

Artificial Intelligence and Taxation in India

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Abstract

The present tax environment is characterized by tax authorities using determined approaches to the tax management and collection process, sharing information with one another, and demanding greater transparency between jurisdictions, but with inconsistent results across borders. Businesses are facing more tax risk and uncertainty regarding the viability of their current business models and group structures, which is adding to their compliance burden. Businesses are centralizing compliance, utilizing technology to aggregate, validate, and report for compliance purposes, and applying data analytics to the collected information to detect irregularities and reduce risk in order to help overcome these obstacles. Tax authorities and tax advisors are beginning to investigate the potential for implementing advanced data analytics and artificial intelligence (AI) in tax to manage this shifting landscape and the growing use of analytics. This will help professionals and their clients with frequently asked questions and streamline compliance. Although a lot of emphasis has been paid to data analytics, artificial intelligence in taxation is a comparatively recent development. Here in this paper I have tried to focus on recent trends and advancements of taxation matters and compliances in AI (Artificial Intelligence) scenario.

Keywords

Taxation, Artificial Intelligence (AI), GenAI, Machine Learning

What do we mean by AI?

The phrase artificial intelligence is fairly wide and includes many different elements. These include robotic learning, in which a human demonstrates a task to a machine, and the machine mimics the actions (e.g., automatic invoice scanning and processing), as well as cognitive and machine learning (e.g., intelligent personal assistants like Siri and Cortana and, at a much simpler level, grammar and spell-checkers). The idea of artificial intelligence is suffering from the same destiny as earlier waves of new technology, which is a limited comprehension of its potential combined with the presumption that it can accomplish far more than is really feasible in the near future. This is driven by a genuine desire for technology-enabled tax solutions as well as market hype. In this context, it's critical to control expectations regarding AI's short- to medium-term capabilities as well as its real-world and practical constraints.

Getting started

Instead of aiming for a massive undertaking, the most successful AI ventures to date have made tiny, incremental advances. These dispel doubt, demonstrate the idea with little financial outlay, and increase interest in broader adoption.

Many firms begin with a data strategy that is motivated by external compliance obligations, such the Common Reporting Standard and the OECD's Base Erosion and Profit Shifting project, and higher internal expectations of what the tax function could produce. Data is crucial since the AI solution is trained using past data in the majority of practical approaches.

Choosing the problem you want to solve is the first step in implementing AI. Next, you need to determine what manual tasks can be replaced or enhanced by AI and what new insights may be gained from the machine's work. Perfect data is not a must for putting a data strategy into action and beginning to reap the rewards of analytics and AI. Although most of the time all that is required is some data to play with and the AI will still be productive with noisy or poor data, worrying about data quality might keep businesses from starting. Having said that, Deloitte has a great deal of experience assisting customers in finding, extracting, and cleaning up data so that it can be used. Building the corpus of knowledge to be fed into or absorbed by the technology so that it can operate on the data is important to take use of AI after you have the data that will address the problem you are seeking to solve. It's a tough task. Teaching the machine the appropriate language—in this example, the

language and context of taxes—is the second major effort. Developing the abilities required to create learning strategies and select data for the corpus is a significant commitment. For instance, the corpus and training must be customized to the tax laws, legislation, and case law precedents of the applicable jurisdiction(s), depending on the context of the AI solution. In order to achieve a high degree of confidence that the machine’s responses will be accurate, the third major duty after completing these procedures is to feed it a large number of questions, teach it the answers, or teach it the proper answers when it gives incorrect ones. While machine learning can be challenging when faced with novel situations, it excels at identifying trends and avoiding errors that have previously required human correction. Since there is typically no right or wrong response to a question, the majority of AI solutions will discuss the confidence levels of the recommendations or replies. The goal of the training and feedback loop is to improve the algorithms and increase the answers’ degree of confidence.

Because loading, training, and maintaining the information might take a lot of time, the use case must occur frequently enough to produce efficiency improvements that outweigh the effort required. AI has so far been used in a lot of sectors that, despite having a tax component, have been handled by non-tax experts, such processing invoices or recovering VAT on foreign expenses.

To address various classifier questions that come up in the Canadian tax framework, such as determining whether a person should be categorized as an employee or a contractor in a certain business environment, a software start-up in Canada has spent 18 months creating an AI application. The tool’s developers had to understand how to construct the appropriate corpus of data and then train the machine in order to accomplish this. It is not sufficient to include all possible information sources; at this point in the process, part of the talent is being able to recognize which sources are the best and which ones should be avoided. This is known as “curating the content” in AI terminology. In addition to offering a response and a confidence level based on a percentage, the solution also explains how it arrived at that conclusion and includes the pertinent statutes, case law, and commentary that served as the basis for the response. In this sense, AI will eventually prove to be a useful tool for training less seasoned advisors who might not be aware of a specific information source until the machine provides it to them. This is a prime illustration of how AI will support advisors and educate the specialized community rather than replace them.

What are the barriers to adoption?

Knowledge is king in the ethos that defines the tax industry. People who enjoy working with a wide variety of rules that need to be applied to a particular set of facts and who are adept at solving difficult problems are drawn to this line of work. It is discouraged to experiment with new technology, particularly when it is perceived as a danger or when people are unaware of the operational risks involved in implementing it.

Due to AI's inherent probabilistic nature, there will unavoidably be instances in which the machine produces an answer that a panel of experts would deem to be "wrong." However, many of these queries are currently being answered by non-experts, who also don't always come up with the correct response. Therefore, rather than focusing on the absolute mistake rate of an AI application, any risk evaluation should take into account whether AI reduces the danger of an inaccurate conclusion. The first barrier is derived from the second. The computer needs carefully chosen information to learn, and it is a fact of some of the more complex classification problems that not all trained experts would classify items in the same way. Therefore, the findings of a classifier that is coded based on the reasoning of one specialist (or even a panel) may not always match the suggestions of other specialists with comparable training.

Numerous difficulties that tax authorities encounter while utilizing analytics and artificial intelligence were revealed in the OECD's most recent paper, *Advanced Analytics for Better Tax Administration*. These include striking a balance between centralization and the necessity of integrating solutions and exchanging firsthand knowledge; uncertainty regarding the ability to create models that have a noticeable effect on performance; the wide variety of analytics solutions available; the availability of the necessary skills to create their own solutions using open-source tools; and viewing their data as an asset rather than a byproduct of their operations. Stakeholders in the corporate sector are also uncertain about what can be accomplished and the amount of money needed to take advantage of AI solutions; the more it can do, the more it must cost.

Therefore, it should come as no surprise that cost has a significant influence on the decision to begin employing AI. According to a recent Deloitte poll of attendees at tax analytics Dbriefs, up to one-third of audiences in the US, Asia Pacific, and EMEA described their largest obstacle to pursuing an analytics strategy as financial

limitations or an unclear return on investment. It makes sense to extend these reactions to AI adoption.

Businesses that choose to embrace AI must acknowledge that machines are not as advanced as humans and that educating them is challenging. This implies that talent is needed to know what questions to ask and the best response for each inquiry in order to train the machine and increase trust in its accuracy. There are very few practitioners on the ground who possess the knowledge and expertise to construct the corpus, pose pertinent queries and guide the machine toward the proper answers, and have the time to devote to this process rather than high-paying advising tasks. This might be a significant real-world obstacle to the use of AI in taxation.

The mindset of tax experts and their clients is another obstacle to entry. Both parties to an engagement desire the confidence that a human subject matter expert has examined and validated the machine's output because there is still apprehension about the new, particularly with regard to the accuracy of the results. This is made worse by the natural response of many tax professionals, who believe that the use of AI will increase engagement risk and diminish their perceived added value. In actuality, AI has the potential to highlight the value that each person brings by freeing up professionals to concentrate on more difficult issues rather than low-level activities that computers can complete.

Additionally, the kinds of tax issues that warrant the expense in creating an AI solution are limited. Numerous problems that arise in the tax consulting industry have distinct fact patterns that make it impossible to use AI to tackle the problem as a whole. However, if it is dissected into its constituent elements, it is possible that certain elements fit into the fuzzy matching, high-volume classifier problem, for which this technology is especially well-suited. The secret to taking advantage of these opportunities is to gain enough confidence in the machine's outputs that professionals and clients are content to have AI on the team.

Policies in some jurisdictions are changing to mandate that the information and reasoning behind a decision that impacts a person be made publicly available. This is the situation with the General Data Protection Regulation of the European Union, which goes into effect in 2018. Particular limitations on "automated individual decision making" are included in Article 11. The scope of the Regulation and the harshness of the penalties for violating it may discourage some organizations from using artificial intelligence, even if only as a risk mitigation exercise. This is because

the measures are intended to protect the personal information of individuals being used for profiling purposes, and thus do not apply to the majority of applications in the corporate tax arena.

AI and the transformation of tax compliance

Many tax professionals are finding it difficult to satisfy the growing tax regulatory and compliance obligations as a result of the pressures placed on tax departments by an increasingly tax-transparent and internationally interconnected tax environment. Simultaneously, the swift development of generative artificial intelligence (GenAI) and artificial intelligence (AI) is changing how companies function and approach their data and technology. Corporate Executives are obviously quite concerned about the use of AI in corporate plans. 41% of worldwide CEO respondents to the EY January 2024 CEO Outlook Pulse study stated that implementing AI technology to boost productivity and enhance company performance was probably going to be a top focus in the upcoming year. This paper examines in greater detail how artificial intelligence (AI) could improve and support the tax compliance function, particularly how it could add value and increase efficiency.

AI potential: the tax compliance framework

The integrity and consistency of company data across business functions and jurisdictions is crucial for compliance and risk management in a world where tax transparency is becoming more and more expected and tax authorities have access to a greater variety of company data. In this context, using AI to collect, organize, and analyze data has the potential to result in significant improvements in tax compliance through increased efficiency. The quality of queries from source systems can be enhanced with AI techniques, which facilitates year-over-year comparisons. For instance, comparing US corporate income tax filings with AI capabilities can speed up data collection and identify discrepancies that require additional investigation. AI excels at classifying objects, and taxation involves a lot of classification tasks. Examples include figuring out whether transactions are tax-exempt or taxable for sales and use tax purposes, mapping trial balance accounts to tax-sensitized charts of accounts, and mapping things to asset classes. AI has the ability to save a great deal of time when preparing data for processing by transforming and combining data from different file types. AI is capable of identifying regions of possible risk and year-over-year or other data anomalies in addition to typical activities. This can assist the tax preparer in allocating review time so that they can concentrate on the most important things. AI,

for instance, can be used to search for abnormalities that would present issues under Base Erosion and Profit Shifting (BEPS) 2.0 Pillar Two regulations and to expedite procedures for identifying errors. Essentially, by improving efficiency in IRS inspection case analytics and other data review procedures, AI can enhance the value proposition that occurs behind the scenes.

AI revolution: the power to transform operational models

In the past and present, the majority of the tax compliance preparation work may be finished by a staff-level team member before it is subjected to multiple levels of review. AI will perform a large portion of the preparatory work in the future, with staff members keeping an eye on the system and evaluating its preliminary results. Because AI outputs are consistent, fewer review levels can be needed, and the AI might assist reviewers in concentrating on the areas that pose the greatest risk or bring the most value. To fully benefit from AI's disruptive potential, changes must be made to the procedure, roles, and work arrangement. Accounting and finance are distinct but strongly related to tax compliance. Much of the tax data comes from these functions, which will also be changing their operational model. 96% of companies believe they are changing their tax operating models, according to the 2023 EY Tax and Finance Operations survey. For its needs to be met and for new technical advancements to be utilized across departments, tax needs a place at the table.

AI responsiveness: adapting to leading compliance practices

Without a doubt, tax authorities and regulatory agencies will start using AI to examine tax returns and data. AI might be used by tax officials to pinpoint problem regions and pose more focused inquiries. In several nations, businesses are already required to submit GL data to tax authorities on a monthly basis. Future inspection procedures by tax authorities may be drastically altered by access to that data and the potential of artificial intelligence. This could result in more frequent queries and targeted inquiries from company taxpayers using analytics powered by AI.

To respond to these requests, tax departments will need to take the initiative to conduct their own analysis. The need for businesses to stay up will therefore increase as AI becomes more widely used. Businesses will want to make sure they are adjusting appropriately and in line with government initiatives as these practices are adopted. In order to improve the overall quality of their tax files, businesses might use AI to collect data more reliably and effectively, customize their analytical studies to the requests, and spot inconsistencies and variations.

AI up skilling: a people-centered approach

As new technologies become available, it will be the responsibility of company leaders to ensure that tax teams have the training they need to take full advantage of them while also taking the company's culture and values into account. In order to give an example from the past, spreadsheets eventually replaced adding machines. While some practitioners embraced the potential of the new spreadsheet technology, others clung to their computers' numeric keypads (such as the 10-key) for as long as feasible. The transition from mobile phones to smartphones, which transformed communications by empowering people to manage their digital workdays without needing to be at a computer, is a more recent example. Another technological turning point is upon us, and individuals who use AI to empower themselves and improve their performance stand to gain a significant boost in their capacity to contribute value.

GenAI's role in a future-fit tax function

Every element will be touched by GenAI's transformative potential, and each of the tasks listed below will essentially experience a substantial shift towards simplification with quantifiable advantages in terms of time, efficiency, and results. Granular data tracking and preventive measures are the result of the macroeconomic environment's complexity and the widespread decline in confidence. As a result, an organization's compliance obligations get more complex every year and are consequently harder to implement. Currently, there is typically a lag between an organization's readiness to accurately provide a lot of data at the outset and the specific legal requirements. Managing intricate tax compliances can be made simpler using GenAI by:

Always-on tracking of the latest regulations and case laws: Organizations can benefit from GenAI's ability to continuously scan the environment for the most recent rules and laws. Additionally, it will enable them to monitor significant rulings from the Supreme Court and lower courts.

Understanding and contextualising regulations for the organisation: It is crucial to comprehend compliance standards and their effects on an organization in order to plan and get ready for implementation. Teams may now comprehend, question, and relate to the business context and other compliances with the aid of GenAI compliance interpreter solutions. This will simplify the procedure and lessen the burden of compliance.

Ensuring transaction execution in systems is validated: Transactions made within systems are the source of compliance data. It can occasionally be challenging to appropriately tag transactions the first time when dealing with complicated classification rules. For instance, determining the proper tagging might be challenging due to a harmonised system of nomenclature (HSN) code identification, goods and services tax (GST) rate, or tax deducted at source (TDS) rate that varies depending on the supplier, contract, and services in the purchase order. These choices will be made more quickly and precisely using GenAI.

Post facto validation of outputs with compliance requirements: To keep up with the GenAI adoption curve, enterprise resource planning (ERP) or related systems will need to be updated; in the meantime, human data entry in compliance filings is probably going to continue. However, by verifying documentation, GenAI can improve the quality of data.

Activities covered in Tax Function in an Organization

- Tax Compliances
- Research on Tax Regulations & Case Laws
- Resolution on Tax Disputes
- Management of Tax Costs
- Stakeholder Engagement & Transparency

Potential use cases of GenAI in the tax function

Tax transparency report: Content standardisation and language improvements.

Indirect tax: Tax rate determination, litigation research.

Direct tax: TDS section determination, Advisory research, Counsel opinion preparations, Mapping of cost of acquisition (COA) and accounting information.

Transfer pricing: Economic analysis in transfer pricing study, Advisory research, Arm's length price comparison, what-if scenarios.

Tax M&A: Analysis of various situations in multi-country arrangements.

Contract review and compliance monitoring: Contract abstraction, Contract analysis, Contract insights, Horizon scanning, Compliance insights.

Conclusion

In conclusion, any large organization's tax function will undoubtedly benefit from a GenAI platform that combines data analytics, machine learning, and natural language processing. It can assist in producing pertinent insights, recommendations,

and forecasts based on vast amounts of data, allowing tax functional specialists to communicate with their internal and external stakeholders as quickly as possible. To assist build trust with the diverse network of stakeholders they interact with, including customers, regulators, vendors, board members, independent directors, investors, employees, and the general public, the firms must simultaneously formulate their governance and responsible GenAI usage rules. Moving from a culture of “recording, reporting, and then analyzing” to a new paradigm of “understanding, contextualizing, and reporting” is the goal of tax transformation in the modern day. Without sacrificing transaction recording speed, accurate processing the first time around promotes touchless compliance, complete transparency, and stakeholder trust. Many internal and external stakeholders continue to push tax departments to accomplish more with less. In addition to managing additional reporting and compliance obligations, such as the Pillar 2 related assessments around a worldwide minimum Effective Tax Rate, they are anticipated to function more efficiently and be able to produce meaningful insights. In these situations, generative AI can act as a facilitator, allowing for the simultaneous fusion of context, legislation, and procedures. Organizations will be able to adopt a new operating model as a result of this change, which will free up a lot of time for tax experts to engage in strategic value-adding activities.

References:

1. **“Unlocking Opportunities in Tax using GenAI”** An Article by Vishal Nanavati, Aman Goel and Rajnil Mallik in **“pwc”** website.
2. **“Tax transformation: Adopting AI to drive efficiencies”** An Article by Randy Carpenter and Daren Campbell in **“EY”** website.
3. **“Artificial Intelligence– Entering the world of tax”** An Article by Wobke Hählen, Annelies Dieusaert, David Miller, Stuart Black, Albert Fleming in **“Deloitte”** website.