

Transformative Technology: AI, Blockchain, Cloud

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PART 1: AI, Blockchain and Cloud - Transformative Technology in Business

5-Key Learning Points that I assessed in the video:

- 1.) AI, Blockchain & Cloud Computing are groundbreaking technologies that are transforming the future of business. Most businesses rely on these ground-breaking transformative technology applications because it allows businesses to enhance their company, build trust and reduce cost as a whole.
- 2.) AI, Artificial Intelligence, has enhanced business efficiency & decision-making through automating routine tasks and predicting customer behavior. Businesses are leveraging AI in many ways including personalizing marketing campaigns, streamlining customer service with chatbots and improving supply-chain management with predictive analytics. AI has allowed businesses to interact with customers on a more personalized level.
- 3.) Blockchain Technologies is a decentralized, secure ledger system known for powering cryptocurrencies like bitcoin, but applications can go beyond cryptocurrencies. Blockchains potential lies in its ability to enable transparent, tamper-proof transactions. For example, businesses can use Blockchain to track supply-chain transactions from the order to delivery which ultimately ensures transparency and reduces fraud.
- 4.) Cloud-Computing has become the modern backbone of technology infrastructure. It allows businesses to store, manage and process data remotely instead of having to pay for hardware. Google cloud is an example of a cloud, and it offers businesses the ability to run applications and store large amounts of data without having to worry about hardware.
- 5.) When combined, AI, Blockchain & Cloud create a powerful ecosystem that can drive innovation and efficiency. AI can be used to optimize blockchain processes and analyze data stored in the cloud. Cloud computing provides the infostructure to support AI models and Blockchain networks.

PART 2: Real-life ways accountants are using AI

Case Studies:

Case 1:

Snail Mail Automation explains how Karl Spanbauer, a CPA at Capital Food Bank, faced a major problem with the large amount of physical mail his accounting team had to handle. This included vendor invoices, tax notices, and other important financial documents. Because there was so much mail, some documents were delayed or even lost, which made the process inefficient and stressful for the team. Karl realized there needed to be a better and more organized solution.

Using his knowledge of automation tools from Microsoft, he created a system that could scan, summarize, and help process the mail faster. Even though it took time and effort to build, the system ended up being very successful. It made the process more efficient, reduced errors, and allowed the accounting team to handle mail in short 20-minute sprints instead of spending large amounts of time on it. Overall, his idea helped save the organization money, improved efficiency, and created a better work environment for his team.

Case 2:

Glenn Hopper, the head of AI research and development at his firm, works with a mix of private and small to midsize public companies. He focused on developing a specialized AI bot that can draft technical accounting memos because preparing these memos is something he has to do very often. Since accounting memos can be time-consuming and detailed, he wanted to find a way to make the process more efficient using AI. (Journal Accountancy, 19).

Using his knowledge and experience with AI, he prepared the memos so they could be analyzed by a large language model through a technique called retrieval-augmented generation. This allowed the AI to review information and generate draft memos much faster. However, the AI tool still requires human involvement to review and correct the memos when needed. Overall, this shows that AI can help improve efficiency and save time, but human judgment is still important to make sure the memos are accurate and reliable. (Journal Accountancy, 19).

Case 3:

The firm developed an AI interface called GWCPA Generations Advisor, which is described as a customized version of ChatGPT that helps give advice on ownership transitions. The tool requires an active subscription through OpenAI, and there is a cost depending on the level of access needed. The purpose of this interface is not to replace critical thinking, but instead to help start conversations and provide useful guidance when making decisions. It is mainly used to answer questions and help users think through certain processes and procedures.

The system was relatively easy to implement, and the main cost is the monthly subscription, which can range from about \$20 to \$200 depending on the features and access level (Journal Accountancy, 20). Over time, the tool has grown steadily, and more members have started using it. Overall, it has

helped provide value by supporting decision-making and improving how the firm communicates and advises clients. (Journal of Accountancy, 20).

Case 4:

This case talks about Don Tomoff, a CPA who uses ChatGPT to help with coding and analyzing data, which makes his work more efficient and cost-effective. The article from the Journal of Accountancy says he uses ChatGPT to generate code for Excel and other software, which automates tasks that would normally take a lot longer.

The main point of the case is how ChatGPT helps automate processes and save time. It also lets him do more in-depth research and analysis, which boosts productivity. Overall, the tool helps him get work done faster, reduces repetitive tasks, and lets him focus on the more important parts of accounting.

Case 5:

This case is about large language models (LLMs) and how they can help answer questions faster and be a powerful research tool. They're really useful, but you have to use them carefully. LLMs can generate responses way faster than a person, sometimes hundreds of times faster—which makes research a lot quicker. The article mentions that the model isn't perfect. As Young said, the answers are about "95%" factual, but the model can struggle with accurate calculations, especially when dealing with changing or inflation-adjusted numbers. As an accountant, double-checking work and making precise calculations is still really important.

Even with their flaws, LLMs can quickly answer *questions* and point out new areas to explore or improve. They're not perfect, but they're great for expanding your knowledge and helping with research.

Case 6:

This case focuses on Katebini, an advisor for not-for-profits, where she helps and informs decisions about auditing processes through AI and shows how to use audit tools safely and effectively. It talks about the range of useful features AI-powered tools can bring, like searching documentation for evidence, extracting summaries, and automating elements of financial statements. The difficulty of using these tools depends on how familiar the company is with the applications and management expertise. The payoff is important because these AI tools improve efficiency and help generate documentation exponentially.

2.3: Business Functions Carried out by Humans

The information I'm providing comes from my own practical judgment, and I'm making a categorized list of jobs that include business functions that should only be carried out by humans, not AI.

Sales Positions:

As someone who has worked in Sales, it is extremely human-focused, and it's very difficult to use an AI system to fully automate human connections. AI systems usually come across as robotic rather than personal, which makes them less effective at building real relationships. Sales negotiation is a huge part of sales, and AI can't respond quickly and accurately without having very detailed notes, like call logs, to work from.

Forensic Accounting

Intuition, correct judgment, and being judicial is a crucial part of accounting, and AI models are not fully equipped to do this yet. Specifically, fraud investigation requires detailed calculations and estimates that AI is not fully prepared to handle on its own. It also requires experience and precise results to prove a case correctly, which AI cannot do yet. This is why human judgment is still necessary in accounting.

Police

There's interpretation involved in deciding whether a crime was committed or not. There are a lot of gray areas until someone is proven guilty. This is why professional judgment and careful evaluation are so important, especially in criminal investigations.

Marketing Strategy

Marketing Research

Content Creation

Digital Marketing



As we say in accounting, “**Cash is King.**” Marketing has a similar saying: “**Content is King.**” If AI ends up messing with cash—overstating or understating value—it’s kind of the same in marketing, where it could exaggerate or misrepresent content. Makes you stop and think, right? Marketing today is way more advanced than how I learned it, and it still requires a huge amount of personal human engagement. Personally, I believe marketing works best when humans are involved—through creativity and genuine interaction. I don’t think AI gives us the same ability to create content that truly connects and engages people. Creating content for social media relies heavily on human interaction, and reporting marketing research through Tableau requires careful attention because AI can generate inaccurate qualitative and quantitative data. I’ve personally done Tableau research assignments and believe me—they’re no joke. They demand deep understanding, careful analysis, and personal judgment. That’s something AI just can’t replicate. I don’t see AI being truly creative like a human, which can ultimately limit the overall impact on the brand and quality of the content. Marketing makes the world go around because humans want to leave their mark. Without that drive, marketing would fade away, and its power would mean nothing—which also means AI holds no real power on its own.

Recruiting

Human Resources



This might seem like a skeptical response, since AI has already started taking over certain hiring processes, such as reviewing resumes and conducting cold-call screening interviews. However, AI cannot fully replace human judgment, especially when it comes to human connection and seeing a potential candidate eye to eye. There is more to hiring than just qualifications on paper, and that personal interaction is something AI cannot truly replicate. For example, AI cannot determine if an employee is a good culture fit, because that requires understanding personality, values, and how someone truly interacts with others.

Hospitality Profession



The hospitality profession is a major part of building life-long connections and interpersonal relationships with customers and patrons. The idea of using mechanical bots to take orders or make drinks seems problematic, not just because of cost and time, but because humans can move faster and adapt more easily than machines. Bots are also more prone to mistakes, which can affect service quality. Overall, relying on robots could lead to job losses and negatively impact the economy of the hospitality sector.

PART 3: Agentic AI poised to change the way CPAs work

3.1: Differences Between Agentic AI & Generative AI:

Agentic AI and Generative AI are split into different categories because they work in different ways and have different traits. The article broke down how each is used and grouped them by seven key traits.

Generative AI, for the most part, needs the user to give step-by-step prompts. It does what you tell it to do, works on tasks when prompted, and responds based on your input. Basically, it needs human interaction to really work well. ChatGPT is a good example of this—you ask a question, and it gives you answers based on what you asked.

Agentic AI comes from its name, an AI that has agency. It has the ability to run on its own and make decisions without human interface all the time. It starts with a goal set by a human and then figures out the steps needed to reach that goal. Unlike Generative AI, it can run on its own but still needs human oversight to make sure it's working correctly and safely.

Comparison:

The key difference between the two is that **Agentic AI can run on its own**, while **Generative AI always requires a human response** to guide it toward a goal. However, both still need human monitoring, since AI can make mistakes, and a human—like a CPA—needs to catch those errors to make sure the systems are working properly.

3.2: 5 Key Learning Points: Qualifying Information About the Future of Agentic AI:

Learning Point 1:

The article states that, “Agentic AI is on the verge of being incorporated into many AI tools and is expected to be widely used by year’s end,” said Donny Shimamoto, CPA/CITP, CGMA, founder and managing director of IntrapriseTechKnowlogies LLC (Journal of Accountancy, 25). The idea behind using Agentic AI is that it’ll make financial reporting easier and a lot faster, and will allow accountants to focus specifically on the part of their role that really matters, which is analyzing and strategizing around financial decisions.

Learning Point 2:

The article also breaks down how Agentic AI solves problems using four steps: **Perceive, Reason, Act, and Learn**. This process shows how Agentic AI interprets results, does research, and comes to conclusions that help humans get the answers they need.

Learning Point 3:

The article also mentions the challenges that are ahead as AI keeps being implemented. It says, “Behavioral shifts will be needed for people to harness agentic AI’s potential, as well as a willingness to see what the technology can do” (Journal of Accountancy, 29). This is showing that people are going to have to figure out on their own how to get used to the new age of AI and how it’s going to start impacting businesses worldwide. People will need to learn how to harness the power AI can bring, and see how this technology will change the game in accounting, and come to terms with that.

Learning Point 4:

They also say, “Another hurdle will be for people to understand and accept the results delivered by agentic AI. Generative AI is known to make things up, also known as ‘hallucinations.’ Agentic AI is less prone to those, but they are still possible.” (Journal of Accountancy, 29). Human input is still needed for all AI systems, and full human interaction and oversight isn’t going away anytime soon.

Learning Point 5:

The use of AI will also make training for careers more impactful and meaningful. The more these systems are used, the more powerful and helpful these AI tools become.

3.3: Agentic AI to enhance the outcomeCase 1: Snail-Mail automation

The usage of Agentic AI and how accountants would use it for Snail-Mail Automation is using a systematic approach towards tracking the mail. Using the Agentic AI would eliminate the need for work on administrative tasks and ultimately allow accountants to focus on another greater decision-making task. The Agentic AI would classify the mail, imitate follow-up tasks and track completion. In summary, the Agentic AI tool would help with administrative tasks that the company is struggling to get done in a timely manner.

Sources:

(OpenAI, 2026)

(Andrew Kenney, “Real-life ways accountants are using AI,” *Journal of Accountancy*, June 1, 2025)

Case 5: LLM Tools

This is a personal interpretation, but I think Agentic AI could handle processes way faster than a human. A person could prompt the AI, and then it could provide both qualitative and quantitative responses without needing constant human input. Humans could check in to make sure the AI is working correctly, but it would eliminate the need for accountants to do repetitive administrative work. Instead, they could focus on bigger projects like financial reporting

Case 6: Audit Automation and Assistance

By using AI tools and platforms, financial reporting can be done faster and easier without needing humans to be involved all the time. When Agentic AI is used, it can watch incoming client data, get datasets ready, organize workpapers, and coordinate tasks for the audit team automatically.

Sources:

(OpenAI, 2026)

(Andrew Kenney, “Real-life ways accountants are using AI,” *Journal of Accountancy*, June 1, 2025)

Financial Reporting

Human Roles



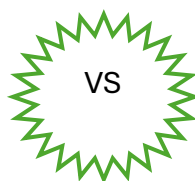
AI-Roles

Financial Evaluation and Reporting:

Interpreting data and showing what it means through financial statements is important for the company and investors. Humans are key here because they give context and explain the numbers in a way that actually makes sense for decision-making and business strategy.

Assessing & Analyzing Data:

It's important that accounting professionals, like CPAs, are responsible for processing the data, checking for errors in AI outputs, and making sure financial reporting is ethical and transparent. AI can make mistakes, so accountants need to rely heavily on their professional judgment and experience.



Data Entry & Processing:

Computing and processing financial reports and statements can be done using AI. Companies have started using AI to eliminate time-consuming parts of preparing physical financial reports, allowing accountants to focus on other roles within the organization. However, AI is not perfect, and accountants still need to work alongside it to catch and correct computation errors, ensuring reporting is accurate and precise.

Physical Data Collection:

This is mainly about the AI being able to pull reports from the company and accurately categorize and clean certain data sets. For example, the AI could pull reconciliation reports and organize them. It could also flag any missing or important documents that need to be collected and notify the accountant.

The information above assesses my own critical thinking and knowledge on accounting topics. No outside sources or information was used.

PART 4: Accounting Agents Fail on Complex Real-World Long-Term Tasks

4.1: AI Experiment Test

Penrose put a state-of-the-art generalized AI into the test running the bookkeeping for a real Delaware C-Corp and benchmarking it against human-audited finances. The goal of the experiment was to see if the AI could autonomously manage the company's finances for a full year. Multiple large language and general AI models were included. The AI's tested in this experiment were opus, sonnet, grok, Gemini 2.5 pro, 03 and 04-mini. 03, 04-mini and 2.5 pro were unable to close 1 month of books, giving up partway through. O3 and o4 mini give-up-models come from AI and Gemini 2.5 Pro came from google.

4.2 Which tasks AI is good at? Which tasks AI is NOT so good at?

The models are good at finding and following historical precedents. They were instructed to do so in the system prompt. AI's errors come from models being overzealous and recording transactions incorrectly before fully understanding the source data and then struggling to clean up after themselves.

4.3 Discuss at least four other important learning points from the summary & the experiment.

Learning Point 1:

This should be considered a reality check for accounting and finance professionals. According to the article, "The AI failed, producing financial statements with a 38% error rate which is a catastrophic outcome for any real business" (<https://accounting.penrose.com/>).

Learning Point 2:

The Expert Summary also states, "After a few months, this state of confusion dominates, and while models are able to copy over raw transactions, they do very little beyond that to correct / adjust." (AI Flaw.). This proves that AI is not enhanced enough yet to do basic Bookkeeping and track accounting records just yet. It is still a very undiversified system that has yet to make significant improvements in the accounting process.

Learning Point 3:

This experiment was done without the interference of human interaction. According to the article summary, it states, "Its sole task was to ingest the data, categorize every transaction and generate standard financial reports specifically a profit & loss statement and a balance sheet. The AI operated as a standalone agent without human-in-the-loop correction." (<https://accounting.penrose.com/>). This means that no manual reconciliation adjustments were made and no accountant fixed misclassifications.

Learning Point 4:

Finance and accounting are a very demanding field that requires accuracy and precision in reporting over long periods of time. Every problem a company faces eventually shows up in financial records, and addressing these issues often requires judgment, context, and professional experience. Something that AI tools are not yet capable of fully replicating or computing.

4.3: Results and Summary conclusion:

I am not surprised by what I learned from this experiment. Based on the information presented, LLMs are not yet reliable enough to be heavily dependent on financial control systems. Human oversight continues to play a crucial role in accounting because accuracy and consistency are essential in financial reporting.

This shows that while AI can assist with accounting tasks, it cannot replace professional judgment and oversight at this stage.

The future implications of AI in accounting careers can feel alarming, especially when it comes to job security and placement in a field that has created impactful and meaningful careers worldwide. However, I do not believe AI can completely take over or fully replace the role of a CPA. Many people outside of accounting focus only on the tasks accountants perform rather than the overall role they play. Accountants are responsible for much more than just financial reporting, reconciliations, and bookkeeping. They are also responsible for analysis, interpretation, and clear communication of financial information.

4.4 Provide at least two suggestions on how to avoid the AI flaw.

Ultimately, I believe accountants and AI can work together if AI becomes more advanced. Instead of replacing professionals, AI could handle routine or repetitive tasks, allowing accountants to focus more on strategic thinking, decision-making, and advisory responsibilities. This partnership would strengthen the profession rather than eliminate it.

Without human involvement, errors would likely go unnoticed. If AI overstated net income, that mistake would not just affect one month. It would carry over into retained earnings and impact equity. Over time, the misinterpretation of cash flow and equity would continue to compound month after month. Even small errors in categorizing transactions could eventually create significant distortions in the company's financial statements some companies might assume they can reduce accounting roles because they have AI tools, but the reality is that these roles will shift rather than disappear. Accounting professionals, such as CPAs, will be needed to supervise AI outputs, verify computations, and correct errors when AI generates financial decisions or reports. In this way, human expertise becomes even more critical, guiding AI to ensure accuracy, compliance, and meaningful financial interpretation.

Source Page:

(OpenAI, 2026)

(Journal of Accountancy)

(Andrew Kenney, "Real-life ways accountants are using AI," Journal of Accountancy, June 1, 2025)

(<https://accounting.penrose.com/>)

(AI Flaw)