world around us, but the question relevant to our small (audit) world is what artificial intelligence means to the auditors themselves.

More than 60 years ago, the very first AI projects focused on tasks such as language translation. At the height of the Cold War, the United States founded a project that aimed to provide automated translation from Russian to English and back, but progress was negligible due to the limitations of the computing power of the time.

The examples that are closer to us are more impressive. For example, in 2011, the IBM Watson supercomputer beat a man in the intellectual TV show for erudites "Jeopardy!" (analogous to "Your Game" – GAAP.RU). And the AlphaGo program developed by Google DeepMind in 2015 won for the first time against a live opponent - a professional player in the Japanese classic game of go. These examples already bring "thinking computers" closer to our reality. Artificial intelligence and its technologies, machine learning, are beginning to play a role on a global scale. However, they have not yet crossed the line where it would be possible to talk about a complete replacement of the human perception of reality.

However, the audit industry has also not escaped transformation by the efforts of AI, which processes huge amounts of information and is able to identify the main trends and anomalies in them. In audit, artificial intelligence uses advanced techniques to analyze data registries, detect significant discrepancies, and identify risks.



How exactly? AI automates many tasks that were previously performed manually (such as data entry), and it is able to analyze 100% of their volume without asking for help from a person whose help in writing tests and basic rules would have been irreplaceable until recently. What distinguishes the "audit of the future" with AI is that artificial intelligence changes the very idea of a reasonable guarantee ("reasonable assurance"), since it is able to understand the entire integrity of the data register and detect anomalies in them, based not on the prescribed rules, but on the risks. We can say that the risk-based approach is ideally implemented.

With a risk-based, well-founded guarantee of quality, suspicious transactions are reported with red flags (as a signal that they require careful consideration), depending on how much they are selected from a whole set of data. In this way, the AI detects unusual payments and other activities that would not previously have hit the radar with traditional testing approaches. People rely on professional judgment and random sampling, and this can be either very time-consuming or fraught with omissions (or be both). Artificial intelligence quickly processes all the information and identifies risks that previously could not be detected.

Artificial intelligence-based systems, among other things, are able to constantly learn and adapt to new information. As more and more data passes through and is processed, the AI analyzes it and finds correlations based on hundreds of different variables. In addition, it significantly reduces the work of both the audit company and its client. Entering accounting data registers for analysis today requires minimal labor, and after that, the analysis starts and almost disappears, the traditional need for auditors to go back and forth, asking their clients clarifying questions. The time available to the auditors can be devoted to a more detailed study of the details, which will allow them to draw a much more detailed financial picture than they previously could even dream of.

Will AI completely replace "live" auditors? Definitely not! - the author of today's publication is confident, because it is impossible to replace the experience and professional judgment of auditors, and it is impossible to understand all the subtleties of the relationship between an audit company and its clients (let alone manage them). Artificial intelligence-based solutions work side-by-side with humans, automating and repeatedly speeding up large-scale and complex tasks, and they certainly help with decision-making when it comes to identifying significant discrepancies and risks.



These are transformational technologies by nature, so any organization should carefully weigh the pros and cons when developing development strategies for the future. However “ ” to implement or not to implement” is not even a question. AI is already improving the reach and quality of audits around the world, taking them to a whole new level. Therefore, companies need to determine which solutions are more suitable for them - and thus determine their future.

In response to the above question, I would like to draw your attention, dear readers, to the fact that today most of our colleagues practically do not use the knowledge and skills that they have gained in the course of studying the specialty.

You and I have been taught economic theory, financial analysis, firm management theory, marketing, capital markets theory, etc., etc.

We, accountants, are unique specialists who are able to understand and evaluate the processes taking place in the company on the basis of primary observation of them, we are able to comprehensively analyze the financial and production components of the companies ' work. Through the balance sheet as a universal financial model of the company, we can evaluate the management of the company's resources in conjunction with the analysis of the structure of their sources of financing. We supply data to all parts of the company's management system, and we alone understand the interdependence of this data, starting from the sources and methods of their formation and interpretation.

So what? To what extent these capabilities are in demand and used in our work. Let's venture to say-not completely!

We live and work in conditions of constant complexity and growth of the scale of the information field in which our enterprises operate. The rapidly growing number of regulatory legal acts, often not coordinated with each other, the constant complication of documenting business transactions, the complication of the market as a result of the so widely discussed globalization.

At the same time, in university classrooms, accounting training still often takes place in the style of "unlearning" the next existing regulatory documents and standards, which becomes absolutely useless as soon as one regulatory document is replaced by another.

The focus on the accounting procedure as the central element of knowledge about it is perhaps the key flaw of accounting education, which persists at the present time.



So, a machine can calculate the current liquidity ratio from the balance sheet data, and to understand what led to it is just the task of a person, a specialist in accounting and finance. It may be that the accounting policy has changed – the method of estimating inventory or the method of allocating conditionally fixed costs. It may be that there are expenses for future periods. Maybe the firm's contractual policy has changed. There may have been a revaluation of the inventory due to its impairment. It may be that current assets have increased due to an increase in long-term liabilities. There can be many reasons. And the "arithmetic" approach to assessing the financial position of a firm based on the values of analytical coefficients calculated on the basis of balance sheet data can be very, very dangerous.

The use of technologies, called AI today, can save the work of an accountant from huge amounts of routine, purely mechanical activities that take up his time from the tasks for which our profession exists – managing the company's information flows, interpreting relevant data, making decisions in the field of forming public information about the state of affairs of the company, information and consulting support for management decisions, etc.

More complex accounting tasks, such as the development of accounting policies, artificial intelligence is not yet able to solve. To do this, you need to teach them to make a professional judgment and have appropriate data sets about the organization and its external environment. The first one has not yet been described by anyone, even at the level of the concept, let alone the technical task. It will not be easy, if at all possible, to reduce all accounting work to sets of classifiable features. The second will require the creation of digital counterparts of all economic entities in the economy. This task will also not be solved in the medium term due to its scale.

Therefore, the development of artificial intelligence will be the driver of turning an accountant from an accounting executive into an architect of accounting systems, a task manager and a teacher of robotic assistants. And of course, in the interpreter of accounting information for the manager. The latter role requires what artificial intelligence does not yet know how to do — emotional intelligence.

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