

# Artificial Intelligence (AI) and Accounting

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## Abstract:

New technology is changing the way people work in every industry. It's also changing the expectations from clients when they are working with companies. The same is true for accounting domain. Artificial intelligence can help accountants to be more productive and efficient. When accounting firms adopt artificial intelligence to their practice, the firm becomes more attractive as an employer and service provider to millennials and Gen Z professionals. They grew up with technology, and they will expect prospective employers to have the latest technology and innovation to support not only their working preferences of flexible schedules and remote locations but also to free them up from mundane tasks that machines are better suited to complete. This paper focus on significance of Artificial Intelligence in Accounting system.

## Keywords

Artificial Intelligence – Machine Learning Models – AI Applications in Accounting

## I. Introduction

As artificial intelligence has done for every industry, it's making a significant impact in the world of accounting and finance. From saving time and money and providing insights, AI-enabled systems for accounting and finance are the way finance professionals and their firms will stay competitive and attract the next generation as employees and customers. For accounting firms and finance professionals to deliver services their clients will demand and compete with other professionals for business, they must begin to embrace artificial intelligence. Benefits of Artificial Intelligence for Accountants and Finance Professionals. New technology is changing the way people work in every industry. It's also changing the expectations clients have when working with companies. The same is true for accounting. Artificial intelligence can help accountants be more productive and efficient. An 80-90 per cent reduction in the time it takes to do tasks will allow human accountants to be more focused on providing counsel to their clients. Adding artificial intelligence to accounting operations will also increase the quality because errors will be reduced. When accounting firms adopt artificial intelligence to their practice, the firm becomes more attractive as an employer and service provider to millennials and Gen Z professionals. They grew up with technology, and they will expect prospective employers to have the latest technology and innovation to support not only their working preferences of flexible schedules and remote locations but also to free them up from mundane tasks that machines are better suited to complete.

As clients, millennials and Gen Zers will determine who to do business with based on the service offerings they can provide. As more accounting firms adopt artificial intelligence, they will be able to provide the data insights made possible by automation while those who don't commit to the technology will not be able to compete.

## A. Robotic Process Automation (RPA):

Allows machines or AI workers to complete repetitive, time-consuming tasks in business processes such as document analysis

and handling that are plentiful in accounting. Once RPA is in place, time accountants used to spend on these tasks is now available for more strategic and advisory work. Intelligent automation (IA) is a more sophisticated version of RPA. IA can mimic human interaction in many cases, such as understanding inferred meaning in client communication and using historical data to adapt to an activity. There are multiple applications of RPA and IA in accounting work.

AI can often provide real-time status of financial matters since it can process documents using natural language processing and computer vision faster than ever making daily reporting possible and inexpensive. This insight allows companies to be proactive and adjust course if the data show unfavorable trends.

Automated authorization and processing of documents with AI technology will enhance several internal accounting processes including procurement and purchasing, invoicing, purchase orders, expense reports, accounts payable and receivables, and more.

In accounting, there are many internal corporate, local, state and federal regulations that must be followed. AI-enabled systems help support auditing and ensure compliance by being able to monitor documents against rules and laws and flag those with issues. Fraud costs companies collectively billions of dollars each year. Machine learning algorithms can quickly sift through enormous amounts of data to discern potential fraud issues or suspicious activity that might have been otherwise missed by humans and flag it for further review.

## B. Bots in Business

The driving motivations behind the installation of AI in business processes appear to be the greater speed, accuracy and volume capability of computers when compared to their existing human counterparts.

Many businesses are already using robotic process automation systems to crunch numbers and sift data on a daily basis. For example, Kensho, is an intelligent computer system widely used by stock traders and investors to automatically analyse portfolio performance and predict market changes. The software is described as 'the world's first computational knowledge engine for the financial industry'.

Even the breaking down and translating of numerical data into colloquial terms no longer requires the input of a human operator, thanks to systems that learn with use to mimic personable patterns. UK-based Arria has developed natural language generation software (NLG) that is being used across a wide range of industries to humanize and simplify the analysis of data heavy reports. The finance sector can receive particular advantages from this. An AI system can react and adjust for changes to an economy on the other side of the planet while its company's human employees sleep. It can save days of historical data analysis by scanning reports and compiling results in seconds.

## II. Accountants and AI

1. KPMG has been using innovations from McLaren Applied Technologies (MAT) in its audit processes since 2015. Predictive analytics allows for the automation of evidence gathering and the production of complex data reports, saving time and improving client services.

2. KPMG also has an alliance with IBM's cognitive computer, Watson.
3. Deloitte has partnership with KIRA, to aid in contract and document reviewing, something which underpins vital parts of the business.
4. Deloitte-customized instances of the Kira platform, named Argus for audit processes and DICE in its consulting, have already been rolled out with further applications being explored for tax and advisory practices.

### A. How AI is transforming Accounting and Finance?

With the exception of computers brought to us by the digital revolution, accounting and finance did not change until Artificial intelligence came into force. That is until AI came into the picture and brought its many abilities and capabilities into play. AI is rapidly advancing and can now process data at lightning speed – a speed so fast that humans can't even compete. Additionally, from sophisticated machine learning techniques backing it up, AI can learn from data and draw complex conclusions that humans would have completely overlooked. Along similar lines, because it relies on code and programming to ensure everything goes according to plan, AI can greatly reduce or even eliminate errors that their human counterparts would have failed to notice.

### III. AI in Accounting for Big 4

Tax preparation, auditing and strategy consulting are services that have historically relied on an intensive use of human capital. Artificial intelligence (AI) now threatens these business models. Technologies such as natural language processing (NLP) and robotic process automation (RPA) complete in mere hours what human auditors took weeks to do. Deloitte, Ernst & Young (EY), and PricewaterhouseCoopers (PwC) and KPMG are the famed Big Four tax and accounting companies. They are using these approaches.

#### A. Natural Language Processing (NLP)

Natural Language Processing (NLP) for Document Review One of the best examples of AI put to use in accounting is in the review of high volumes of contracts. According to Muraskin, a Deloitte team might comb through hundreds of thousands of legal documents looking for a change of control provisions during a client's sale of a business unit. This used to keep dozens of employees occupied for half a year. Now, a team of six to eight members can use an AI system to complete the same task in less than a month.

#### B. Machine Learning for Anomaly Detection

Anomaly detection, which is the identification of outliers in data, is a classic application of machine learning. Similar to how a credit card company identifies potentially fraudulent credit card charges, EY uses ML to identify fraudulent invoices for clients. One of EY's global clients processes millions of invoices each year and uses this system to identify the faulty ones. This service is especially valuable for detecting fraudulent invoices that involve international parties and, in turn, helps to avoid the serious consequences that result from violating sanctions, anti-bribery regulations, or other aspects of the Foreign Corrupt Practices Act. EY's fraud detection system has a 97% accuracy and has been rolled out to over 50 companies. Mazzei shared that "rather than using project-based calculations for time and materials, this is a new way of doing business. This can be a new business model."

### C. Natural Language Generation for Producing Reports

Deloitte uses natural language generation (NLG), the creation of text by computers, in its tax business. The company processes upwards of 50,000 tax returns annually for clients' employees who have expat status or other complicated financial situations. Using NLG, Deloitte creates detailed narrative reports of individual tax returns. Its tax professionals rely on these reports to provide more targeted financial advice to clients during consultations. Innovation leaders at the Big 4 are actively deploying AI. Moving forward, the ways in which AI will continue to impact businesses is perhaps best summed up by Booz Allen Hamilton Vice President Angela Zutavern in her book *The Mathematical Corporation*, "The most powerful weapon in business today is the alliance between the mathematical smarts of machines and the imaginative human intellect of great leaders. Together they make the mathematical corporation, the business model of the future."

### D. Changing the Human Mindset

It seems like the only barrier to artificial intelligence adoption in accounting is getting people on board with the change. AI will help attain or sustain a competitive advantage, according to a study from The Boston Consulting Group and MIT Sloan School of Management 85% accounting professionals believe this to be true. Since the chief executives seem to understand the importance of artificial intelligence, it just requires a mindset shift from the accounting professionals to accept the changes. With an assist from AI-enabled systems, accountants are freed up to build relationships with their clients and deliver critical insights. To help accountants accept and hopefully embrace the tech addition to accounting firms, it's vital that the benefits of automation and artificial intelligence are shared with them and they are provided with the proper training and any support necessary to learn how best to use AI to their advantage.

Today, algorithms and code are still written by humans to solve problems and learn from scenarios put in front of them. AI is already good at automating repetitive tasks, increasing accuracy and efficiency, and discovering hidden insights and trends. It can interpret the best path to achieving an answer and learn the routines that get the best result. It can automatically upload documents, understand entries and classify them in the right accounting codes. AI never sleeps, never wears out and doesn't make mistakes.

AI creates the potential to do more with the resources we have. By automating administrative tasks, accountants can devote more time and energy on creativity — analyzing and interpreting the data to extract real value for the business and their customers.

As we move forward with the application of AI, we see three clear areas of benefit to the accountancy profession: invisible accounting, continuous audit, and active insight. This will provide businesses with the ability to capture business activity in real time, perform continuous reconciliation and make adjustments such as accruals throughout the month. This will also help reduce the burden at the end of the period. The use of AI in accountancy will bear fruit for finance professionals in the coming months and years.

#### 1. Invisible Accounting AI

Invisible accounting AI allows for repetitive tasks to be eliminated from an employee's daily workload, and also increases the amount of readily available data at one's fingertips. This, in turn, increases the intelligence available to understand the health and direction of a business at any given time. AI automatically manages the process of gathering, sorting and visualising pertinent data in a

way that helps the business run more efficiently. This frees up staff to do more productive tasks and gives them more time to drive the business forwards.

#### **E. Build Trust Through Better Financial Protection and Control**

AI can handle that data review at speed. For example, it can detect anomalies such as duplicate invoices or determine links between seemingly innocuous payments and other known risks. It can also help to assign expenses to the correct categories, ensuring the company doesn't pay out for items it shouldn't. By implementing automated anti-fraud and finance management systems, practices can significantly improve compliance procedures and protect both their own and client's finances.

In this way, AI and accountants can work together to provide a more predictive, strategic service using the available data to pick up on potential issues before they arise.

#### **IV. Active Insights help Drive Better Decisions**

Companies can use data to perform cash flow forecasting, predicting when the business might run out of money and take actions to protect against the situation ahead of time. They can identify when a customer might be about to churn and look at how to renew their series. All this means is that accountants will be able to help clients respond to financial challenges before they become acute, adjusting expenditure or processes as required.

As AI integrates wider business information flows into the accounting mix, accountants will also be able to broaden their predictive consultancy beyond pure financial planning to incorporate other areas of the business. For example, if a manufacturer sees a rise in supplier costs, the AI-equipped accountant can predict the likely impact on the business in the near future. They can advise on the best action to address the potential shortfall before it becomes a problem.

Today, we still marvel at the bullet train whizzing through a station. Now that same train service can tell passengers if there is a problem with the schedule, before they board, and advise people on alternative routes or connections. An AI-equipped service has the potential to provide an answer to passengers before they have the time to think of the question.

The banking industry also has one of the strongest financial motivations to embrace technological innovation. Aside from the profits which can be made by simply streamlining a process, it is also imperative that banks stay at the cutting edge of cybersecurity to protect itself against ever more advanced cybercriminals.

#### **V. Conclusion**

Artificial Intelligence (AI) systems can be very powerful and are transforming quickly. They provide outputs that can be extremely accurate and supercede human efforts. The more stronger applications can be found in the way of Intelligent automation and machine based auditing functioning like anomaly detection and fraud identification. However, they do not replicate human intelligence. We need to recognize the strengths and limits of this different form of intelligence, and build understanding of the best ways for humans and computers to work together.

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