

ADVANCING TAX OVERSIGHT: THE USE OF ARTIFICIAL INTELLIGENCE IN SCRUTINY OF TAXATION SYSTEM IN INDIA

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Abstract

In a welfare state, the government primarily has the responsibility of ensuring the well-being of its people in terms of infrastructure, social security, employment, health care, and other development requirements. Revenue is needed by the government to enable these needs. The government's main source of funding for these kinds of public welfare expenditures is taxation, which is done by way of imposing and collecting taxes from the people. The same taxes collected are used to fund public welfare programs. Technology is developing to such an extent that it makes every impossible thing possible. Intelligent machines have taken over human thinking capacity in today's time and it can be predicted that in the coming future, these smart machines will surely replace humans in many areas and the development of Artificial intelligence in Taxation is not an exception. The Indian taxation system has been a victim of one of the leading issues of tax evasion and various effective and efficient methods are being used by the government to curb such practices. There has been a tremendous development in the use of technology in governing the system of taxation be it direct or indirect taxes in India. Artificial Intelligence also known as AI is the imitation of human intelligence processes by smart machines i.e., computer systems. The scope and development of this concept have widened and have gained a lot of significance in today's era. Artificial intelligence has brought about dynamic changes in various spheres and these changes will continue to positively and negatively impact human lives. Its deep integration with society and the economy has increased productivity and has yielded many benefits. Recently in March 2023, the Government has notified that both, the direct and indirect tax departments have adopted the use of data analytics, big data and artificial intelligence in tax administration. This move was initiated in order to make the taxation system more effective, free of official

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discretion and ensure that it is business and taxpayers-friendly. The use of Artificial Intelligence will extend the scope by revolutionising the taxation system and will aid in navigating the complexities that arise. This will directly help to increase and enhance accuracy, efficiency and compliance being one of the most important aspects in the tax administration. Seeking collaborative efforts between humans and artificial intelligence comes with many benefits along with drawbacks that need to be looked upon while making judicious use of such technology. This article will provide an overview of the role of Artificial Intelligence in the scrutiny of tax administration and the various issues concerning its use in today's time.

Keywords: Artificial Intelligence, Taxation, Compliance, Scrutiny, Tax administration issues.

“A country should have a tax system that looks like someone designed it on purpose”

~ William Simon”

INTRODUCTION

Taxation is an important aspect of governance. India has a well-structured taxation system. Direct and indirect taxes are the two categories into which taxes are divided. The former being imposed on individuals and the latter being imposed on goods and services. The foundation of a country's economy is its tax system, which maintains stable revenue, controls economic growth and stimulates industrial activity. The Union Government, State Governments, and Local Bodies make up India's three-tier federal structure. These entities are tasked with overseeing the various taxes and duties that are levied within the nation. The constitution of India being the supreme law of the land is the foundation and source which legislates all laws in the country. Article 256 of the Indian Constitution mentions that “No tax can be imposed unless it is authorised by law”. This establishes the foundation or gives the power to the government to impose taxes

and such imposition of taxes should be fair and transparent. Technology is developing to such a great extent enabling ease of compliance in several areas of our lives. The rapid improvement in technology has fast-tracked the evolution of money and its transactions. In recent years there has been exponential growth in the use of artificial intelligence, and the use of Artificial intelligence in scrutiny of tax administration has opened up a profound transformation. The traditional methods of tax scrutiny are said to be inefficient and burdensome. These traditional methods are often time-consuming and prone to human errors. Mr. Varahasimhan Srinivasan who is the Director of Engineering at Avalara stated that "AI can enhance tax compliance by analysing extensive datasets to detect trends and patterns that signal potential tax issues. This empowers businesses to tackle compliance issues pre-emptively, mitigating the risk of costly and time-consuming tax assessments".¹ The introduction of this new technology in the

¹ WebTeam, Z. (2024, April 15). Tax compliance trends: AI can analyse extensive datasets to detect patterns that signal potential tax issues, says expert. Zee Business. [https://www.zeebiz.com/personal-finance/income-tax/news-tax-compliance-trends-ai-can-analyze-extensive-datasets-to-](https://www.zeebiz.com/personal-finance/income-tax/news-tax-compliance-trends-ai-can-analyze-extensive-datasets-to)

[detect-patterns-that-signal-potential-tax-issues-says-expert-284280](#) (Last Visited 31st May 2024).

taxation system seeks to provide an in-depth scrutiny process that highlights the importance of analysing the potential benefits and challenges. Artificial intelligence will form the base for a new tax ecosystem by performing multifarious functions and such digital transformation will help to detect complexities that arise. Artificial intelligence in scrutiny of tax administration will ensure a favourable solution to automate and streamline the scrutiny process and will also aid in improving efficiency, accuracy and fairness. Artificial Intelligence systems can analyse vast amounts of data to predict trends, identify potential tax evasion cases, and optimize tax policies. Taxpayers are freed from burdensome compliance requirements. Revenue collection has been enhanced by this proactive approach². Algorithms driven by artificial intelligence generate unbiased results, guaranteeing transparency and uniformity in tax assessments and implementation. These algorithms help to detect various discrepancies that arise in income statements, deductions and exemptions. In India, the tax authorities are ensuring and maintaining careful tax

compliance by making the best use of technological techniques to detect abnormalities and prevent cases of tax fraud. Artificial intelligence in taxation has a bright future in India, where considerable growth is anticipated in the upcoming years. This expansion offers financial institutions, businesses, and technology providers a plethora of opportunities and holds the promise of a more accurate, efficient, and transparent tax system.

CONCEPT OF ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

According to Merriam-Webster's Dictionary Artificial Intelligence is defined as “the capability of computer systems or algorithms to imitate intelligent human behaviour”³. Artificial intelligence or AI is the human intelligence simulation in machines made to think and act like humans would. These machines have been designed for carrying out tasks that otherwise would need human understanding such as visual perception, speech recognition, decision making or even translation of languages. Computer systems

² Modernizing Taxation: Central Excise Day and the role of AI. (n.d.). INDIA ai. <https://indiaai.gov.in/article/modernizing-taxation-central-excise-day-and-the-role-of-ai> (Last Visited 31st May 2024).

³ artificial intelligence. (2024). In Merriam-Webster Dictionary. <https://www.merriam->

[webster.com/dictionary/artificial%20intelligence](https://www.merriam-webster.com/dictionary/artificial%20intelligence) (Last Visited 31st May 2024).

that can carry out operations that are typically associated with human intelligence, such as recognizing objects, predicting outcomes, interpreting speech, and producing natural language, are referred to as artificial intelligence systems⁴. Artificial intelligence is essential because of its capability to carry out tasks automatically, enhance effectiveness, and make smart decisions in a way that goes beyond human abilities in terms of scale and speed. Machine learning (ML) is a specific branch of artificial intelligence. The Merriam-Webster's Dictionary defines Machine Learning as “A computational method that is a subfield of artificial intelligence and that enables a computer to learn to perform tasks by analysing a large dataset without being explicitly programmed”⁵. A machine learning algorithm does not necessarily need to be programmed for a given task, instead, it can learn how to get progressively better at it by using statistical techniques. To forecast new output values, it uses historical data as input. Both supervised and unsupervised learning are components of machine learning⁶.

INDIAN SCENARIO

⁴ Glover, E. (2024b, April 2). What is artificial intelligence (AI)? Built In. <https://builtin.com/artificial-intelligence> (Last Visited 31st May 2024).

⁵ machine learning. (2024). In Merriam-Webster Dictionary. <https://www.merriam->

Artificial intelligence has become one of the key drivers of digital transformation in various sectors. With considerable growth anticipated in the upcoming years, the use of artificial intelligence in the taxation system in India has a bright future. Since various platforms and technologies are integrated across various public and private sectors, it is difficult to determine the precise market size of artificial intelligence in taxes. One major growth driver in the Indian tax system is the government's push for digitization, as demonstrated by programs like the Digital India campaign and the introduction of Artificial Intelligence driven analytics for direct taxes and indirect taxes. The Indian Government is using data analytics, big data and Artificial Intelligence/Machine Learning in tax administration to make it more effective, free of official discretion, business and taxpayers-friendly.

The Central Board for Direct Taxes (CBDT) has employed big data, artificial intelligence/machine learning, and data analytics techniques for the following purposes. To begin with, it seeks to identify

[webster.com/dictionary/machine%20learning](https://www.merriam-webster.com/dictionary/machine%20learning) (Last Visited 31st May 2024).

⁶ Ibid

cases that are highly likely to involve income addition and tax evasion to subject them to additional scrutiny. The second identifies taxpayers to whom advance tax payment reminders should be sent. Third, for bringing up apparent mismatches between particular taxpayer's ITRs and transactions made so they can revise their returns. Fourth, empowers the income tax officers to store, effectively and efficiently search information using big data techniques. The Fifth is for visualizing taxpayer relationships and identifying potentially high-risk transactions by applying data analytics across networks of taxpayers. Lastly, it seeks to use data analytics techniques for the segmentation of taxpayers to focus the campaign on high-risk cases from a tax evasion perspective. The Central Board for Indirect Taxes and Customs (CBIC) launched Project "ADVAIT" (Advanced Analytics in Indirect Taxes) in 2021 as a flagship analytics project for indirect taxes. The project makes use of both artificial intelligence and big data capabilities. The three main goals of ADVAIT are to support data-driven tax policy, expand the taxpayer base, and improve indirect tax revenue. Three

types of business outputs are offered by ADVAIT, includes analytical models, interactive dashboards, and reports. Each output's functionality is intended to support and help officers with their daily tasks, which include reporting, monitoring tax compliance, and spotting instances of tax evasion. Advanced analytical features of the portal include forecasting, policy studies, text mining, predictive analytics, pattern recognition, network analysis, and data matching. Data analytics is being used by the authorities to identify fiscal risks, suspicious trends and patterns and risky entities in Customs and GST by leveraging big data.⁷

ROLE AND IMPORTANCE

Identifying potential tax evasion cases remains a significant challenge for tax authorities. This is where Artificial Intelligence acts as a transformative force by offering a powerful set of tools to scrutinize the tax system with greater efficiency and accuracy. Its importance is highlighted below:

1) DETECTION OF TAX EVASION OR ANOMALIES

⁷ Both direct and indirect tax departments employ data analytics, big data and artificial intelligence/machine learning in tax administration to make it more effective, free of official discretion, business and taxpayers friendly. <https://www.pib.gov.in/pressreleasepage.aspx?prid=191127>

[1#:~:text=both%20direct%20and%20indirect%20tax,discretion%2c%20business%20and%20taxpayers%20friendly](#) . (Last visited 31st may 2024).

In today's time, cases of tax evasion are on the rise. Taxpayers at times attempt to falsify or conceal their income, and in such cases, detection with traditional methods of scrutiny becomes an issue. The use of Artificial intelligence in scrutiny is highly adept at detecting discrepancies that arise in income statements, deductions and exemptions. Artificial intelligence algorithms can analyse large volumes of data which will help to identify patterns and anomalies which indicate a case of tax evasion. It provides unbiased, trustworthy assistance to tax authorities in identifying differences between reported income and associated financial transactions that humans might overlook, misunderstand or misinterpret.

2) IMPROVED RISK ASSESSMENT

The use of Artificial intelligence will help to assess the risk level of taxpayers associated with individual returns. Taxpayers who are most likely to evade taxes can be identified with the use of artificial intelligence and data analytics. The capacity of artificial intelligence models to continuously learn from and adapt to new data presents a revolutionary opportunity for tax administration. The dynamic and evolving nature of Artificial intelligence technology allows them to enhance their ability to assess

risks and the identification of potential non-compliance. This ability is crucial for keeping tax authorities informed about the constantly evolving strategies tax evaders employ to avoid detection and liability for such fraudulent acts. Artificial intelligence has the capacity to distinguish between legitimate financial transactions and those of fraudulent behaviour. Risk assessment can be done based on various factors such as historical data, behaviour patterns etc and such measure helps tax authorities to prioritise to scrutinize such returns more closely.

3) ENHANCED ACCURACY AND EFFICIENCY

Artificial intelligence plays a major role in automating routine tasks. By doing so it helps tax authorities to process large volumes of data quickly and accurately. Tax authorities face a challenging task when it comes to managing sizable financial datasets, and such issues can be best addressed by the use of artificial intelligence systems. Sorting large datasets manually is time-consuming. Artificial intelligence automates data analysis. It helps in speeding up the process of sorting massive datasets. Therefore, this automation increases the overall effectiveness of tax administration. Tax authorities with the help of Artificial intelligence can cross-

reference taxpayer information with other databases and financial records to swiftly identify abnormalities and inconsistencies that may indicate cases of tax evasion which in turn helps to increase accuracy. As we humans are more prone to committing mistakes, Artificial intelligence ensures consistency by reducing biases and errors, making the application of tax laws more unbiased and fairer.

4) BETTER COMPLIANCE AND ENFORCEMENT

Artificial intelligence makes it easier for taxpayers and authorities to comply with tax regulations. The use of artificial intelligence in tax administration plays an important role in promoting a culture of tax compliance. Taxpayers will know that advanced technologies are being used by the tax administration to identify irregularities, this will more likely enable the taxpayers to honestly disclose their income and adhere to tax laws. This proactive approach encourages voluntary compliance, which helps tax authorities by reducing the prevalence of tax evasion. The approach overall helps in increasing the overall effectiveness of revenue collection.

5) CROSS-VERIFICATION AND DATA INTEGRATION

Tax return data can be cross-referenced with information from a variety of databases, including bank transactions, property records, and other financial data sources, with the help of artificial intelligence. Artificial intelligence cross-references data with a variety of external sources, such cross-referencing improves accuracy by detecting anomalies and inconsistencies. Artificial intelligence has the potential to access, analyse, and cross-reference large datasets, and identify irregularities and potential tax issues faster than a manual inspection. By automating this process and employing AI algorithms, artificial intelligence can lessen the likelihood of human error.

ISSUES AND CHALLENGES

While the potential benefits of Artificial Intelligence in tax scrutiny hold significance, several issues and challenges are persistent with the use of the use of this technology which must be swiftly addressed. By navigating these challenges, the tax authorities can achieve the mandate of ensuring tax compliance which will uphold the principles of fairness, transparency and accountability. The following are some of them:

1) OVERRELIANCE ON ARTIFICIAL INTELLIGENCE

An over-reliance on artificial intelligence may result in the neglect of important human aspects of tax administration, such as establishing rapport with taxpayers and resolving conflicts in a fair manner. Overreliance on Artificial intelligence can lead to incorrect assessment if there is no human oversight. Artificial intelligence systems may find it difficult to handle complex cases that require deep understanding and judgement. It is of dire importance to maintain a balance between technology and human involvement and not over-rely on the results of scrutiny by artificial intelligence. Artificial intelligence models being highly accurate can occasionally produce inaccurate results this is where human judgement and experience continue to play a crucial part in the examination process. When artificial intelligence and human knowledge are combined, there can be a more thorough and fair tax review process.

2) DATA PRIVACY AND SECURITY CONCERNS

Concerns regarding data security, privacy, and confidentiality arise because artificial intelligence systems rely on enormous volumes of taxpayer data. Therefore, in addition to strict adherence to data protection laws and regulations, strong data security

measures are needed to prevent breaches and unwanted access. To make sure that private information is not misused or improperly disclosed, it is essential that taxpayer data handling procedures are transparent and comprise clearly defined policies and procedures. To secure sensitive data which includes financial and personal information, tax authorities must put strong safeguards in place.

3) ALGORITHMIC BIAS

Artificial intelligence algorithms may inadvertently perpetuate biases present in training data, leading to unfair or discriminatory outcomes. These algorithms are typically trained on large datasets, which may inadvertently contain biases or outdated patterns from earlier tax enforcement practices. If Artificial Intelligence models are not carefully designed and closely monitored, they may reinforce these biases. As such, the application of Artificial intelligence must be accompanied by close oversight and proactive measures to reduce and eliminate any biases that might have inadvertently found their way into these systems.

CONCLUSION AND SUGGESTIONS

The introduction of Artificial intelligence marks a dramatic shift in India's tax

landscape, emphasizing the value of both technological innovation and taxpayer accountability. Artificial intelligence is an effective tool for spotting tax evasion and cautioning taxpayers against falsifying or concealing their income. Artificial intelligence's capacity to increase accuracy and efficiency has the biggest impact on tax administration. With the use of machine learning, and data analytics, tax authorities can more effectively detect risks, and tax frauds, and assist taxpayers. The widespread adoption and popularity of Artificial Intelligence represents a significant turning point in this transformation, this change has made training and upskilling human resources essential for effectively managing and utilizing cutting-edge technological tools. Large datasets can be processed by Artificial Intelligence systems, a task that would be challenging and time-consuming for human agents. It is an effective tool to detect and identify discrepancies that arise in income statements, deductions opted and exemptions sought. For tax authorities, ensuring compliance and identifying tax evasion present significant challenges. Traditional tax scrutiny techniques frequently rely on manual procedures, which can result in errors, inefficiencies, and resource shortages. The use of artificial intelligence technology to

improve tax scrutiny systems and successfully handle these issues has gained traction in recent years. The introduction and use of artificial intelligence in the scrutiny of a taxation system is a new one and the area of this use of technology is still developing hence limited data and various complexities are arising that need to be studied and dealt with swiftly. Hence addressing these issues and challenges will help to realize the potential benefits of Artificial intelligence in tax scrutiny. Artificial Intelligence algorithms need to be advanced by tailoring them to the specific needs and challenges of tax scrutiny. As India's tax administration continues to adapt to this shifting paradigm, the collaboration between tax authorities, taxpayers, and technology is in need of the hour-to-fully utilize the facility of Artificial intelligence while maintaining the core values of transparency, justice, and fairness in the nation's tax system. In conclusion, it can be said that by making full use of this technology we can contribute to an effective, efficient and sustainable tax system.

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