blueJ

Generative AI in Tax

Current State and Future Horizons

Contents

Executive Summary

Generative AI is experiencing massive growth, with the AI market surpassing $184 billion in 2024 and projected to reach $826 billion by 2030. This transformative technology has evolved from early theoretical concepts to a cornerstone of modern business, in particular for professional services like accounting.

Tax specifically stands at a crucial intersection with GenAI, where AI-powered solutions are revolutionizing traditional workflows through:

- Streamlining routine tasks
- Improving accuracy in tax compliance
- Augmenting research capabilities
- Enabling real-time tax analysis and advice

Together, these improvements to productivity and accuracy could change the role of tax experts altogether, creating a new category of "hyper-augmented" tax professionals.

However, while GenAI does offer remarkable potential to augment and evolve the accounting profession, it comes with essential considerations around data quality, model reliability, and ethical implementation. Key challenges include ensuring accuracy, maintaining cybersecurity, and adequately responding to evolving regulations.

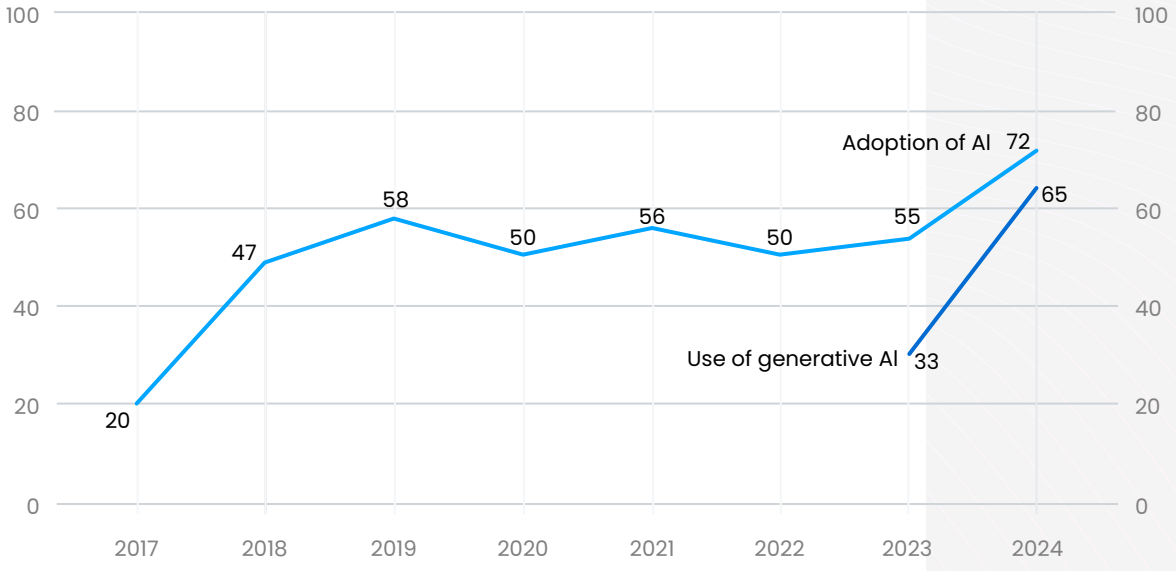
Domain-specific applications, such as Blue J's generative AI solution for tax research, are leading the way in maximising AI's transformative impact for tax professionals, while mitigating its potential risks. In this whitepaper, a team of Blue J experts looks at GenAI's current use in the tax landscape, as well as key future directions we expect the technology to take.

The Evolution of Generative AI: Setting the Stage

Artificial intelligence, or AI, is entering a new phase of mainstream adoption and innovation. In 2024, the overall AI market already surpassed $184 billion[1], up from just $50 billion in 2023. On its current trajectory, the overall AI market is expected to surpass $826 billion by 2030. Recent data[2] from O'Reilly suggests that 67% of responding enterprises already use GenAI for business, with its use in data analysis as a critical tool for 59% of respondents.

AI adoption, and more specifically generative AI adoption, has accelerated rapidly over the past 18 months.

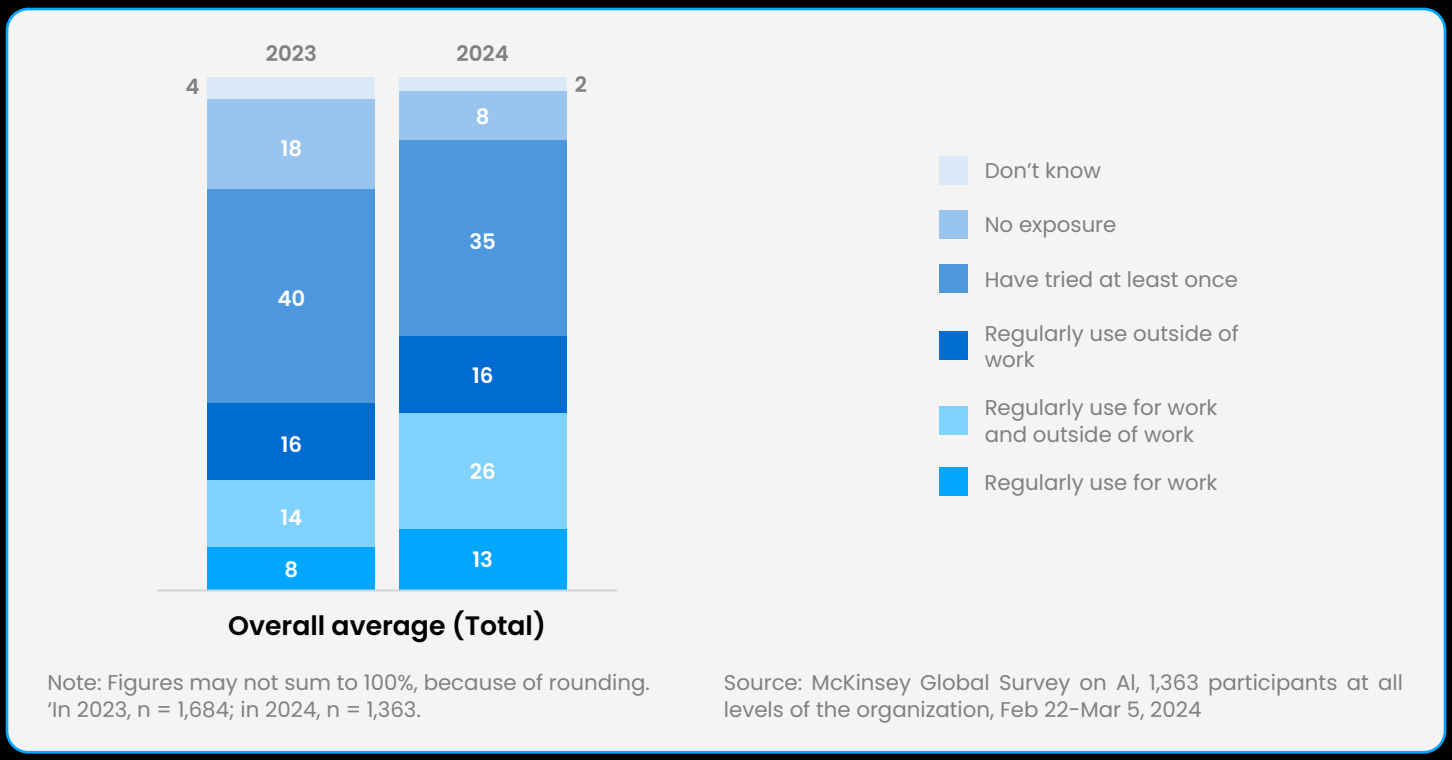
Organizations that have adopted AI in at least 1 business function,[1] % of respondents



In 2017, the definition for AI adoption was using AI in a core part of the organization's business or at scale. In 2018 and 2019, the definition was embedding at least 1 AI capability in business processes or products. Since 2020, the definition has been that the organization has adopted AI in at least 1 function. Source: McKinsey Global Survey on AI, 1,363 participants at all levels of the organization, Feb 22-Mar 5, 2024

McKinsey & Company

AI is no longer a luxury but a business staple, and accelerated user uptake reflects this shift:



Note: Figures may not sum to 100%, because of rounding.
'In 2023, n = 1,684; in 2024, n = 1,363.

Source: McKinsey Global Survey on AI, 1,363 participants at all levels of the organization, Feb 22-Mar 5, 2024

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From something first encountered conceptually in sci-fi novels to the core of modern business, we've seen a ground-breaking shift in how we work, think, and deliver value with AI.

The concept of AI is simple: computer systems capable of performing tasks traditionally requiring human intelligence. Today, through sophisticated algorithms processing vast amounts of data and cutting-edge computing systems, AI can already:

- Learn from experience, improving its performance over time
- Recognize complex patterns that might escape human notice
- Make informed decisions based on extensive data analysis faster than a human can
- Generate new content and insights from existing information

That last point, specifically, is the domain of generative AI, which has become the buzziest facet of AI following the launch of ChatGPT[3], a Large Language Model (LLM), on November 30, 2022.

But before we tackle how GenAI is transforming the way tax professionals work, it's worth taking a step back in history to understand the broader development of AI.

A Brief History of AI

Much of what we call AI today was first conceptualized in the very roots of theoretical computer science by British mathematician Alan Turing, who foresaw technology that could be coded to specific tasks but which was capable of self-expanding beyond original programmed functions.

This concept was built on through the 1950s by the Dartmouth Summer Research Project[4], which suggested, "Every aspect of learning or any other feature of intelligence can, in principle, be so precisely described that a machine can be made to simulate it." From their work, the field of AI took shape.

By the mid-60s, we already had what could be called the first "chatbot" in ELIZA[5], a therapeutic tool. While project originator and MIT computer scientist Joseph Weizenbaum assumed it was too rudimentary and mechanical to pass as a human, that was far from the case. Instead, as he notes in his paper[6] on the project, "Some subjects have been very hard to convince that ELIZA…is not human." This "human-like" interaction with AI remains a core part of its appeal and function today. And then, the "AI Winter" struck. For two decades, we saw little progress. AI was relegated to the "overpromised, under-delivered" category. However, in 1986, the launch of the first semi-autonomous car and the 1996 world-champion-beating chess-playing Deep Blue[7] reinvigorated AI.

Then, IBM's Watson[8] gave us our first glimpse of what would later become LLM technology, albeit specifically for answering Jeopardy questions. With encyclopedias and internet facts fed into the Watson DeepQA, it was able to receive and process natural language questions and respond in kind, beating out top program champions.

Since the 2010s, AI technology has accelerated quickly, including the rise of Siri and Alexa, the Smart Home assistants powered by natural language processing. As the 2020s unfolded, we saw OpenAI open the AI floodgates, with staggering developments in GenAI in 2023 onwards[9].

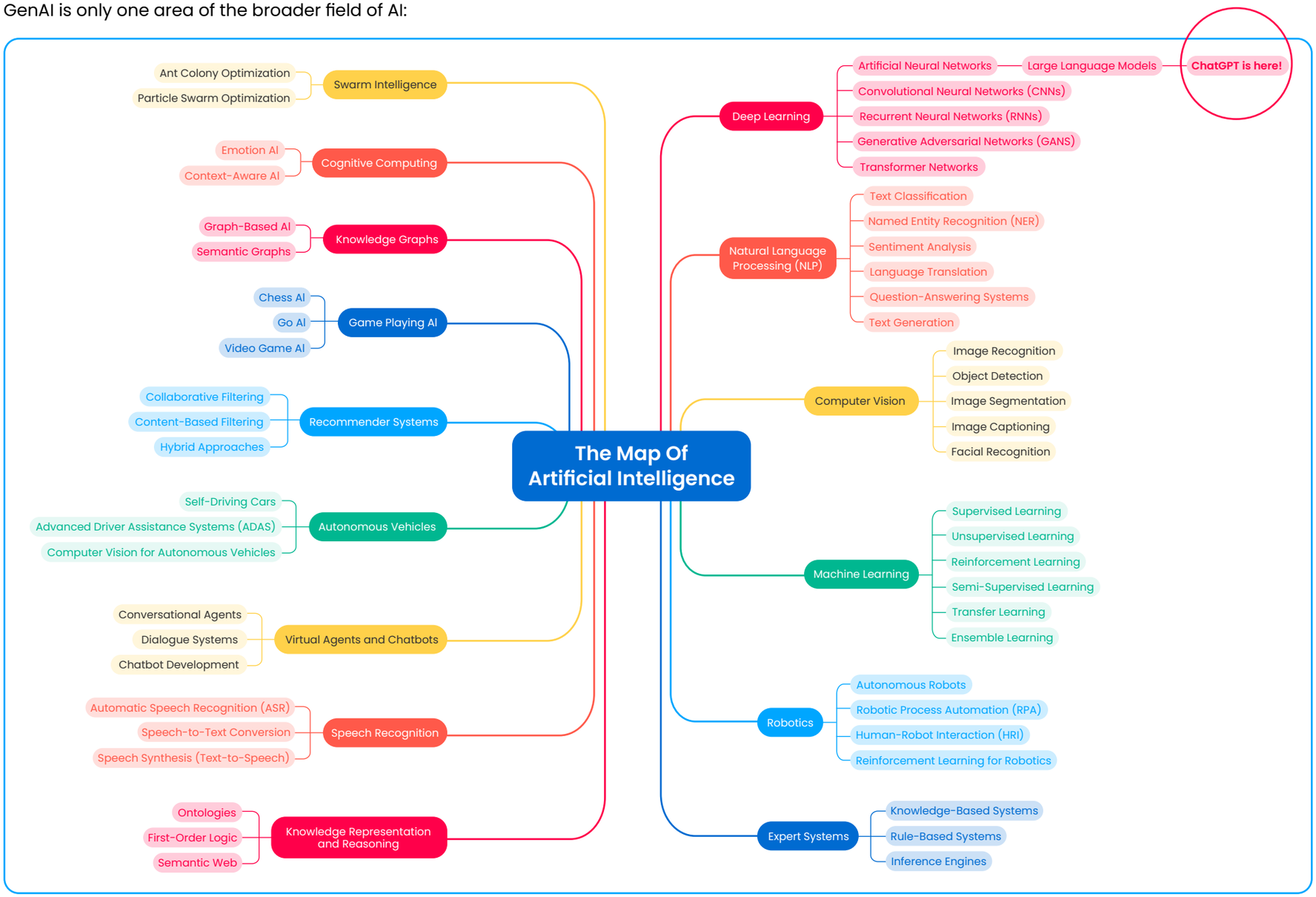
Highlights of generative AI development

2024 to 2025

- Google releases Gemini 1.5 Pro with million-token context window in February 2024
- Meta introduces Llama 3 open models in April 2024
- OpenAI announces GPT-4o, its multimodal LLM in May 2024
- Claude 3.5 models are released by Anthropic in August 2024
- Microsoft integrates generative AI into its products with Copilot across Microsoft 365 in January 2025
- AI agents gain momentum with launches like Auto-GPT, BabyAGI, and agentic tool use integrated into LLM platforms (2024)
- Models like Mistral (2023) and xAI (2025) gain significant traction as open-source challengers
- DeepSeek-R1, a new reasoning model by DeepSeek is released in January 2025
- OpenAI releases GPT-4.1, with Blue J working with OpenAI to get early access
- Tax-specific AI tools and vertical use-case models gain traction (2025)

The Broader AI Landscape

While this piece—and indeed most of the world's attention—is focused on the evolution, impact, and future of generative AI, it's worth remembering that GenAI is only one area of the broader field of AI:



Tech World With Milan

Naturally, most of these specific research areas are intersectional, with overlapping focus and technologies. However, since most of the excitement behind the benefits of AI for business lies in GenAI and its branches, that's where we'll be focusing.

Understanding Generative AI:
A Revolution in Intelligent Creation

By now, most of us have heard of OpenAI's ChatGPT, alongside other GenAI apps like Grok and DeepSeek. But the technology behind these names might be less familiar.

GenAI allows systems to create, innovate, and problem-solve even complex matters in a way that mirrors (or even exceeds) human capabilities. Unlike "traditional" AI, where predefined rules and simple classifications are followed, GenAI actively generates new insights, data, and content.

It does this by learning patterns from vast amounts of (ideally curated and accurate) data. It then uses those patterns for novel outputs. These range from text to images, code, and even video.

Key to this computational power is:

1. **Neural Networks and Deep Learning:** These systems are built on artificial neural networks that process information in layers, similar to how our brains work. Through deep learning, these networks can identify intricate patterns and relationships within data.

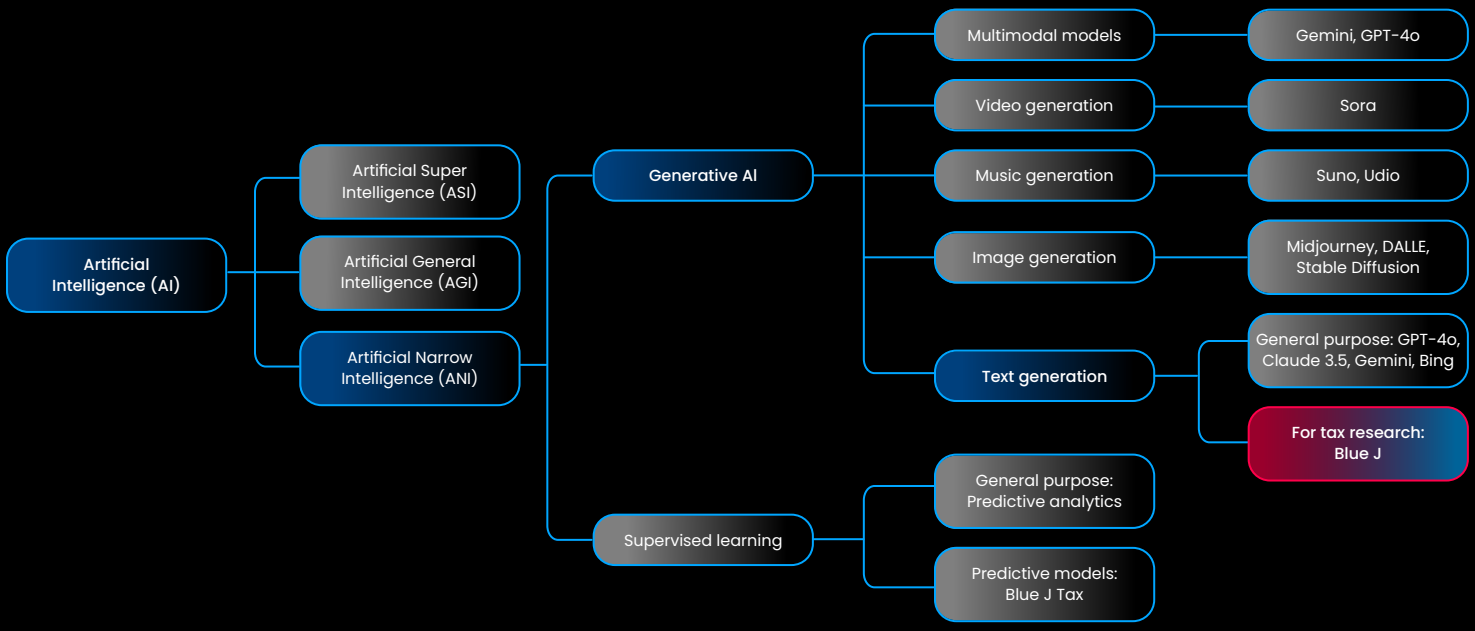
2. **Pattern Recognition and Generation:** Generative AI doesn't just memorize. It understands context and relationships. This allows it to both recognize existing patterns and create new content that follows these patterns while being original.

3. **Probabilistic Modeling** The system makes predictions about what should come next in a sequence, whether that's the next word in a sentence or the next logical step in an analysis.

For true GenAI, the introduction of transformer architecture[10] in 2017 was a significant development, introducing key critical capabilities, such as:

- Attention Mechanisms: Ability to focus on relevant parts of input data
- Context Understanding: A better grasp of relationships between different elements
- Parallel Processing: Dramatic improvements in processing speed and efficiency
- Scalability: Ability to handle increasingly complex tasks and larger datasets

Today, GenAI comes in many forms, each specialized for different types of tasks:



General Large Language Models (LLMs):
Specialized in understanding and generating human language, these can write, translate, analyze, and engage in dialogue.

Key examples: OpenAI's GPT series, Anthropic's models, Meta's LLaMA.

General Multimodal Models:
These work with multiple data types, from text to images and code, understanding the relationships between these different information forms.

Key examples: We see multimodal models in Google's Gemini, OpenAI's GPT-4o, and Claude 3 (Opus) onward.

General Non-Text Models:
This subset of GenAI focuses on the creation of specific non-text data types, such as images or videos.

Key examples: OpenAI's Sora (video), MidJourney (Images), and Suno (Music).

Domain-Specific LLM and Multimodal Models:
Domain-specific models are trained on specialized and carefully curated data to work in particular industries and tasks. They may be LLMs or even multimodal, as the technology accelerates.

Key examples: Blue J's tax research solution is one such specialized application of generative AI, leveraging a curated library of tax resources to accelerate tax research and drafting tasks.

Each of these GenAI models offers transformative potential for professional services, creative industries, and technical applications. Of the potential professional services applications, tax professionals have seen a particularly strong impact from the introduction of generative AI.

Generative AI in Tax: A Deep Dive and Key Benefits

That's a very brief overview of what GenAI is and what it does. Now, let's look at how generative AI and tax intersect.

Across industries, we're already seeing a significant uptick in AI adoption. By 2030, we could see almost a third (27% in Europe and 30% in the US)[11] of all hours worked handled by GenAI automation.

For tax professionals, AI has massive potential to transform how they work. Where generative AI excels in tax is in compiling, searching, and understanding vast amounts of complex tax law, regulations, precedents, and documents that would take human researchers hours to handle.

Traditional search-based tools work by keywords, with the searcher receiving a series of potentially relevant documents to examine.

By contrast, generative AI solutions for tax research such as Blue J allow the tax professional to ask their question using natural phrasing. The system will then examine these massive libraries of written sources, a task well-suited to text-focus LLMs. LLMs can identify the relevant provisions across multiple tax codes and generate concise, applicable answers. Primarily by recognizing patterns and relationships within this enormous body of specialized knowledge. It then produces a coherent response synthesizing the relevant information. When we consider the particular context and requirements of tax research, the capabilities of these LLM-powered generative models then become especially powerful, offering 2 key features to users:

1. **Time savings in analyzing vast amounts of written information**
2. **Offering coherent written responses that are easier to access, use, and verify**

But the implications of AI adoption in tax go far beyond simple convenience. This technology stands to change the accounting profession for a new digitally-powered and "always on" era across four key areas:

Streamlining Routine Tasks

- Automating data entry and basic calculations
- Freeing up time for higher-value activities in support of clients

Improving Accuracy in Tax Compliance

- Reducing human errors in complex calculations
- Ensuring consistency across multiple tax jurisdictions

Augmenting Research Capabilities

- Rapidly analyzing vast amounts of tax literature and case law
- Identifying relevant precedents and regulations more efficiently

Enabling Real-Time Tax Analysis and Advice

- Providing clients with instant answers to common tax queries
- Allowing for rapid scenario modeling and tax impact assessments

Along with these changes to how tax professionals work, we're likely to see changes in the type of work they take on as well:

Shift Toward Strategic Advisory Work

- AI tools will be essential part of work
- Focus will be on creating, interpreting and implementing client-specific AI-based insights

Evolution of Junior Roles in Tax Practice

- Potential reduction in entry-level positions focused on mundane tasks
- New opportunities for tech-savvy professionals to optimize AI systems

Increased Emphasis on AI Tech Skills

- For quality and cost competitiveness, all tax experts will rely upon AI tools
- Importance of AI skills in additional to conventional tax knowledge

Greater Specialization in Complex Areas

- With AI tackling routine tasks, tax experts will focus on bigger issues
- Increased demand for expertise in emerging areas of concern as tax law and tax policy changes accelerate

As time goes on, and AI becomes more integrated in the tax profession, the combined force of human and AI components will complement each other in even more meaningful ways.

Integration of AI Tools Into Daily Workflow

- Seamless collaboration between human tax experts and AI assistants
- AI will be an always-on "associate" for tax research and analysis

Personalized Continuous Learning

- AI-powered systems will adapt to our individual learning styles
- Tailored suggestions for professional development based on AI analysis

Enhanced Decision-Making Capabilities

- Combining AI-driven insights with human judgment and experience
- Rapid evaluation of multiple tax scenarios and their implications

Redefining the Client Experience

- Will be able to provide proactive and comprehensive tax services for clients
- Clients will favor their trusted, long-standing, personal relationships

By combining AI-driven insight with human experience and judgment, we can expect the evaluation and assessment of multiple tax scenarios and their implications to become near-effortless. Here, we see seamless collaboration between the human tax expert and their AI assistants, acting as always-on "associates" to further tax research and analysis, all backed by meaningful data and pattern recognition. GenAI is even set to become a powerful force in addressing tax avoidance[12].

Overall, tax professionals will be able to offer proactive, comprehensive tax services to their clients regardless of practice size or employee numbers. Clients can continue their trusted, long-standing, personal relationships with providers, while still enjoying the future-forward power of additional technological capabilities.

Of course, this kind of evolution necessitates generative AI to evolve alongside tax practitioners. Because as impressive as today's systems are, anticipated developments in generative AI will open entirely new possibilities for the tax profession.

The Future Horizons of GenAI: An Exciting, Evolving Landscape

GenAI technology is developing rapidly, with many exciting possibilities. Below, we look at some key areas of improvement impacting the GenAI space as a whole, which we expect to be critical for tax experts using GenAI tools.

1

Systemic Improvements and Data Reliability

A continuous goal of all GenAI developments is to address concerns such as AI hallucination ("making up" plausible but non-fact-based answers) and potential undetected biases. Recent evolutions in the specs for AI systems (see OpenAI's[13]) address and refine these, promoting ever-higher ethical and knowledge standards.

Already, some applications—like Blue J—are seeing massive improvements to reliability fuelled by customer feedback loops on answer accuracy. Growing usage and intense curation of the data they are built on will improve these further.

2

Regulatory and Ethics Changes

In something of a game of regulatory catchup, many governments are rushing to create guidelines for regulating AI, including generative AI.

From the UK's pro-innovation approach[14] to AI regulation, to President Trump's Executive Order 14179 to establish the US's own pro-innovation AI policy[15], and Canada's Voluntary Code of Conduct on the Responsible Development and Management of Advanced Generative AI Systems[16], governments around the world are working to regulate this rapidly evolving technology.

While they've made some strides, we do expect to see further regulatory measures developed to safeguard and promote safe, responsible AI use in coming years.

Aside from locally-relevant government regulations, professional associations are also steering the ethical development of generative AI usage. Accounting and legal associations are already stepping in to advise their members on responsible implementation.

Partially a regulatory matter, but of particular note for the tax profession is also the evolving concept of data residency and data sovereignty[17]. These govern where data is stored and accessed and how much regulatory power governments have. It is of particular note for larger firms working regularly with cross-border information.

3

Expanded Accessibility and Personalization

While these trends focus more on the user experience than the underlying technology, we're seeing great strides in making GenAI models more personal to the user. Enhanced features (such as OpenAI's Realtime API[18]) allow both voice and text inputs and outputs, further expanding the multimodal model concept. So-called AutoML[19] and API-based modular development will also make AI tools easier to customize and develop.

4

Focused Red Teaming Analysis and Integration

Red teaming[20] is an IT term for cybersecurity and feature testing. Simulated intrusions by a variety of experts test and refine both security and value-for-use. As domain-specific GenAI applications become more important in professional settings, we expect to see larger groups of niche and industry-specific experts fine-tune these applications for enhanced integration with existing tax systems. Additionally, tighter compliance and cybersecurity protocols for protection from malicious actors will grow.

5

Enhanced AI-Human Collaboration

Significant advances in natural language capabilities[21], reasoning and analysis, and automated complex decision-making, as well as the rising possibility of real-time AI updates, mean we can expect even more refined AI toolsets. We have already seen Google's Gemini push real-time news updates[22] through AI. There is also the rise of zero-shot learning[23], which would allow models to perform tasks on new domains or languages with limited training data, greatly expanding the applicability of NLP systems.

Blue J's Predicted Timeline for AI in the Tax Profession: Future-Forward Speculation

While we've already gestured towards the future of generative AI for tax in the emergence of the "hyper-augmented" tax professional, there's more to this picture. Beyond needing tax professionals to adapt to changes in their roles, AI also offers potential training support for that change. AI-powered systems that can adapt to individual learning styles will help further the existing commitment in the accounting profession to ongoing professional development. AI analysis could even offer tailored suggestions for such professional development. In this way, AI can empower individuals to truly embrace the future of this profession.

As we look at where generative AI is headed for tax, it's this continued deepening of the integration between human tax practitioners and AI that defines our predictions about its evolving impact and capabilities. Based on current GenAI capabilities and the direction of new developments, Blue J anticipates the following key developments in the future of tax practice with AI:

2025–2027 Foundation Building

AI-powered research tools and basic automation will become standard in tax practices. AI will take over routine aspects of return preparation and tax compliance.

2028–2030 Collaborative AI

AI-human teams in tax will be the norm, with AI assistants providing real-time insights during client consultations.

2030–2033 Hyper-Personalization

AI will enable tailored tax strategies based on individual patterns and will use AGI for complex tax optimizations.

2033–2037 Transformative Integration

AI will become the primary interface for all tax interactions, including with government authorities.

2037–2040 AI-Driven Tax Ecosystem

AI will significantly influence tax policy formation and will enable wholly automated compliance for most taxpayers.

2040+ Approaching Legal Singularity

AI eliminates all practical uncertainty in tax[24], with tax laws becoming functionally 'self-executing' through AI.

Understanding GenAI's Considerations and Potential Limitations

For all of the exciting potential generative AI has in transforming the way tax experts work, those lofty ambitions come with a few caveats that professionals need to consider while implementing.

GenAI is mighty, but still is a technological aid, not an actual free-thinking human. This leaves it open to some potential issues, most of which can be reduced or removed entirely by careful use, curated data, and ethically-aligned implementation practices.

Consideration	Challenge	Solution
Training data quality	What is the model learning from?	Curated, high-quality data
Model architecture and capacity	How does the model process the data it is learning from and respond accordingly?	Data structured and processed correctly
Fine-tuning and evaluation	How do you know the model learned the right things to respond successfully to specialized tasks?	Use of domain-specific, tightly curated models and datasets
Knowledge cutoffs	Models intrinsically have cutoff dates on the data used	Regular updates and dataset monitoring to stay current
Accuracy and reliability	Concerns around "AI hallucination" and plausible but incorrect information generation	Humans in the loop, with subject matter experts reviewing user feedback
Context and nuance	While powerful, GenAI is not human and could miss subtle context clues	Clear and focused tasks and guidance, with continual refinement, produce optimal results
Ethical considerations	How does GenAI handle privacy and data security, and have unintended biases been introduced?	Ethical data handling practices and thoughtful curation of datasets, with frequent updates

Embracing the AI-Powered Future of Tax Practice with Blue J

We are standing at a developmental milestone for the use of GenAI technology in tax. As AI continues to evolve, we can expect to see increasingly sophisticated applications, from foundation building (2024-2027) to approaching legal singularity (2040+), where tax laws may become functionally self-executing through AI.

Success in this new landscape will depend on:

- Maintaining rigorous ethical standards and best practices
- Ensuring transparent communication with clients about AI use
- Continuing professional development to stay current with technological advances
- Balancing automation with meaningful human interaction
- Implementing proper security and privacy measures

Organizations that successfully adopt these technologies while adhering to ethical guidelines and best practices will be well-positioned to thrive in the future of tax.

Blue J's generative AI solution is already building that future, delivering fast, verifiable answers to even the most complex tax questions. As easy as asking a colleague a question, the application's conversational interface empowers teams to research efficiently and communicate confidently, right from first use. Built on a curated database of trusted tax resources and supervised by an in-house team of tax professionals, Blue J is committed to ensuring the highest possible answer quality. With 10 years of experience, Blue J is the pioneer in AI for tax research, consistently finding new ways to generate better tax answers.

Accelerated Research: Accomplish hours of research in seconds and arrive at meaningful insights faster than ever before. Blue J accelerates your research, so you can quickly deliver the right answers to clients.

Automated Drafting: With the touch of a button, you'll have high-quality first drafts of emails and memos. Automated drafting gets you past the blank page, allowing you to focus on elevating client communications.

Verifiable Answers: Grow your expertise by leveraging a curated database of trusted tax content, accessible directly through the application. At every stage of research, you'll know exactly where answers are coming from.

If you're ready to get ahead of the GenAI curve and start getting better tax answers, Blue J's team of experts is here to help. Join the hundreds of leading accounting firms who trust Blue J to answer their toughest tax questions. Research expertly, draft instantly, and deliver superior client outcomes—all with the power of generative AI.

Learn More

About Blue J

Founded in 2015, Blue J is the leading generative AI solution for tax research. Trusted by firms of all sizes, Blue J delivers fast, verifiable answers to complex tax questions, empowering professionals to provide exceptional client service. With its conversational interface and curated library of authoritative sources, Blue J is transforming how tax experts work.

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USA
104 West 40th
Suites 400 & 500
New York, NY 10018

Canada
225 King Street West
Suite 1405 Toronto
Ontario M5V 3M2

Phone: +1 800-607-6105
Email: support@bluej.com

www.bluej.com

Contact us