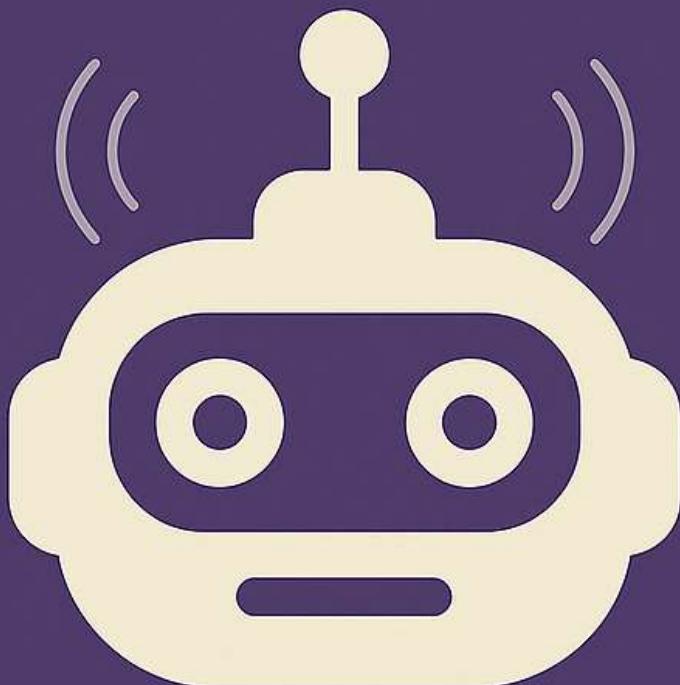


AI AND ACCOUNTING

The New Language
of Numbers



01 May 2025

HAMMAN SCHOONWINKEL

With some assistance from a very helpful robot

Introduction

Artificial intelligence (AI) is rapidly transforming the accounting profession. What started as simple automation of data entry has evolved into intelligent systems that learn patterns, detect anomalies, and even generate financial insights in natural language. For accountants, understanding AI's impact is crucial to staying ahead. Recent studies show that about half of all tasks performed by workers could be done faster with generative AI. In accounting specifically, a 2022 survey found 24% of top-performing firms already use AI in some form – a number poised to grow as tools like ChatGPT help professionals do more with fewer staff. In fact, nearly 72% of companies are now piloting or using AI in financial reporting, and that is expected to rise to 99% within three years. These statistics underscore that we are on the cusp of an AI revolution in accounting, not some far-off hype. This chapter will explore three stages of this revolution: (1) current real-world use cases of AI in accounting, (2) emerging trends that are beginning to reshape practices, and (3) speculative futures for how accounting might look if AI becomes deeply embedded. Along the way, we'll explain how these AI systems work in accessible terms and consider how the accountant's role may shift from number-crunching and compliance toward interpretation, oversight, and advisory work.

1. Current Use Cases: AI in Accounting Today

AI is already hard at work in many accounting departments, automating routine tasks and augmenting accountants' capabilities. Below are some of the prominent real-world applications we see today:

1.1 Invoice Processing

One of the most mature and widely adopted applications of AI in accounting today is in the area of Accounts Payable (AP) automation, specifically

invoice processing. Modern AP systems aim to reduce the heavy manual burden of entering supplier invoices, matching them to purchase orders, and ensuring their accuracy — tasks traditionally prone to delays, fatigue, and human error. At the heart of this automation is AI-enhanced Optical Character Recognition (OCR) technology, but in real-world accounting workflows, the process involves much more than simply reading text from a page.

How OCR and AI Work Together

Traditional OCR extracts visible text from scanned documents, but without any understanding of meaning. Modern systems combine OCR with machine learning models that allow them to recognise not just words, but the structure and meaning behind those words.

In practice, the system follows four broad steps:

First, it scans the invoice document (whether PDF, JPG, scanned paper, or an email attachment). Second, it extracts all visible text using OCR technology. Third, it classifies the text into meaningful accounting fields such as vendor name, invoice number, invoice date, due date, line-item descriptions, quantities, prices, tax amounts, and total amount due. Finally, for each extracted field, the system assigns a confidence score — for instance, it may be 97% certain that it has correctly identified the invoice total. High-confidence fields can be auto-approved for posting, while low-confidence fields are flagged for human review.

This layered approach allows AI to handle large volumes of straightforward documents autonomously, while still ensuring human oversight in cases of uncertainty. It reflects a practical, safety-first integration of AI into critical business processes.

Pre-Trained Models and User Learning

Most modern accounting platforms — such as Sage Intacct, Dext, Hubdoc, Xero, and QuickBooks Online — leverage pre-trained AI models. These models have been exposed to millions of historical invoices across different industries and supplier formats. As a result, companies adopting these

solutions do not need to train the system manually from scratch. The AI typically works "out of the box," accurately extracting fields even on first use. Over time, passive learning occurs. When users manually correct mistakes — for example, adjusting an incorrectly captured supplier name — the system gradually refines its future predictions based on those adjustments. This continual, behind-the-scenes learning improves accuracy without burdening the end-user.

What Types of Documents Are Handled?

While supplier invoices are the primary focus, AI-powered systems are increasingly capable of processing related documents such as receipts for employee expense claims, purchase orders (POs), credit notes, utility bills, and even supplier statements of account in some cases.

It is useful to understand how document structure affects processing complexity. Structured documents (like XML exports) have fixed formats and fields, making them very easy for machines to interpret. Semi-structured documents (like invoices and receipts) have common fields but varying layouts, which is where AI really shines. Unstructured documents (like emails or freeform letters) are far more difficult, as they lack consistent formatting and require much more advanced natural language processing. Invoices fall into the semi-structured category — regular enough to be predictable, but flexible enough to challenge older, rigid systems without AI.

How Invoices Enter the System

Invoices reach the accounting platform through various channels. Some are uploaded manually by accountants dragging and dropping files. Many are sent via dedicated AP email addresses (such as invoices@companybooks.com), where the system automatically detects and extracts attachments for processing. Larger companies may provide supplier portals where vendors upload invoices directly.

Additionally, apps like Dext and AutoEntry capture invoices externally and then push them into accounting software, sometimes enriching the data

along the way. Mobile apps also allow employees to photograph paper invoices or receipts for instant processing.

This multi-channel intake ensures that businesses can capture invoices as early as possible, regardless of the format or the supplier's technical sophistication.

How Accountants Work With AI Today

With AI handling the heavy lifting of invoice data extraction and basic coding, accountants no longer spend hours manually entering line items. Instead, their role has shifted toward reviewing AI-suggested entries, handling flagged low-confidence fields, and managing exceptions where unusual or problematic invoices arise. In many companies, AP staff now spend most of their time on approvals, exception handling, supplier management, and higher-value activities, rather than routine typing and posting.

Data shows that businesses processing 700–900 invoices per month can achieve up to 90–95% auto-extraction accuracy within the first month of use, leading to huge time savings and fewer errors. Some early adopters report recouping their investment in AP automation within just a few months.

1.2 Expense Management and Receipt Processing

AI has transformed the way companies handle employee expense claims and receipt management, streamlining what used to be a tedious manual process.

Modern expense management apps like Expensify's SmartScan, SAP Concur, and Zoho Expense allow users to photograph or upload receipts. Behind the scenes, AI engines extract critical data fields such as the merchant name, transaction date, amount, and tax breakdowns. These systems use machine learning-enhanced Optical Character Recognition (OCR), meaning they can read text from receipts even when fonts, layouts, or image quality vary.

After extraction, the AI categorizes the expense automatically. For instance, a receipt from "Joe's Diner" would likely be classified under "Meals and

"Entertainment," while a transaction from "OfficeWorks" would be placed into "Office Supplies." Importantly, categorization does not rely purely on exact name matches – instead, AI uses similarity thresholds and past transaction patterns to make informed guesses, allowing it to classify even unfamiliar vendors with reasonable accuracy. When a receipt falls outside of expected parameters – say, a highly unusual amount or an unrecognisable merchant – the system typically flags it for manual review rather than approving it outright. This keeps humans involved in critical judgment calls without bogging them down in repetitive entry work.

Another key benefit lies in duplicate detection. If an employee submits the same receipt twice, or submits a claim already covered by a corporate card charge, AI can catch the overlap by comparing merchant names, dates, and amounts. Similarly, the AI may detect missing receipts for known expenditures, prompting users before submission.

In tax contexts, especially with VAT/GST recovery, AI further assists by verifying that receipts meet minimum standards for tax reclaim – such as showing a valid VAT number, listing tax amounts separately, and ensuring the transaction is eligible based on category and jurisdiction. Systems can automatically group tax-relevant expenses and prepare them for reporting, improving compliance while minimizing the manual sorting that accountants once handled.

Typically, expense management systems allow receipts to be uploaded manually via smartphone apps or desktop portals. However, more advanced integrations also pull receipts automatically from connected email accounts (such as scraping emailed hotel invoices) or corporate card feeds, further reducing the burden on users.

In practice, AI-powered expense management systems now handle a substantial share of the expense processing workload. Humans intervene mainly to verify edge cases, approve exceptions, and enforce policy nuances that AI still struggles to grasp – such as distinguishing between business and personal expenses on ambiguous items.

Overall, AI in expense management is a clear win: it speeds up reimbursement cycles, reduces human error, strengthens compliance with tax and audit requirements, and frees accounting teams to focus on oversight rather than data entry.

1.3 Smart Transaction Coding and Journal Entry Suggestions

Beyond helping employees categorize individual expenses, AI is playing an increasingly important role deeper inside the general ledger — assisting accountants in coding transactions and even suggesting full journal entries.

Modern accounting platforms like Xero, Sage Intacct, and Oracle NetSuite now use machine learning to analyze historical ledger entries and predict future coding decisions. For example, if invoices from a supplier like "ABC Office Supplies" were coded to "Office Expenses" 90% of the time in the past, the system will learn this pattern. When a new invoice arrives from the same vendor — even if the description varies slightly — the AI can automatically suggest or pre-fill "Office Expenses" as the correct ledger account.

This functionality also extends to bank feeds. When transactions from a linked bank account flow into the accounting system, AI algorithms propose how to classify them. A R1,000 card transaction from "The Printer Company" might be auto-mapped to "Printing and Stationery," while a monthly payment to "ABC Rentals" could be suggested for "Rent Expense." Crucially, the AI doesn't rely on fixed rules alone — it adapts as the business changes. If a vendor that used to sell office supplies starts billing for computer services, the model gradually adjusts its suggestions.

Beyond simple coding, some systems are now moving toward routine journal entry generation. For example:

- If a subscription spans multiple months, the AI may suggest splitting the expense and creating accruals automatically.
- For monthly depreciation, AI can prepopulate journal entries based on asset schedules.

- Intercompany loan payments may trigger suggested balancing entries across different entities.

This evolution goes beyond keyword matching – the systems recognise financial logic and timing relationships between transactions.

Typically, AI-driven suggestions come with a confidence score behind the scenes. If the model is very confident (say, 97% based on prior matching), it may auto-fill the suggestion. If the confidence is lower, the system might still suggest, but flag the entry for mandatory human review.

Importantly, human accountants are still in the loop. They must review, approve, or correct AI-suggested codings and entries. This protects the integrity of financial records and ensures that non-routine, judgment-heavy items (like complex contract revenue recognition) are handled manually. In effect, AI is taking over the mechanical, high-volume work of bookkeeping, freeing accountants to focus more on exceptions, analysis, and advisory rather than on routine categorization.

Smart transaction coding doesn't just save time – it improves consistency, reduces clerical errors, and accelerates monthly close cycles. As AI models mature, it's becoming increasingly common for systems to code 70–90% of transaction streams with little or no manual intervention – a dramatic shift from the traditional data-entry-heavy role of accountants just a few years ago.

1.4 Fraud Detection and Anomaly Spotting

One of AI's most powerful contributions to accounting and audit is its ability to detect anomalies – irregularities that could signal mistakes, fraud, or emerging risks.

Traditional controls can catch obvious errors, like a debit not equaling a credit, but they struggle with subtle or hidden patterns. AI thrives at pattern recognition, scanning entire ledgers – not just samples – and spotting transactions that deviate from expected behavior across thousands (or even millions) of entries.

For example, machine learning-based systems such as MindBridge AI Auditor or CaseWare Sherlock ingest accounting data and flag entries that look unusual. Anomalies might include a vendor being paid outside normal business hours, a round-dollar amount like exactly R50,000 where historical amounts were usually varied, an unusually large refund to a customer without matching sales documentation, or a payment to a brand-new supplier who bypassed the normal approval process.

Behind the scenes, different AI strategies are used to detect these patterns. In supervised anomaly detection, the system is trained with historical examples of known frauds or errors, learning what problematic transactions "look like." In unsupervised anomaly detection, the AI doesn't rely on pre-labeled examples; it simply observes what typical behaviour is across the dataset and flags anything that deviates too sharply from the norm. This is particularly valuable because real-world fraud schemes often evolve faster than training datasets.

One famous statistical principle sometimes embedded into these systems is Benford's Law — the idea that in naturally occurring numbers, lower digits like 1 and 2 tend to appear more frequently as the first digit. If financial numbers show a suspiciously even distribution of first digits, it could indicate manipulation. In practice, Benford's Law has helped uncover fraudulent expense reports, fabricated revenue, and procurement fraud where fictitious vendors were created.

Beyond catching fraud, AI is also highly effective at detecting genuine human mistakes. For instance, an extra zero might be mistakenly added, turning a R1,000 payment into R10,000 — a simple error that could otherwise lead to material misstatements.

However, not every flagged anomaly is a sign of wrongdoing. Many anomalies are perfectly legitimate, such as a rare but approved capital expenditure, or a unique refund tied to a customer retention effort. This is why AI is not a replacement for accountants and auditors, but a force multiplier: it surfaces the highest-risk transactions for human investigation,

saving enormous amounts of time and making risk management more targeted and efficient.

By allowing entire transaction populations to be scanned — rather than relying only on sample-based audits — AI is fundamentally reshaping how accountants approach internal controls and financial assurance. As these systems continue to evolve, they will increasingly serve as a second set of tireless, unbiased eyes, enabling professionals to focus on judgment, ethics, and strategic analysis, rather than chasing down spreadsheet discrepancies.

1.5 AI-Assisted Financial Close and Reconciliations

The month-end close has historically been one of the most stressful periods in the accounting calendar. Reconciling accounts, posting adjustments, correcting errors, and preparing draft statements all happen under intense time pressure. Even minor discrepancies can derail the entire process, requiring accountants to chase down missing entries or search for pennies across dozens of reconciliations. AI is beginning to ease this chaos, quietly transforming the close from a scramble into a more streamlined, predictable process.

One key area where AI already makes a visible difference is in transaction matching and reconciliation. Machine learning models are now embedded within modern financial software, helping match items across different systems — for example, tying together cash ledger entries and external bank statements, or aligning accounts receivable between intercompany divisions. When an entry on one side does not perfectly match an entry on the other — a common headache — the AI can propose intelligent matches based on context. If a R5,000 cash receipt comes in but no single invoice matches, the AI might suggest that two outstanding invoices for R3,000 and R2,000 together explain it, even if the descriptions and timing are slightly different.

This kind of fuzzy, probabilistic matching moves beyond rigid rule-based systems of the past. AI understands that small timing differences, rounding

errors, or data-entry inconsistencies don't necessarily imply a true mismatch. As a result, accountants spend far less time manually ticking and tying transactions, and far more time focusing on reviewing only the truly problematic discrepancies.

Beyond simple matching, AI is also being used for anomaly detection within the close process itself. If a particular recurring journal entry — say, an accrual for software licenses — is missing this month, the AI can flag the omission based on learned patterns from past periods. Similarly, if intercompany eliminations seem unbalanced relative to historical norms, the system can highlight these for review before final consolidation. This "pattern memory" turns AI into an assistant that not only helps match entries but also proactively watches for human forgetfulness or unexpected deviations.

Some companies are taking this even further, using AI-powered bots to collect data from disparate ERP, CRM, and treasury systems during close. These bots can automatically pull trial balances, currency conversion rates, sub-ledger details, and draft preliminary consolidated financial statements — all without the need for manual export/import operations. Instead of assembling dozens of spreadsheets by hand, accountants receive semi-automated first drafts ready for final review and adjustments.

Despite these advancements, it's important to note that full end-to-end close automation is not yet common. Challenges remain around judgmental entries (such as provisioning for legal claims), multi-entity eliminations with complex ownership structures, and ensuring the appropriate application of IFRS or other reporting standards. However, the direction is clear: AI is rapidly transforming the month-end close from a human bottleneck into a hybrid human-AI process, where machines handle the routine groundwork and people focus on interpretation, critical thinking, and quality assurance.

Ultimately, the accountants who embrace AI tools for close processes will spend less time reconciling and more time adding value — analyzing variances, identifying emerging financial risks, and advising on strategic

financial improvements. In other words, AI isn't about eliminating accountants from the close. It's about freeing them to be better accountants.

1.6 Predictive Analytics

While much of accounting historically focused on documenting what already happened, the rise of AI is shifting the profession toward looking forward. Predictive analytics is one of the most exciting current applications, helping accountants and finance teams move from reporting past results to actively forecasting future financial outcomes.

Modern FP&A (Financial Planning and Analysis) departments increasingly deploy AI tools that can digest enormous volumes of historical data — invoices, cash receipts, expenses, customer behaviours, macroeconomic trends — and use this information to predict what is likely to happen next. Rather than relying purely on human intuition or simplistic extrapolation, machine learning models can uncover hidden patterns and subtle correlations that traditional forecasting methods often miss.

For example, AI can assess which outstanding customer invoices are most likely to become delinquent by analyzing not just past payment timing, but also factors like order sizes, product types, economic indicators, and even customer demographics. This allows companies to anticipate cash flow risks earlier and tighten credit policies or collection efforts proactively. Similarly, AI models can forecast seasonal expense spikes — like rising utility bills in winter or travel costs at fiscal year-end — by detecting recurring patterns across years and variables.

Beyond basic forecasts, predictive models can identify early warning signs embedded in the data. A slow, creeping rise in return rates, a gradual lengthening of accounts receivable days, or a subtle decrease in customer renewal rates might not immediately alarm human analysts. But AI can flag these micro-trends as potential future risks to revenue or cash flow, allowing management to intervene before problems grow.

In budgeting processes, AI-assisted projections allow for dynamic, scenario-based planning. Instead of preparing a single static budget, finance teams can model multiple potential futures — a base case, a recession case, a growth surge case — and adjust strategy accordingly. Some systems even provide real-time reforecasting, updating projections automatically as new data flows in, without waiting for quarterly or annual cycles.

While these predictive systems are powerful, it is important to remember that they are not crystal balls. Predictions are only as good as the data fed into the models, and sudden external shocks (like a global pandemic or supply chain collapse) can render even the best-trained AI blind. Nevertheless, AI gives accountants a much sharper lens through which to anticipate rather than merely react.

In day-to-day practice, this might mean using AI dashboards that project cash reserves three months out, suggest optimal inventory levels for fluctuating demand, or predict which vendors are at higher risk of default. Accountants thus become financial navigators — steering organizations based not only on where they've been, but on credible forecasts of where they are headed.

At its core, predictive analytics doesn't replace human financial judgment. It enhances it — providing accountants with a richer, more data-driven foundation for strategic decisions, risk mitigation, and opportunity identification.

2. Emerging Trends: What's Next?

As AI technology matures, especially with the advent of powerful large language models (LLMs) like ChatGPT, new possibilities are opening up in accounting. We're seeing early experiments and beta features that go beyond automating rote tasks to delivering higher-level insights and

assistance. Here are some emerging trends that are beginning to reshape accounting practices:

2.1 Generative AI Assistants

One of the most revolutionary shifts currently underway is the emergence of conversational AI assistants embedded directly into finance and accounting workflows. Instead of clicking through multiple screens or pulling reports manually, accountants can now simply ask questions in natural language – and receive immediate, intelligent answers.

Imagine opening your accounting system and typing:

"Have we received payment from Client X for the March invoice?"

or

"What's the total of outstanding payables this week?"

and getting a clear, instant response, complete with linked source documents if needed. This type of natural language interface is rapidly becoming reality.

Leading the charge is Intuit, the maker of QuickBooks, which introduced Intuit Assist, a generative AI financial assistant embedded directly into its products. Users can now interact conversationally with their accounting data: the AI can automatically create an invoice from a forwarded email, detect overdue payments and draft personalized reminder emails, or categorize incoming bank transactions – all triggered by simple prompts, without tedious manual data entry.

Similarly, Microsoft 365 Copilot is weaving AI into Excel and financial analysis workflows. An accountant could ask, "Summarize the major changes in our expenses this quarter," and receive a concise narrative, charts, or even a draft management commentary. Instead of manually calculating variances and building slides, the AI provides a first draft that humans can then fine-tune.

In practice, this means small business owners, freelancers, and even large corporate finance teams can automate administrative bottlenecks. A vendor's email can be forwarded and instantly converted into a bill. A list of outstanding receivables can be surfaced with a simple question. A draft cash flow forecast can be generated by pulling patterns from the ledger, without manually exporting and modeling data.

Beyond embedded systems, general-purpose models like ChatGPT (with proper security measures) are also finding use. Accountants increasingly turn to LLMs to draft explanations of IFRS standards, brainstorm audit procedures for unusual industries, summarize new tax legislation, or compose technical client memos. Instead of starting from scratch, they start from an AI-assisted first draft, greatly accelerating their work.

Of course, caution is still essential. These models can "hallucinate" — producing plausible but inaccurate information — and require human oversight. However, in the majority of cases, they act like a junior analyst or trainee accountant, handling the groundwork and allowing senior staff to focus on higher-value analysis and decision-making.

Already, firms are piloting internal chatbots trained on company-specific accounting policies, workflows, and templates, allowing staff to ask questions like, "What's the process for recognising revenue on bundled contracts?" and receiving answers aligned with internal controls and standards. Early results show time savings of 20–30% on common knowledge queries.

The trend is still in its early stages, but the potential is enormous. In a few years, an accountant's first instinct for resolving a procedural or analytical question may not be to check a dusty manual or disturb a busy senior — it may simply be to ask the system.

Generative AI is thus not just a tool. It is fast becoming a digital teammate, working alongside human accountants to increase speed, reduce repetitive work, and lower barriers to accessing financial insights.

2.2 AI Dashboards and Narratives

While much of AI's early role in accounting focused on capturing and categorizing transactions, an even more powerful development is now taking place: AI is becoming capable of interpreting the numbers and communicating financial insights automatically.

Modern AI-driven dashboards no longer simply display static charts or tables. They actively monitor financial data in real time, flagging anomalies, highlighting trends, and even offering explanatory insights without being explicitly programmed for every situation.

For example, an embedded AI agent might proactively alert management: "Inventory turnover has dropped 15% this month compared to historical averages – this could indicate slowing sales or potential obsolescence risk."

Instead of accountants needing to sift through dozens of reports to spot issues manually, AI surfaces the most important signals, drawing attention to what truly matters.

This dynamic monitoring is already being woven into business intelligence platforms. Tools like Power BI, Tableau with Einstein AI, and specialized accounting systems now offer features where a dashboard not only visualizes data but can generate automatic commentary.

For example, next to a sales variance chart, the software might generate:

"Revenue increased by 10% year-over-year, primarily driven by expansion in the North region, while cost of sales remained stable, resulting in improved gross margins."

The real game-changer is the integration of large language models (LLMs) into this process. Instead of relying on pre-programmed templates for narrative generation, LLMs can produce context-specific summaries tailored to the company's unique patterns.

Startups and leading accounting software providers are now piloting systems where, once finalized financial statements are uploaded, the AI

produces a first draft of the Management Discussion and Analysis (MD&A) or internal quarterly reviews.

Imagine uploading your Q2 financials and receiving a detailed, GPT-drafted commentary:

"In Q2 2025, net sales increased by 8% compared to Q2 2024. While the launch of the EcoLine product series contributed directly to a 3% uplift, the majority of the revenue growth stemmed from existing product lines benefiting from a shift in customer purchasing behaviour toward bundled offerings. Notably, average transaction size increased by 12%, suggesting effective upselling strategies. Concurrently, operating expenses rose by 5%, primarily due to unplanned overtime costs in logistics, which offset some of the efficiency gains achieved in marketing. EBITDA margins remained stable at 17%, but underlying cost pressures could affect future quarters if not addressed."

Similarly, in the audit domain, some forward-thinking firms are exploring AI-generated draft audit findings. After risk assessments and substantive procedures are logged, AI can propose preliminary wording for issues found – reducing the amount of manual writing and standardizing reporting quality across audit teams.

Another promising area is scenario modeling. AI tools are beginning to not just forecast numbers but create narrative scenarios:

"If interest rates rise by 0.5% in Q4, projected debt service costs will increase by approximately R350,000 annually, potentially impacting net income margins by 1.2%."

Platforms like Docyt AI already offer tools that pull transaction-level data and automatically compile full financial statements, dashboards, and forecasts, saving finance teams dozens of hours each month.

Of course, the critical caveat remains: AI-generated narratives must be carefully reviewed for factual accuracy, consistency, and compliance – especially in external reporting contexts where misstatements can lead to

legal or regulatory issues. AI tools can suggest explanations, but ultimate responsibility remains with the human accountant or finance manager.

Still, the productivity gains are undeniable. Tasks that once took weeks — finalizing month-end numbers, drafting management packs, preparing board reports — could shrink dramatically. Instead of spending days crunching numbers and writing, accountants could shift focus toward interpreting, strategizing, and advising based on AI-generated first drafts.

The vision is compelling: within a day or two after month-end, managers might already receive fully drafted reports, populated with KPIs, variance analyses, and plain-English commentary, ready for quick review and executive action.

In this future, AI doesn't replace accountants — it removes the repetitive grind of building reports, allowing humans to concentrate on adding true strategic value.

2.3 Complex Judgments and IFRS Compliance

While AI today mostly tackles routine tasks, we are seeing early moves toward AI assisting with complex accounting areas like lease accounting, revenue recognition, and broader IFRS-heavy processes.

For example, under IFRS 16 (Leases), companies must extract key terms from lease contracts (term, payment schedules, renewal options, etc.) to determine the lease liability and right-of-use asset. This can be extremely labour-intensive for companies with many leases. AI is rising to this challenge by using Natural Language Processing (NLP) to read lease agreements and automatically pull out relevant details. Trullion, a fintech startup, offers an AI-driven lease management platform that does exactly this: using OCR and NLP to efficiently extract data from lease contracts, eliminating manual data entry and reducing errors.

The AI then validates the extracted data against IFRS rules (for example, ensuring the discount rate or lease term is correctly identified) to ensure compliance. It can even format the data for direct upload into an

accounting system and generate journal entries for lease capitalization and monthly amortization.

Similarly, for IFRS 15 (Revenue Recognition), experimental AI tools can read customer contracts to identify performance obligations, payment terms, and suggest the timing of revenue recognition. They essentially parse the contracts much like an experienced accountant would, but in a fraction of the time, handing over a structured summary. While final judgment calls (like deciding if a performance obligation is distinct) still rest with humans, the grunt work of sifting through dense legal documents can be offloaded to AI.

New Frontier: Accounting Estimates and Predictive Judgments

Beyond parsing contracts, a powerful new frontier is emerging: using AI to support complex accounting estimates, which are critical throughout IFRS.

Many financial statement figures rely not just on historic facts, but on probabilistic forecasts and managerial estimates of future events.

AI's pattern recognition and predictive capabilities are well suited to assist here.

Examples include:

- Allowance for Credit Losses (IFRS 9): AI can analyze historical payment patterns, macroeconomic indicators, and customer credit profiles to model the probability of default more dynamically than static models.
- Net Realizable Value (NRV) of Inventory (IAS 2): Instead of applying a flat haircut, AI could assess recent sales trends, product obsolescence rates, and competitive pricing to forecast likely future selling prices.
- Impairment Testing (IAS 36): AI could assist in building discounted cash flow (DCF) models by forecasting future cash inflows based on both internal company data and external market trends, flagging when assets may be at risk of impairment.

- Provisions for Warranties or Legal Claims (IAS 37): AI could analyze historical claim rates, contract terms, and even external legal databases to estimate likely future outflows.
- Fair Value Measurements (IFRS 13): In level 3 valuations where observable inputs are scarce, AI can propose valuation assumptions based on correlations across broader market datasets.

Importantly, AI would not be making final judgments. Instead, it would act as a “quantitative advisor”: preparing forecast scenarios, suggesting probability distributions, and highlighting key assumptions — allowing the accountant to focus on validating, adjusting, and documenting.

Thus, AI is no longer just about “finding facts” in contracts — it is beginning to project possibilities into accounting figures, an even more sophisticated role. As these AI tools mature, accountants may spend less time crunching numbers manually, and more time challenging the reasonableness of AI-generated forecasts. Of course, caution is critical: forecasts can be wrong, and AI models may carry biases or fail to capture qualitative factors that experienced accountants understand instinctively. Nonetheless, AI-powered assistance in accounting estimates could profoundly improve the consistency, speed, and rigor of financial reporting.



Mini-Case: AI-Enhanced ECL Modeling for a Regional Bank

Under IFRS 9, banks are required to estimate Expected Credit Losses (ECL) on their loan portfolios — a task that demands careful judgment, complex models, and incorporation of forward-looking information. For a mid-sized regional bank like Horizon Finance, this process traditionally involved analysts manually segmenting loan books, applying historical loss rates, and layering simple macroeconomic overlays based on broad assumptions. The approach was time-consuming, highly subjective, and often struggled to respond dynamically to rapidly changing economic conditions.

In 2024, Horizon Finance deployed an AI-driven ECL model to supplement its traditional credit risk processes. The AI system was trained on vast datasets – internal historical defaults, borrower characteristics, collateral values, and external macroeconomic indicators like GDP growth, unemployment rates, and interest rates. Rather than applying fixed assumptions, the AI continuously learned patterns in how defaults correlated with different combinations of economic conditions and borrower profiles.

For example, if small manufacturing businesses with low liquidity ratios and high leverage had historically defaulted during previous interest rate hikes, the AI recognised and weighted these risk factors more heavily under current rising rate scenarios. Rather than a simple flat adjustment to all SMEs, the AI produced nuanced, borrower-specific risk scores. It could predict that a specific SME loan had a 12% probability of default over the next 12 months, considering current economic forecasts, industry risks, and even real-time market signals like energy price spikes.

Importantly, the AI model generated not just a single number, but a range of possible outcomes across different macroeconomic scenarios (base case, adverse, upside), aligning with IFRS 9's requirement for probability-weighted ECL estimates. This allowed Horizon's risk management team to construct forward-looking loss allowances that were dynamic and data-driven, not static snapshots.

However, the AI's outputs were not blindly accepted. Horizon's credit risk officers performed validation exercises, challenged unexpected outputs, and overrode the AI model where specific knowledge – such as a pending government bailout for an industry – suggested different outcomes. The role of the accountant evolved: no longer manually crunching spreadsheets, but instead reviewing, validating, and exercising professional skepticism over the AI's recommendations.

Through this AI augmentation, Horizon Finance achieved faster, more granular ECL calculations, improved its responsiveness to economic shifts, and enhanced the overall quality of its credit loss provisioning – while maintaining human accountability for critical judgment calls.

2.4 AI Startups and Innovations

The accounting technology landscape is buzzing with innovation, as both startups and established vendors race to embed AI into their products. The trend is no longer isolated experiments — it is becoming a mainstream expectation. We have already seen examples like Intuit's QuickBooks gaining AI features, and Sage building AI into Intacct. But a broader wave of AI-driven offerings is reshaping what accountants can expect from their tools.

Several startups are at the forefront. Vic.ai markets itself as an “AI-first” accounting platform, specializing in autonomous invoice processing. Rather than simply extracting data, Vic.ai learns how to code, approve, and even prioritize invoices with minimal human input — acting almost like an intelligent junior accountant embedded inside the system. Botkeeper takes a hybrid approach, combining AI software with human accountants to deliver outsourced bookkeeping services, particularly attractive to accounting firms managing multiple small business clients.

On the audit side, the Big Four are developing proprietary AI tools to supercharge traditional audit methods. Deloitte's Argus uses natural language processing to review and extract relevant data from contracts and other documents during audit engagements. KPMG's Clara platform similarly integrates AI to automate aspects of transaction testing, anomaly detection, and document review. While these tools don't replace the professional judgment of auditors, they dramatically increase the volume of data that can be assessed without needing proportional increases in staff hours.

Meanwhile, ERP giants like Oracle and SAP are embedding AI directly into their platforms. In Oracle's cloud suite, AI is used for expense auditing — flagging dubious claims such as identical receipts submitted by multiple employees. SAP's S/4HANA cloud tools use AI to forecast cash flows, detect duplicate payments, and recommend optimal cash management strategies in real time.

Even in the small business space, AI is becoming invisible infrastructure. Xero, a popular cloud accounting system for SMEs, now uses machine learning to predict when an invoice will likely be paid based on past customer behavior, and to suggest account codes for transactions by analyzing past posting patterns.

The important point is this: soon AI in accounting software won't be something that is explicitly marketed as a special feature. It will simply be expected, much like we take spellcheckers for granted in word processors. The presence of AI-driven features — smart categorization, real-time anomaly detection, predictive cash flow dashboards — will be woven into the basic user experience.

For accounting students and young professionals, this shift carries an important implication: the systems you will work with may be fundamentally different from the ones your mentors learned on. Tasks that used to be manual "training ground" work — such as coding hundreds of invoices or manually chasing payment patterns — might increasingly be done by algorithms. Your value will lie not in mechanical processing, but in interpreting outputs, challenging assumptions, designing controls around AI-driven processes, and applying accounting judgment to supervise and improve these automated systems.

The advances mentioned here are still in various stages — many pilots, early releases, and proofs of concept. For example, Intuit Assist launched only in late 2023 as a beta version, and Vic.ai's fully autonomous approval still requires human oversight. Yet the trend line is clear: within a few years, these capabilities will likely move from "early adopter experiments" to "normal expectations" in mainstream practice.

Staying curious, technically literate, and open-minded will be essential. The firms and professionals who understand both the capabilities and the limitations of AI tools will be best positioned to lead the next chapter of accounting innovation.

2.5 Fully Automated Bookkeeper

In the near term, it is almost inevitable that most traditional bookkeeping functions will be heavily automated. The typical tasks that have long been performed by entry-level accountants — recording sales, logging expenses, matching invoices — are increasingly being handled by AI systems.

In this future, sales will be recorded instantly as they happen through direct integrations with payment processors or online stores. Expenses will be captured automatically the moment a corporate card is swiped, with AI tools reading the receipt, extracting key data, and classifying the spend into appropriate accounts. Supplier invoices will be received electronically, read by OCR engines, checked against purchase orders and goods received records, and posted to the ledger without human intervention. Journal entries for routine events will be generated dynamically based on standardized business patterns, without the need for manual drafting.

In such an environment, the traditional manual data-entry bookkeeper becomes obsolete. However, this does not mean that humans disappear from the accounting process entirely. Rather, the role of the accountant shifts dramatically. Instead of performing transactions manually, accountants will oversee the AI systems that perform these functions, managing exceptions and anomalies that the system flags. Their work will increasingly involve validating the outputs, calibrating machine learning models, and ensuring that the AI evolves appropriately as business models, rules, and operational environments change.

In short, today's data capturers become tomorrow's controllers of AI-driven accounting engines. It is important to recognise, though, that while this transition creates exciting new professional opportunities, it will also likely reduce the total number of human roles needed. Automation does not merely change jobs — it shrinks the volume of jobs that involve routine, repeatable tasks. This is a reality the profession must confront with clear eyes, not by clinging nostalgically to the past, but by proactively redefining what accounting careers will mean in the future.

2.6 Real-Time Financial Reporting

In the traditional model, financial reporting is periodic – monthly, quarterly, annually – with a frantic close process to crunch the numbers after each period. In a future heavily enabled by AI, we could see continuous, real-time financial reporting. If transactions are recorded and reconciled continuously as described above, then at any given moment management (or potentially even investors, if permitted) could see the company's financial position up to the last second. The concept of a “digital twin” of the business comes into play here: AI could maintain a live digital model of the company's financial state and performance drivers. For example, an AI system might integrate not just accounting entries, but also operational data (like website traffic, production volumes, foot traffic in stores, etc.) to constantly project financial outcomes. Financial statements might become a live dashboard rather than static documents – a CFO could look at an AI-driven dashboard that shows, say, today's sales and expenses and an estimate of how the monthly P&L would look if trends continue, all updated in real time.

This dynamic model could quickly incorporate adjustments too. If a big contract is signed, the AI immediately factors in the expected revenue and cost, updating forecasts and even alerting if this will cause, say, a covenant issue with debt. The quarterly or annual reports for external stakeholders might eventually be generated on the fly as well, perhaps even pulling data from blockchain-based transaction records for absolute trustworthiness. Of course, regulators and standard-setters (like the IASB for IFRS) would have to adapt for truly real-time reporting to be acceptable – today's assurance mechanisms (audit, etc.) are period-based. But perhaps audits themselves become continuous, with AI auditors validating transactions in real time (some visionaries talk about “continuous audit” which AI would enable). In such a future, accounting becomes far more forward-looking and integrated with operations. The financial statements could transform from historical scorecards to living, up-to-the-minute digital twins of the enterprise's health. Accountants in this scenario spend more time interpreting these live metrics, ensuring data streams are accurate, and

communicating insights to management on an ongoing basis, rather than scrambling to compile reports weeks after the fact.

2.7 Virtual CFO

As AI takes over data processing, it could move further up the value chain into analysis and decision support. We might see the rise of an “AI CFO” or AI-driven strategic advisor that works alongside management. This doesn’t mean a literal robot sitting in the CFO’s chair, but rather advanced AI systems that can simulate the decision-making a CFO or financial analyst would do. For instance, the AI could constantly run simulations and what-if analyses: “If raw material prices increase 10%, what will that do to our margins? What if we expand product line X to Europe, how does that affect a 5-year forecast?” Already, big companies use scenario modeling software, but future AI could handle this in a more conversational and comprehensive way, considering both internal data and external market data. An AI could scrape economic indicators, news, social media sentiment, etc., and correlate them with the company’s performance to provide strategic insights (perhaps warning “Our AI models predict a higher risk of inventory write-downs this quarter based on consumer sentiment shifts and our current stock levels”).

In extreme visions, the AI agents might be so adept that they effectively act as virtual executives – indeed, Intuit’s CEO Sasan Goodarzi suggested that in the future AI agents could potentially perform roles like a virtual CFO for small businesses. This agent could handle optimizing cash management, advising on financing, and ensuring the company meets its KPIs, all through continuous analysis. While it’s unlikely that large organizations would entrust strategic decisions entirely to AI without human oversight, smaller companies might lean heavily on AI guidance if they can’t afford a full finance team. In such futures, the human accountants and CFOs would work more as partners to AI – focusing on high-level strategy, setting the goals and constraints for the AI (like “prioritize solutions that improve cash flow”), and applying human judgment to the AI’s recommendations. The AI might churn through thousands of scenarios and suggest the top three strategies

to improve profitability, but human leaders will choose which path aligns best with the company's vision and ethical considerations. In short, AI could supercharge the analytical and strategic side of accounting, making financial planning and analysis far more data-driven and predictive.

2.8 Integrated Compliance Automation

A future with deeply embedded AI might also revolutionize compliance aspects of accounting – think of AI handling tax optimization or global accounting standards application at scale. For example, consider a multinational trying to comply with complex tax laws in dozens of jurisdictions. AI systems could continuously monitor all transactions and entity structures against tax rules, identifying opportunities to legitimately save taxes or flagging transactions that might trigger a tax risk. This could be a kind of “always-on tax advisor” that optimizes things like transfer pricing adjustments, tax credit utilization, and indirect tax rates in real time.

Similarly, for accounting standards, an AI could incorporate the entire corpus of IFRS (and local GAAP where relevant) and monitor the company's financial events to ensure proper treatment. If a company acquires another business, the AI knows that IFRS 3 (Business Combinations) comes into play and it will prompt the accounting team with the steps needed: identifying intangibles, performing purchase price allocation, etc., perhaps even suggesting initial valuations based on market data. If a contract is signed that has multiple deliverables, the AI references IFRS 15 and alerts if separate performance obligations should be recorded. Essentially, the AI could act as a guardian that ensures compliance by design, catching potential misapplications of standards before they happen.

It could also automatically draft the required disclosures by pulling data and text templates linked to each standard. For instance, upon closing the books, the AI might compile a draft of the financial statement footnotes – lease commitments, fair value hierarchy tables, revenue breakdowns – filling in the numbers and boilerplate descriptions ready for the accountants to review.

In a more speculative sense, one could envision regulatory bodies providing machine-readable updates to standards that AI systems can consume instantly, making compliance updates seamless. If IFRS releases a new standard, your AI accounting system updates its logic and highlights what changes in treatments are needed for your company. This future could dramatically reduce the risk of non-compliance and the burden of keeping up with evolving regulations. Accountants, rather than manually crunching through checklists of compliance, would supervise these AI compliance engines, focusing on interpreting gray areas where human judgment is still needed and dealing with regulators, auditors, and management to explain the AI-driven decisions.

3. Speculative Future

Looking further ahead, what might accounting look like if AI becomes deeply embedded across all processes? This section explores some speculative but plausible futures. These scenarios extrapolate from current trends to imagine how accounting could be transformed in the coming decade. While not guaranteed, they illustrate the direction AI could take us – and how the role of accountants might evolve as a result.

3.1 Could AI Render Traditional Accounting Obsolete?

As AI becomes increasingly powerful, a bold speculation arises: Could AI eventually make traditional accounting structures obsolete?

At first glance, this might sound extreme. Yet history shows that when transformative technologies arrive, early expectations often cling too tightly to old paradigms – a phenomenon known as skeuomorphism.

Skeuomorphism refers to designing new systems that imitate the appearance or structures of older ones, even when those old features are no longer necessary. When the first automobiles were invented, they were sometimes called "horseless carriages" – complete with buggy-like bodies

and reins before the steering wheel was standardized. Early email systems mimicked the structure of physical letters, with "inboxes" and "outboxes," even though instant digital communication made such metaphors largely unnecessary.

These examples remind us that early versions of new technologies often look backward — until the technology matures enough to suggest radically better ways of doing things.

Today, much of the AI conversation in accounting sounds similarly conservative: AI will automate data entry. AI will help draft reports faster. AI will match transactions more accurately.

But is it possible that this is just the "horseless carriage" phase?

Could AI eventually outgrow not only the manual tasks of accounting, but the very structures — the standards, the reports, the concepts — that humans have painstakingly built?

Before accepting or rejecting this possibility, it is worth stepping back to examine what accounting truly is at its core.

3.2 Accounting Foundations

To understand whether AI might replace accounting, we must first define accounting's true purpose — independent of its current rules, reports, or formats. According to the IFRS Conceptual Framework, the objective of financial reporting is clear:

To provide financial information about the entity that is useful for making decisions — especially decisions about providing resources to that entity. This information concerns the entity's economic resources (assets), claims (liabilities and equity), and changes in those resources and claims.

Put simply:

Accounting exists to help users understand a company's financial reality to make better decisions.

This objective is unlikely to disappear.

Even if AI transforms the methods, the fundamental need to model and communicate economic reality will persist. Thus, the question is not whether accounting's goal will survive. It is whether AI might discover better ways to achieve that same goal than the systems humans have historically used.

To think clearly about what AI might disrupt (and what it won't), it is helpful to distinguish three conceptual layers of accounting — not official layers from IFRS, but useful categories for this discussion:

1. Objective: The overarching aim — to portray economic reality for decision-making.
2. Core Principles: Broad accounting concepts that express fundamental economic truths, such as:
 - Distinguishing assets from liabilities,
 - Matching revenues and expenses (accruals),
 - Prioritizing faithful representation (completeness, neutrality, freedom from error).
3. Bright-Line Rules: Detailed prescriptions and thresholds designed for practical, consistent application by humans, such as:
 - The 12-month rule for lease capitalization,
 - Revenue recognition "five-step model" even for simple contracts,
 - Specific depreciation schedules.

Understanding these layers allows us to be more nuanced in predicting AI's impact. Already, we have established that the objective will almost certainly endure. What about the core principles?

Core Principles

The broad principles of accounting exist because they mirror real economic relationships:

- Businesses do own assets and owe liabilities.

- Financial performance over time matters.
- Reports must not mislead or obscure economic truth.

These ideas are not arbitrary.

They emerged because they help human users — and soon, perhaps AI systems as well — make sense of the complex world of business activity. Thus, even if AI revolutionizes reporting methods, the core principles will likely remain relevant.

Unless, of course, AI discovers superior ways to represent economic reality that fulfill the objective of decision-useful information even more effectively. We should remain open to that possibility. Just as AI might one day develop financial modeling techniques that humans never imagined, it could also refine or replace some long-held assumptions if they prove suboptimal.

But at least for now, the foundational ideas of accounting appear robust enough to survive AI's advance — even if many specific implementations (the bright-line rules) do not.

3.3 Bright-Line Constraints

While the objective of accounting and many core principles are likely to remain intact, bright-line rules — the detailed thresholds and mechanical prescriptions we use today — may be far more vulnerable to disruption by AI. Bright-line rules exist primarily because of human limitations. They offer clear, standardized guidelines that humans can understand, apply, audit, and enforce without needing to re-evaluate each situation from scratch. However, these rules are inherently simplifications. They trade nuanced judgment for consistency and ease of use.

Take, for instance, the rule in lease accounting that exempts leases shorter than 12 months from capitalization. This 12-month cut-off is a convenience threshold. It assumes that short-term leases are unlikely to have material economic consequences compared to long-term leases, and it spares companies the administrative burden of capitalizing trivial contracts. But economically, there is nothing fundamentally different between an 11-month

lease and a 13-month lease. The rule draws a line simply because human accounting systems need lines.

AI, however, is not constrained in this way. An advanced AI system could evaluate every individual lease — or any financial arrangement — case-by-case, dynamically analyzing its economic substance without relying on arbitrary thresholds.

It could assess, for each lease, the degree of control the lessee has over the asset, the magnitude of the financial obligation, the importance of the asset to operations, embedded renewal options, historical patterns of lease renewals, and other subtle indicators that today's standards must largely ignore for the sake of practicality.

Because AI can digest vast amounts of information instantaneously, it could model each transaction based on its unique facts and circumstances, rather than trying to force everything into predefined human categories.

The result could be financial statements that are more faithful, granular, and economically meaningful — but potentially far less standardized in form.

In this sense, AI does not merely automate accounting tasks. It offers the possibility of replacing bright-line constraints with continuous, judgment-driven modeling at a scale no human could ever achieve.

The IFRS 16 Lease Example: From Bright Lines to Fluid Judgments

Lease accounting under IFRS 16 offers a vivid illustration of both the human need for bright-line rules and how AI could bypass them. The reason IFRS 16 shifted toward capitalizing leases was to reflect economic reality more faithfully.

When a company leases an asset — say, an office building — for a number of years, it controls the use of that asset and bears financial obligations much like an owner would. Leaving such obligations "off balance sheet," as was previously common, masked important financial risks and understated a company's true indebtedness. However, applying this insight uniformly across all leasing arrangements would have imposed enormous burdens

on preparers, especially for small, short-term leases. To balance economic fidelity with human practicality, IFRS 16 introduced the short-term lease exemption: leases of 12 months or less need not be capitalized.

This exemption, while administratively useful, is economically clumsy. A lease of 11 months and 28 days is exempt; a lease of 12 months and 2 days must be capitalized — despite minimal real-world difference. The 12-month line was not chosen because of profound theoretical reasons, but because humans needed a rule they could apply consistently. AI would render this kind of rigid threshold obsolete.

Instead of applying the same treatment to all leases above or below an arbitrary limit, an AI could assess each lease holistically. It could read the full contract text, understand renewal clauses, optionality, termination penalties, usage rights, historical patterns of renegotiation, and more — all in real time, for every lease a company holds. It could dynamically decide whether a lease behaves more like a financing arrangement (requiring capitalization) or a service agreement (allowing off-balance treatment), based purely on economic substance rather than administrative formality.

For instance, if a company consistently renews 11-month leases with the same lessor for the same property, an AI could infer that the arrangement is economically equivalent to a long-term lease — and treat it accordingly. Meanwhile, a truly short-term arrangement with no pattern of renewal could remain off-balance, even if technically over 12 months.

Such an approach would fulfill the same fundamental principle — representing economic control and obligation — but would do so far more faithfully and without the awkward discontinuities bright-line rules inevitably create.

In short, AI could operationalize principles directly, without the blunt instruments of human-imposed thresholds. What is today rare and impractical — granular, individualized evaluation of every contract — would become standard practice.

3.4 Departing from IFRS: A Door Already Ajar

Interestingly, the idea of departing from strict accounting standards in pursuit of true fair presentation is already embedded within the IFRS framework – even if it is almost never invoked.

IAS 1, Presentation of Financial Statements, explicitly states that in extremely rare circumstances, an entity must depart from a requirement in an IFRS if compliance would be so misleading that it would conflict with the overall objective of financial reporting: to provide useful information for economic decision-making.

This clause acknowledges that rigid adherence to prescribed rules does not always guarantee faithful representation of reality. It leaves open a conceptual door for better, substance-over-form reporting where needed.

But in practice, this door remains almost entirely unused. Very few companies dare to depart from IFRS standards, even when a more economically faithful alternative might arguably exist. Why this reluctance?

Firstly, humans lack scalable, trustworthy alternatives. When faced with the complexity of real-world transactions, human preparers and auditors often have no practically superior method at their disposal that is verifiably more accurate than following the standard. Even if a preparer believes they have a better approach, proving it to regulators, auditors, and investors – and maintaining consistency across companies – would be nearly impossible without standardized guidance.

Secondly, and perhaps more fundamentally, trust is the major barrier. Financial statement preparers have an inherent conflict of interest: they are naturally incentivized to present the most favourable version of their company's performance and position.

Departing from the standards could easily be seen not as a pursuit of truth, but as an attempt to manipulate perceptions – to smooth earnings, hide liabilities, or inflate asset values.

Thus, even in cases where strict compliance with a standard might distort reality, sticking to the rulebook offers a safer, more defensible position for preparers, auditors, and directors alike. In other words: humans are too compromised — and too distrusted — to safely colour outside the lines, even when it might be warranted.

3.5 AI as the Guardian of Objectivity

Here is where AI could revolutionize the landscape. If an independently governed AI system, trained on transparent economic principles and free from self-interest, produces an analysis showing that rigid rule-following misrepresents economic substance, its outputs could become more trustworthy than blind compliance. AI would not seek to flatter quarterly earnings or disguise a liquidity problem. Its "loyalty" would be solely to faithful representation.

Imagine a case where an AI reviews a company's lease portfolio and identifies that a series of short-term leases — each technically exempt under the 12-month rule — together create an economically material obligation equivalent to a long-term commitment. Instead of mechanically exempting them, the AI would suggest capitalization, grounded in the real-world risk and benefit profile these arrangements impose. If management overruled this recommendation and opted to leave these liabilities off the balance sheet, it could raise immediate suspicion.

In fact, in such a future, the absence of AI involvement, or management's deviation from economically superior AI-driven treatments without clear justification, might itself become a red flag for auditors, regulators, and investors. The mere existence of an independent, scalable system capable of modeling true economic substance could flip the burden of proof.

Today, compliance with IFRS is the presumption of good faith. Tomorrow, ignoring or overriding better AI-based economic modeling might be presumed suspicious unless strongly defended. Thus, AI does not just enhance accounting accuracy. It reshapes accountability.

Instead of compiling transactions and ticking checklist items, tomorrow's accountants and auditors would focus on validating intelligent systems:

- They would assess how AI models were designed and trained,
- They would audit the data streams feeding those models,
- They would scrutinize instances where management overrode AI-generated recommendations,
- They would ask whether such deviations were legitimate business judgments – or signs of self-serving manipulation.

Rather than merely enforcing mechanical compliance with detailed standards, the profession would shift toward a new guardianship: ensuring that intelligent systems are properly aligned with the timeless goal of fair, faithful, and decision-useful reporting.

But this future demands new skills, new mindsets, and perhaps above all, a willingness to trust well-designed, transparent AI systems — even more than we sometimes trust ourselves.

3.6 Data Foundations for AI Accounting

For AI-driven accounting systems to achieve high levels of reliability and economic fidelity, they require access to rich, structured, and trustworthy data. The quality and nature of the data available will fundamentally shape how accurately AI can model business realities. Existing initiatives such as XBRL (eXtensible Business Reporting Language) represent an important starting point.

XBRL allows financial statement information to be tagged in a machine-readable format, making key disclosures — such as revenues, current assets, lease liabilities, and equity movements — accessible not just to human readers but also to algorithms. However, while XBRL improves the accessibility of financial outputs, it does not capture the full picture necessary for economic substance modeling. XBRL primarily represents the end-products of human accounting decisions: it reflects what preparers concluded and disclosed, not the raw source documents, assumptions, or

internal judgments that underpinned those disclosures. It reveals the “what” but not always the “why” behind the financial numbers.

To train accounting AIs capable of independently evaluating economic substance, a deeper and more expansive data foundation would be required.

Such a dataset would need to include:

- Original source documents: contracts, lease agreements, supplier invoices, sales terms, and other primary records.
- Judgment rationales: internal memos, management commentaries, or audit working papers explaining why particular accounting treatments were chosen.
- Transactional histories: not just static balances, but detailed trails of payments, deliveries, renewals, amendments, and terminations over time.
- Contextual variables: external economic conditions, industry-specific factors, customer behaviors, and regulatory changes.
- Post-hoc outcomes: the actual cash flows, asset utilizations, or default events that materialized after initial recognition and measurement.

Additionally, it is important that such data is not merely voluminous but structured and standardized in ways that enable AI to draw meaningful, generalizable conclusions. Emerging technologies could play a key role here. Distributed ledger systems (such as blockchain) could ensure immutable transaction records. Real-time ERP integrations could provide continuous data feeds. Open financial APIs could facilitate secure cross-system aggregation of diverse information streams.

In this way, while XBRL is a useful foundation for machine-readable reporting, truly intelligent AI-driven accounting would likely require a much broader and deeper ecosystem of structured economic data.

3.7 Overcoming Trust Barriers

Of course, imagining a future where management would be expected to defer to an AI's economic substance assessment raises serious questions of its own.

One immediate concern is who builds these AI systems. If a company were allowed to design, train, and customize its own accounting AI models, the risk of embedding conflicts of interest — the very bias AI seeks to eliminate — would simply reappear in digital form. It would be a case of self-marking homework, but now with neural networks. Thus, for AI-driven accounting to truly enhance trust rather than undermine it, these systems must be independently developed, transparently trained, and publicly validated.

The logical guardians of such infrastructure could be regulatory bodies, professional accounting associations, or independent technology consortia operating under strict governance protocols. Rather than every company training its own accounting AI, there would need to be common, vetted models — much like IFRS itself serves as a shared language of financial reporting today. These AIs would likely come "out of the box," pre-trained on massive, ethically sourced datasets capturing the nuances of economic reality across industries, jurisdictions, and business models. Companies would implement them, not invent them.

Auditors, regulators, and users would have visibility into how the AI makes its decisions — not necessarily understanding every neural weight and node, but being able to interrogate its conclusions, see its reasoning, and verify its alignment to public standards of fair presentation.

Trust, after all, cannot be demanded. It must be earned — through transparency, performance, and reliability over time. This journey toward trusting AI in accounting will not be instant. It mirrors what we already observe in other high-stakes fields. When self-driving cars first appeared, public skepticism was high. Even if statistics showed fewer accidents per mile compared to human drivers, every rare crash involving a driverless car made headlines, while the millions of accidents caused by humans were

normalized. Yet slowly, through regulatory oversight, technical improvements, and familiarity, society is inching toward acceptance that, in some contexts, the machine may actually be the safer operator. Similarly in medicine, AI diagnostic systems can already outperform doctors in reading radiology scans, detecting subtle tumors invisible to the human eye. Still, patients — and even doctors — often remain reluctant to trust an invisible algorithm over a seasoned human expert.

Yet as evidence mounts, as second-opinions are corroborated, as human-plus-AI teams outperform either alone, trust builds. Eventually, refusing to consult an AI diagnostic tool could itself become malpractice, a failure to use the best available knowledge to serve the patient.

Accounting could follow a parallel path. At first, AI-generated accounting treatments will be treated with suspicion. Humans will override them frequently, citing intuition or traditional practice. But over time, as AIs consistently detect risks earlier, flag inconsistencies more accurately, and offer fairer representations of companies' economic realities, a cultural shift could occur. Gradually, trust in transparent, well-governed AI systems might exceed trust in human preparers — not because machines are infallible, but because their incentives are simpler: model reality truthfully, not flatter quarterly results.

3.8 DAOs, Smart Contracts, and the Disappearance of Traditional Management

While much of the discussion around AI's impact on accounting assumes the continued existence of traditional business structures — firms governed by management teams who prepare financial statements — another technological revolution is quietly challenging this foundational assumption: the rise of decentralized autonomous organizations, or DAOs.

DAOs fundamentally reimagine what an "organization" is. Instead of being led by human executives making discretionary decisions, DAOs operate according to predefined rules embedded in smart contracts — self-executing programs that live on blockchains. Token holders — roughly

analogous to shareholders — collectively govern the DAO, voting on key decisions. The day-to-day operations, however, are not run by managers issuing instructions to employees, but by code automatically enforcing the rules, handling transactions, and executing workflows.

Today, most DAOs are relatively simple, managing discrete functions like decentralized finance protocols (lending, exchanges, asset management). But as the technology matures, DAOs could expand into more complex business models — from supply chain coordination to digital content production, to decentralized manufacturing cooperatives. And critically, the governance logic of DAOs could increasingly be augmented by AI agents that can adapt, optimize, and make decisions within the parameters set by the community.

If this trajectory continues, we are faced with a profound possibility: Entities without management. Businesses without managers. Firms without firm leadership. This shift strikes at the very heart of accounting as traditionally understood. In today's world, financial statements are explicitly characterized as "management's responsibility." The IFRS Conceptual Framework, IAS 1, and virtually every audit report reiterate that management prepares the accounts, applying judgment, estimates, and interpretations. Auditors then evaluate whether these representations are faithful and compliant.

But what happens when there is no management?

In a DAO, financial reporting becomes less an exercise in summarizing subjective human judgments and more a process of transparently surfacing the outputs of smart contracts and automated workflows. Transactions are immutable and on-chain. Rules for revenue recognition, expense recording, asset deployment, and treasury management are executed by code, not by discretionary decision-makers. The "general ledger" is not a controlled spreadsheet or an ERP database maintained by a finance department — it is the blockchain itself, auditable by anyone in real time. In such a system, the preparation of financial statements might evolve into two new paradigms:

First, automated reporting engines – built atop the blockchain and smart contracts – could generate live financial snapshots continuously. These reports would not be reconstructed *ex post facto* by human accountants but produced as emergent outputs of the organization's real-time operations.

Second, AI agents could perform complex summarizations, risk assessments, and narrative analyses atop the raw blockchain data, creating higher-level financial insights for users. Instead of waiting months for an annual report, stakeholders might access live dashboards curated by AI, adjusting in real-time as the DAO's activities evolve.

This vision is not without complications. DAOs, while removing human management, do not remove the possibility of error, bias, or manipulation. Smart contracts can be flawed, economic incentives can be gamed, and tokenholder governance can be captured by insiders. Moreover, AI agents operating within DAOs must themselves be subject to validation, transparency, and governance to avoid introducing hidden risks.

Nonetheless, the shift from management-prepared financial statements to system-generated financial observability represents a tectonic transformation. It dissolves the idea that financial reporting must be an exercise in trust: trust that management made reasonable estimates, trust that they applied policies consistently, trust that they disclosed appropriately.

Instead, the blockchain-backed DAO, augmented by AI, offers a different model: transparency replaces trust. The information is public, live, and open to inspection by all stakeholders, from small token holders to regulators. Auditing evolves from sampling and testing management assertions to validating smart contract code, verifying the integrity of blockchain data, and reviewing the training and governance of embedded AI agents.

This future will not be uniform. Traditional firms will persist alongside DAOs for many years. Large enterprises in heavily regulated sectors – banks,

insurers, listed companies – will likely remain under human management structures for the foreseeable future.

But in certain industries, especially digital-native sectors like decentralized finance, gaming, content creation, and emerging decentralized manufacturing, the DAO model could become dominant. If so, accountants, auditors, and regulators must prepare for a world where:

- "Management representation" becomes irrelevant,
- Financial reports are machine-generated artifacts of real-time activity,
- Assurance focuses on system integrity, code verification, and AI governance rather than manual judgment,
- Stakeholders interact continuously with dynamic financial models rather than static historical reports.

In short, the combination of blockchain, smart contracts, and AI could lead to the birth of truly autonomous economic systems.

Accounting, in this context, does not disappear. It evolves – from compiling management's records into polished summaries, to curating, verifying, and interpreting continuous streams of machine-validated economic information.

The essence of accounting – providing faithful, decision-useful representations of economic activity – remains vital. But the mechanisms by which this purpose is fulfilled could look fundamentally different. In a DAO- and AI-driven world, accounting ceases to be a retrospective reconstruction of human intent. Instead, it becomes an embedded feature of the economic system itself – a live, observable, and immutable record of actions taken, obligations created, and resources deployed.

Financial reporting would no longer be something prepared after the fact by management teams. It would be a continuous emergent property of how decentralized, autonomous organizations operate. In this future, the traditional divide between "operations" and "reporting" blurs. The act of

conducting business and the act of reporting on business become inseparable – two sides of the same autonomous, self-executing system.

Accounting thus endures – not as a set of manual practices, nor even as a static set of standards, but as an evolving language for interpreting increasingly autonomous forms of economic activity.

It will still be necessary.

It will still be powerful.

But it may be practiced in ways almost unrecognisable by today's expectations.
