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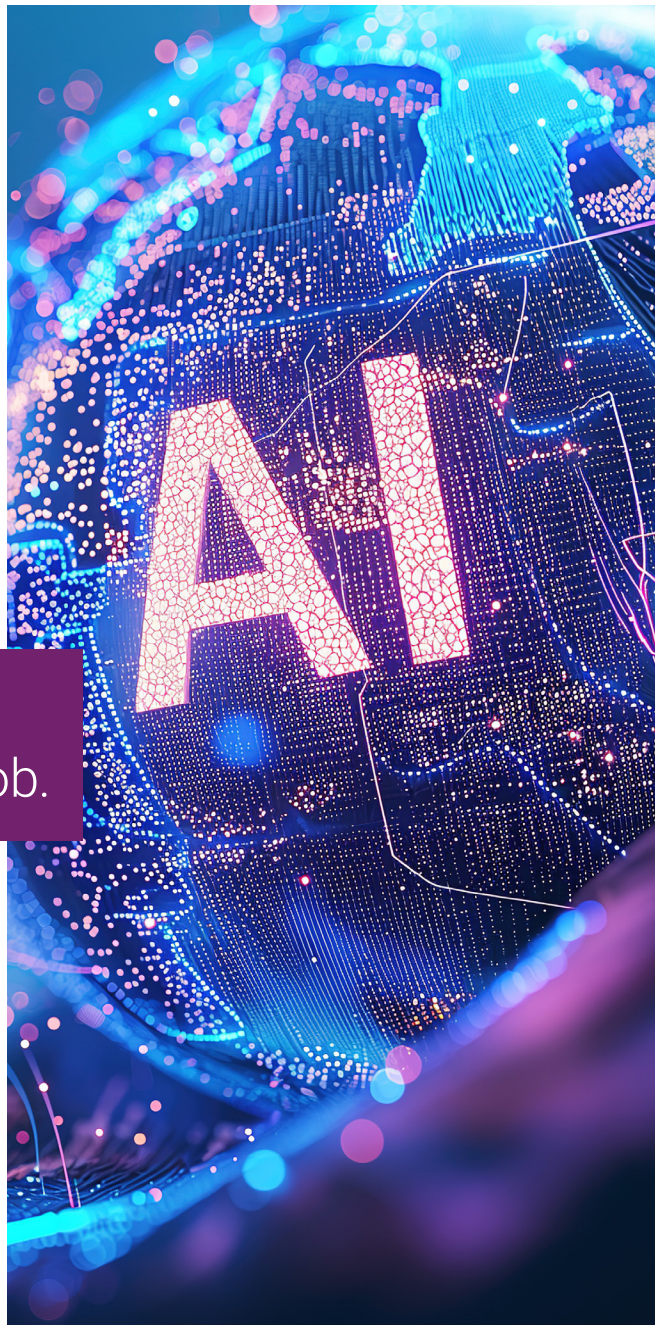
AI explained: An accountant's primer on models and use cases

In collaboration with RADICAL+

Introduction

A major challenge facing accounting firms today is treating "AI" as one single technology. In practice, there are five distinct types of AI tools, each with different strengths, weaknesses and appropriate uses. Conflating these tools leads to poor purchasing decisions, wasted investment and mistakes in your work product.

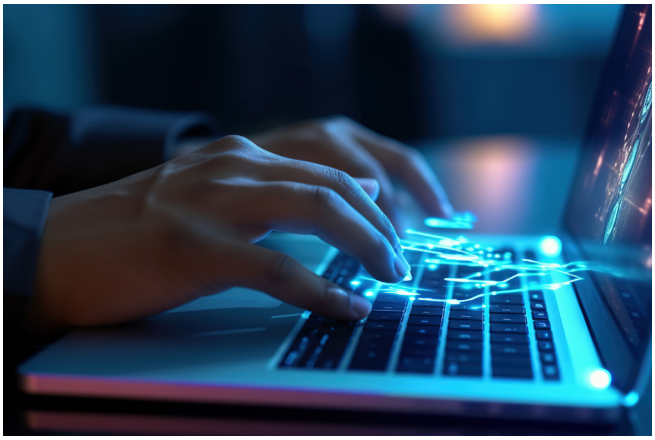
The confusion stems from how vendors and media use technical terms. "GPT", "ML" and "AI agents" are thrown around interchangeably, even though they're fundamentally different technologies. For accounting professionals, understanding these differences is critical — it determines whether a tool will actually save you time or just create more work.



Remember:
Use the right tool for the right job.

CPA.com created an AI Working Group that consists of firm leaders, technologists and AI experts, led by our innovation partners at be radical. One of the contributors on the working group is Jeff Seibert, founder and CEO of Digits. In a recent meeting, Seibert broke down the different types of AI technologies, and, more importantly, how each best solves accounting and finance tasks. "AI isn't magic — it's math," said Seibert. "Beneath the hype, each class of model brings its own strengths and weaknesses, so understanding how they actually work and where they should be applied is critical for firms to achieve the ROI they're hoping for."

The 5 types of AI technology



1

Generative AI

(ChatGPT, GPT, large language models)

These are the AI tools that most people know from the news. They work by predicting the next word (or word fragment) based on patterns in their training data. Think of them as sophisticated text generators.

Best for: Writing emails to clients, drafting explanations, creating first drafts of content and summarizing information in plain language.

Limitations: They "hallucinate" — meaning they confidently generate incorrect information that sounds right. As these models improve, hallucinations are becoming less frequent but also more convincing, making them increasingly difficult to identify. They also can't actually do math. When they appear to calculate something, they're generating and running code behind the scenes.

Bottom line for accounting: Great for communication and drafting, but don't trust them for anything requiring accuracy or consistency.

2

Predictive AI

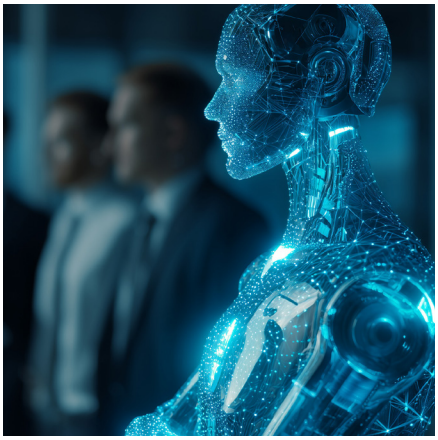
(machine learning, classification models)

These models assign probability scores to predefined categories. Unlike generative AI, they can only choose from options you've given them — they can't make up new answers. *Example: A predictive model categorizing transactions to your chart of accounts can only pick from the accounts that exist. It assigns a probability to each possible account, then selects the most likely one.*

Best for: Transaction categorization, vendor classification, expense coding, account assignments.

Limitations: Limited to predefined categories. Requires training on your specific data.

Bottom line for accounting:
This is what you want for consistent, repetitive categorization tasks. Far more reliable than generative AI for classification work.



3

Document extraction AI

An extension of generative AI, these tools read documents by understanding both the text and the layout simultaneously. They're much smarter than traditional optical character recognition (OCR) because they understand context and document structure, not just individual characters.

Best for: Extracting data from invoices, receipts, tax forms, bank statements and any financial documents. Able to return data as structured information.

Limitations: Accuracy depends on document quality and format variety. Can be quite slow.

Bottom line for accounting: This technology has effectively replaced old OCR systems. It handles varied document formats without needing custom templates.

4

AI agents

Agents are generative AI systems that can use tools to accomplish a goal. They work in a loop: Receive an objective, break it down into tasks, choose which tools to use, execute those tools, check if the goal is met, repeat until done. Modern agents can collaborate, plan executions and reflect on generated responses before submitting them back to the user.

Best for: Complex research tasks, multi-step workflows, handling unusual transactions that need investigation.

Limitations: Most expensive to run, least predictable, can take significant time to complete tasks.

Bottom line for accounting: Powerful for handling exceptions and complex scenarios, but overkill for routine work.

5

Traditional algorithms and statistics *(not actually AI)*

These are standard computer programs and statistical methods — the kinds of tools accountants have used for decades, just more sophisticated.

Best for: Reconciliations, variance analysis, anomaly detection, flux analysis.

Why they matter: Often the cheapest, fastest, most efficient and most reliable solution. Many problems don't need AI at all.

Bottom line for accounting: Don't overlook traditional solutions just because they're not trendy. They're often the best answer.

How these technologies are being applied to everyday uses cases in accounting

Transaction categorization and booking

Current state:
Pure generative AI (like ChatGPT) maxes out around 70% accuracy for transaction booking. That means reviewing 30% of transactions which may not save you much time — or all of them, because you don't know which 30% are wrong. Recent model updates haven't improved this much.

Better approach:
Use predictive AI as your primary tool, achieving 95%+ accuracy with confidence scores. The system should flag low-confidence transactions for review. Use AI agents to investigate truly unusual transactions, and only use generative AI as a last resort for the remaining items.

Bank and credit card reconciliation

Document extraction AI:
Pulls transaction data from statements.

Traditional algorithms:
Actually perform the reconciliation matching.

Why this matters:
Reconciliation is fundamentally a matching problem (technically an "N-factorial combinatorial problem"). Traditional algorithms solve this better than any AI model.

Depreciation schedules and workpapers

Predictive AI:
Identifies which transactions need to go into schedules.

Generative AI or agents:
Suggests depreciation methods, amortization approaches and schedule structures.

Document extraction AI:
Reads existing schedules and workbooks.

Review and quality control

Traditional statistics:
Detects anomalies and outliers — things that don't fit normal patterns.

Generative AI or agents:
Helps you research unusual items and generates questions for follow-up.

Financial analysis and reporting

Traditional statistics:
Performs variance and flux analyses, comparing actuals to budgets or prior periods to identify significant changes and their causes.

Generative AI:
Writes the narrative explanations and summarizes insights for presentation.

Key point:
The analytical work itself still relies on traditional methods — AI just helps communicate the findings.

Client communications

Generative AI shines here:
Drafting emails, explaining complex tax or accounting concepts in plain language, adapting tone and style for different clients.

AI agents:
Can handle client questions that require research, look up information and manage follow-up tasks.

Tax preparation

Document extraction AI:
Reads and extracts data from tax forms.

Traditional RPA (robotic process automation):
Enters data into tax software.

Why this works:
Simple, effective and doesn't require cutting-edge technology.

Audit work

Document extraction AI:
Processes source documents like invoices, contracts and supporting documentation.

AI agents:
Review transactions, match supporting documents and trace items through the records.

Traditional statistics:
Identify outliers and items requiring additional testing.

How to evaluate AI solutions for your firm

Don't accept vague promises about "AI-powered" solutions. Ask specific questions:

1. **What specific type of AI does this use?**
   (generative, predictive, document extraction, agent or traditional algorithm?)

2. **What accuracy rate does it achieve?**
   Ask for real numbers, not marketing claims. Be suspicious of >99% claims.

3. **How does the review process work?**
   What percentage of transactions will need human review?

4. **Does it provide confidence scores?**
   Can it tell you when it's uncertain?

5. **Is this the right technology for the task?**
   Or is the vendor using trendy AI when a traditional algorithm would work better?

6. **What does the training process look like?**
   Will it learn from your specific data and workflows?

For a deeper dive into how you can have more productive conversations with your AI solution providers, access the **AI Due Diligence Guide for Accounting Firms** resource at cpa.com/AI.

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The real competitive advantage

Over the next decade, the firms that succeed won't be those that adopted AI first. They'll be the firms that:

Used the right technology for each specific task

Had the discipline to stick with traditional methods when those work better

Built workflows that play to each technology's strengths

Avoided the weaknesses inherent in each approach

Key takeaways

"AI" isn't one thing — there are at least five different technologies with different use cases.

Generative AI (ex: ChatGPT) is great for writing but unreliable for accuracy-critical work.

Predictive AI (ML) is your best bet for transaction categorization.

Document extraction has replaced old OCR systems.

AI agents are powerful but expensive — reserve them for complex exceptions.

Traditional algorithms and statistics often outperform AI for computational tasks.

Ask vendors specific questions about what technology they're using and why.

The winner won't be the first to adopt AI, but the firm that uses the right tool for each job.

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