



TRADITIONAL AUDIT METHODS VS. AI-ASSISTED AUDITING: A COMPARATIVE STUDY

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Abstract - Artificial intelligence is steadily reshaping how audits get done, and this shift raises an obvious question: how does it actually stack up against the way audits have always been performed? This paper works through that comparison, pulling together existing research to weigh AI-assisted auditing against traditional, sample-based methods across the areas that matter most — sampling coverage, fraud detection, speed and cost, accuracy, and the judgment calls only a human auditor can make. What emerges is a fairly clear picture: AI is genuinely good at chewing through huge datasets, catching irregularities a sample-based review might miss, and doing it consistently every time. But it stops short of replacing an auditor's instincts — the skepticism, ethical reasoning, and contextual read that come from experience rather than computation. The paper argues that the strongest audit model isn't AI or traditional methods alone, but the two working together, with AI handling the heavy analytical lifting and auditors retaining final judgment. This has practical relevance for accounting professionals, researchers, and institutions trying to make sense of where auditing is headed.

Keywords: Artificial Intelligence, Traditional Auditing, AI-Assisted Auditing, Audit Quality, Fraud Detection, Professional Judgment

1. INTRODUCTION

Auditing exists to give financial statements credibility — to confirm, independently, that what a company reports actually reflects its financial reality. For decades, that confirmation has relied on manual checks,

sampled transactions, and the judgment of trained auditors. It has worked, but not without strain. As businesses generate more transactions and more digital data than ever, the older model starts to show its limits: manual reviews take time, and sampling

means large portions of a company's records simply go unchecked.

Artificial intelligence has opened up a different way of working. Instead of sampling, AI tools can process entire datasets, flag anomalies, and surface patterns worth investigating — often faster and more consistently than a team working through files by hand [1]. This isn't just a speed upgrade; it changes what auditors spend their time on, shifting attention away from routine verification and toward interpreting what the data actually means [3].

This paper looks at both approaches side by side — how they handle sampling, fraud detection, cost and time, accuracy, and the role of human judgment — to build a clearer picture of where AI genuinely improves auditing, and where it still needs a human auditor to make the call.

2. RESEARCH METHODOLOGY

This is a review-based study, not an empirical one. Rather than gathering primary data, it draws on existing academic literature — peer-reviewed papers published mainly between 2019 and 2024 — covering AI adoption in auditing, fraud detection methods, and audit efficiency research. Sources were chosen for their

relevance to the comparison areas covered in this paper: sampling, fraud detection, efficiency, accuracy, and professional judgment. The insights from these sources were synthesized into a structured comparison, giving the paper's conclusions a grounding in current scholarly understanding rather than firsthand testing.

3. LITERATURE REVIEW

AI's entry into auditing has drawn considerable academic interest, largely because of what it promises: better audit quality, faster processes, and sharper decision-making [2]. Machine learning, natural language processing, and predictive analytics are increasingly built into audit workflows, automating routine checks and expanding what auditors can realistically analyze in the time available [4]. This has pushed auditing beyond its traditional sample-based boundaries into something closer to full-population analysis.

Fraud detection is where AI's advantage shows up most clearly in the research. Traditional auditing leans on sampling to catch irregularities, which inherently risks missing whatever falls outside the sample. AI-based systems instead scan complete datasets, picking up transaction patterns that would be easy to overlook manually [1]. That said, researchers are consistent in

noting a caveat: AI's usefulness is only as good as the data quality behind it [3].

There's also a shift underway in what auditors actually do. Empirical evidence shows that firms investing more heavily in AI see measurable improvements in audit quality — including a documented reduction in the likelihood of financial restatements — alongside a gradual decline in demand for entry-level audit staff, as routine tasks get automated [1]. The consensus in the broader literature isn't that AI is replacing auditors outright — it's that AI is absorbing the repetitive parts of the job, freeing auditors to focus on judgment calls, risk interpretation, and strategic decisions [2].

None of this comes without friction. Scholars point to real concerns — algorithmic transparency, data privacy, cybersecurity risk, the cost of implementation, and the skills gap auditors need to close to use these tools well [5]. And a recurring theme across the literature: AI doesn't reason ethically. It can flag something unusual, but it can't weigh intent, context, or consequence the way a person can — which means human oversight isn't optional, it's structural [4].

Taken together, the research suggests AI meaningfully strengthens auditing — but only when paired with the professional judgment that technology alone can't

replicate. That balance is the throughline this paper builds its comparison around.

4. COMPARATIVE DISCUSSION

4.1 Audit Sampling Approach

Traditional auditing works off samples — a manageable slice of transactions used to draw conclusions about the whole. It's practical, and it always has been, because reviewing every single transaction by hand simply isn't feasible at scale. The tradeoff is real, though: whatever sits outside that sample could hide a serious problem, and no one would know.

AI changes that equation by making full-dataset analysis realistic [3]. Instead of a slice, auditors can now look at the whole picture, which naturally increases the odds of catching something unusual. That said, wider coverage doesn't remove the need for judgment — someone still has to interpret what the AI surfaces and decide what actually matters.

4.2 Fraud and Anomaly Detection

Fraud detection is arguably where the difference between the two approaches is starkest. Traditional methods rely on predefined checks and an auditor's built-up experience — useful, but not always sharp

enough to catch fraud schemes buried in large, complex datasets.

AI tools, using machine learning and pattern recognition, are built for exactly that kind of complexity [1], [4]. They can process volumes of data no team could realistically review by hand and flag transactions that look off. But flagged isn't the same as confirmed — every AI-generated red flag still needs a human auditor to look closer before it becomes a finding.

4.3 Cost and Time Efficiency

Manual auditing is labor-intensive, and that shows up directly in cost and time — especially for organizations with extensive records. Every hour spent verifying documents by hand is an hour added to the audit timeline and the client's bill.

AI shifts that balance by automating the repetitive parts and processing data at a speed no human team can match. Evidence from large audit firms shows this translates into real reductions in audit fees as AI adoption grows [1]. The upfront cost of adopting the technology — software, training, integration — isn't small, but the payoff tends to show up over time: faster audits, less manual grind, and better use of staff hours [5].

4.4 Accuracy and Consistency

One of AI's clearest strengths is consistency. It applies the same logic to every data point, every time, without the fatigue or variability that naturally creeps into manual review. Traditional auditing, by contrast, depends heavily on individual judgment — which means outcomes can shift depending on who's doing the work.

But consistency isn't the whole story. Good auditing also requires understanding the business behind the numbers — reading context, not just data. Accuracy from a system is valuable, but it works best as a complement to professional expertise, not a replacement for it [2].

4.5 Human Judgment and Professional Skepticism

Whatever AI can do, professional judgment remains the part of auditing it can't fully take over. AI is good at spotting what looks unusual — it has no real grasp of why something might be unusual, what it means for the business, or whether it points to something deliberate [4].

That's where professional skepticism earns its place: questioning results that don't add up, pushing past the surface of the data, and making calls in situations that don't have a clean answer. AI works best here as a tool

that supports that judgment — not one that substitutes for it [2].

4.6 Summary of Comparison

Put side by side, both approaches bring something real to the table. AI's strength is scale — deeper data coverage, faster processing, stronger fraud-detection support [1], [3]. Traditional auditing's strength is judgment — ethical reasoning, contextual read, and the kind of skepticism that comes from experience rather than computation [2], [4]. The strongest model, based on everything the research points to, isn't a choice between the two — it's a hybrid, where AI does the heavy analytical work and auditors keep the final call.

5. CONCLUSIONS

This study compared traditional and AI-assisted auditing across five areas — sampling, fraud detection, cost and time efficiency, accuracy and consistency, and professional judgment. The pattern that emerges is consistent: AI meaningfully strengthens the audit process by widening data coverage, speeding up analysis, and catching irregularities that sample-based reviews are more likely to miss [1], [3].

But AI's role, based on the literature, is clearly supportive rather than substitutive. It can flag what looks unusual with speed and

consistency no manual process can match — but it can't weigh intent, read ambiguity, or make the kind of judgment call that real audit situations often demand [4]. That part of the work still belongs to the auditor [2].

The conclusion this paper lands on is a hybrid model — AI handling large-scale data analysis, anomaly detection, and the repetitive groundwork, while auditors retain responsibility for interpretation, ethical judgment, and the final opinion. Done well, that combination lets organizations benefit from what AI does best without giving up the reliability that comes from human oversight [5].

It's worth being upfront about the limits of this study: it's a literature review, not empirical research, so the findings reflect what's currently understood in academic writing rather than direct testing of AI audit systems in practice. Future work could take this further with real-world case studies across industries, testing how hybrid audit models actually perform once implemented — and what practical challenges come with adopting them.

Overall, this paper adds to a growing conversation about AI's place in auditing. The takeaway isn't that AI is transforming the profession by replacing auditors — it's that the profession's future depends on using



AI well, while keeping trained, skeptical human judgment firmly in the loop.

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