ARTIFICIAL INTELLIGENCE IN GST COMPLIANCE: BALANCING TECHNOLOGICAL INNOVATION AND TAXPAYER RIGHTS UNDER THE INDIAN INDIRECT TAX REGIME

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ABSTRACT

The last five years have seen huge disruptions and rapid advancements in many fields due to the introduction and rising popularity of Artificial Intelligence (AI). Tax Compliance is a field that has also been at the centre of these advancements. AI brings opportunities for automated invoice processing, risk and fraud detection, and data-driven models for tax administration. In India, the digitization of the Goods and Services Tax (GST) framework, combined with the rapid advancements in AI, will add to the overall efficiency of tax compliance and make the collection of GST more effective. However, AI's disruptive nature means that Adverse Impacts of AI - like lack of accountability, and data processing and privacy issues - will also be part of the tax compliance framework.

This study seeks to address the benefits and disruptive nature of AI in the tax compliance framework and, more specifically, the adverse impacts of AI on the rights of taxpayers - especially on the transparency and accountability of automated decisions. A recommended framework will include approaches from other jurisdictions. The study will focus on the objectives of the Central Goods and Services Tax Act, 2017, the rules pertaining to the Act, and related policy changes.

The paper will recommend the implementation of AI in the Indian GST Tax Compliance System to greatly improve compliance and administrative efficiency, justified within the framework of taxpayers' rights.

INTRODUCTION:

The introduction of the Goods and Services Tax (GST) in India completely revamped the indirect tax regime. Instead of the complex indirect tax framework that India had before the introduction of the GST, India has a unified indirect tax framework that operates through the use of technology and digitization. Pre-GST compliance for taxpayers was hectic and cumbersome and did not provide transparency to the tax authorities. The introduction of the GST in India resolved a number of compliance challenges which were faced by the taxpayers and the tax authorities. Rapid growth in Artificial Intelligence (AI) technologies provides both the taxpayer and the tax authority the ability to utilize AI to improve compliance through automation, data analytics and anomaly detection. Incorporating AI into tax administration will reduce the unintended adverse effects of human involvement, improve the collection of tax revenue and streamline the regulatory process.

The reliance on AI has negative unintended consequences of a legal and regulatory nature. With automated processes, taxpayers have no ability to challenge a decision that has been made against them concerning their tax liability, the selection of tax audits, or the allowance of their input tax credits. When automated processes of AI are employed in tax administration, the balance of natural justice, the ability to identify and correct bias in algorithms, data protection and the right of taxpayers to clear and open accounts will be undermined.

Most studies have focused on the use of Artificial Intelligence and the advantages of the digitalization of the goods and services tax. The absence of AI regulations in India's indirect tax system means there is no legal framework concerning taxpayer rights and the assurance of accountability in the use of automated and digital technologies.

This paper looks at AI's involvement with GST compliance and the emerging legal issues with its use in India. The paper states that although AI, in and of itself, will aid the effectiveness and the precise nature of the tax administration, its use should be enclosed within a regulatory structure that offers legal transparency, AI accountability, and procedural justice in order to mitigate the effects of technological progress on the rights of the tax administration.

AI AND THE GST ENVIRONMENT IN INDIA:

The Goods and Services Tax (GST) is one of the largest systems of technology-led taxes in the world. Compliance and administration are largely executed through the Goods and Services Tax Network (GSTN). GSTN is the shared digital framework for taxpayer registration, filing of returns, payment of taxes, generation of e-way bills, e-invoicing and business intelligence. It enables seamless connectivity between taxpayers and tax authorities. It processes billions of invoices and returns on an annual basis and creates a huge repository of structured transactional data that is ready for Artificial Intelligence (AI) and data analytics.[1]

Artificial Intelligence is a leading technology for pattern recognition and prediction and involves automated decision making. AI has become an important tool of the GST ecosystem for both the tax administrators and the taxpayers. Businesses rely on a multitude of AI enabled software tools for automatic generation of invoices, classification of goods and services for proper HSN/SAC coding, reconciliation of purchase and sales registers, computation of tax liability, and filing of GST returns. Automation of these tasks brings down manual errors, compliance costs and enhances productivity.

AI and data analytics has enhanced the tax authorities' ability to enforce compliance through a more effective, risk-based approach. Analytics of data generated through GST returns, e-invoices, e-way bills, customs and a multitude of other government databases can be leveraged for identifying anomalies, discovering fake invoicing loops and suspicious claims of input tax credits. For tax authorities, the use of predictive analytics would determine the order of investigations and audits for the highest risk of loss, thereby improving revenue collection and minimizing unwarranted regulatory burden.

The e-invoicing framework showcases yet another example of using digital technologies in conjunction with GST. In this framework, business-to-business invoicing is done digitally and validated by the Invoice Registration Portal, which issues an Invoice Reference Number (IRN) and a QR code, thereby establishing validated and standardized records of invoicing. This digital framework also offers an optimal structure for the application of AI for the detection of compliance-related fraud, given its capability for validation of data in real time.[2]

The application of AI in taxation is still largely consistent with the Government of India's objective of digital governance. With the approval of the IndiaAI Mission in 2024, India is positioned to create a comprehensive AI ecosystem with augmented computing, home-grown

[1] Goods & Services Tax Network, About GSTN, https://www.gstn.org.in.
[2] Goods & Services Tax Network, E-Invoicing System, https://einvoice.gst.gov.in.

AI, and Responsible AI.[3] This mission is further supported by the India AI Governance Guidelines, which advocate principles of transparency, accountability, fairness, privacy, and human oversight. These guidelines offer a foundation for the governance of AI in public administration, asserting the necessity for these AI systems to be trustworthy and explainable.[4]

Even with this technological innovation, the governing framework of AI and GST compliance remains in its infancy. With the CGST Act, 2017, and its enabling rules, a large segment of digital compliance is covered. However, there is no regulation of AI or the protection of clients from the action of AI. With the increasing use of AI for the selection of compliance audits, risk assessments, and compliance-related decision-making, explainability, accountability, data protection, and fairness-related issues will become even more pronounced.

Therefore, India's GST ecosystem will benefit greatly from the integration of AI to improve efficiency and detection of fraud. However, successful integration will depend on creating a clear regulatory framework balancing administrative efficiency with transparency, human oversight, and the safeguarding of taxpayer rights.

LEGAL CHALLENGES IN AI BASED GST COMPLIANCE:

Automation of data analysis, fraud detection, and risk-based compliance using Artificial Intelligence (AI) has fundamentally reshaped tax administration in India, particularly in the context of the Goods and Services Tax (GST). The GST Network (GSTN), along with the e-invoicing system and data analytics, has strengthened the ability of tax administrators to quickly analyze a large amount of data and identify errors in tax returns.[5] While the current tools and systems improve the efficiency of tax administration, they create new challenges. Issues pertaining to the legality and constitutionality of tax administration are likely to arise in regard to the balance between privacy and the right to adequate notice, and the right to be heard.

1. Transparency vs Explainability

AI systems use complex algorithms and computing mechanisms which, in most instances, becomes extremely difficult to unbundle the logic employed. Therefore, it has become

[3] Ministry of Electronics & Information Technology, Government of India, IndiaAI Mission (2024), https://indiaai.gov.in.
[4] Ministry of Electronics & Information Technology, Government of India, IndiaAI Governance Guidelines: Development of Safe and Trusted AI (2025).
[5] Goods and Services Tax Network (GSTN), "About GSTN", https://www.gstn.org.in.

associated with the imposition of the least impossible burden on the taxpayer to demonstrate the rationale for being subjected to a level of administrative scrutiny or audit. The Indian law of administration insists that reasons must be given for any decision which adversely impacts a person's rights.[6] Where an AI system lacks the transparency to support the rationale for a risk score or flagged transaction, the affected person is rendered powerless to contest the action, which violates the principle of procedural fairness as enshrined in Article 14.

2. The Vacuum of Accountability

The Central Goods and Services Tax Act 2017, empowers tax officers to issue a notice, conduct an audit, and determine tax liability.[7] However, the law also fails to recognize AI as an autonomous decision-maker and fails to provide a framework for its use. There are concerns with AI-driven recommendations on how the tax department will respond to incorrect tax assessments or wrongful denials of Input Tax Credit (ITC). How far will tax authorities go with ceding their control to algos? The Indian judiciary has ruled that discretionary power can only be exercised by the authority to whom it is vested.[8]

3. Data Privacy and Protection

AI-enabled GST compliance requires the collection and processing of considerable amounts of taxpayer data, including invoices and transactional data. This raises concerns regarding the right to privacy. The ruling in Justice K.S. Puttaswamy v. Union of India[9] recognized the right to privacy and established that where privacy may be restricted, the restriction must be permissible by law and be necessary and proportionate.

The Digital Personal Data Protection Act, 2023[10] mandates lawful data processing and provides data security and privacy obligations. However, this Act does not directly address the use of AI in public tax systems and provide border protections to safeguard the algorithmic taxpayer profiling. In the absence of specific protections, there is a risk regarding the extent to which automated analysis of taxpayer data will be permissible under the GST.

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[6] *Maneka Gandhi v. Union of India*, (1978) 1 S.C.C. 248 (India).
[7] Central Goods and Services Tax Act, No. 12 of 2017, §§ 61, 65, 67, 73 & 74, INDIA CODE (2017).
[8] *Kranti Associates(P) Ltd. v. Masood Ahmed Khan*, (2010) 9 S.C.C. 496 (India).
[9] *K.S. Puttaswamy (Retd.) v. Union of India*, (2017) 10 S.C.C. 1 (India).
[10] Digital Personal Data Protection Act, No. 22 of 2023, §§ 4–9, INDIA CODE (2023).

4. Algorithmic Bias and Risk Profiling

AI systems use historical data to identify compliance gaps and assess tax evasion risks. If historical data is inadequate or incorrect, the resulting systems may be biased toward certain taxpayers or industries. Such algorithmic bias could result in inappropriate risk categorization, wrongful denial of ITC, or additional compliance obligations, even when no obligations are legally mandated.

The reliance of GST enforcement on data-based analytics may result in taxpayers being subjected to unwarranted adverse impacts based on predictions made in the absence of data-based certitude. This presents risks of considerable arbitrariness and discrimination in violation of Article 14 of the Constitution, particularly when the automated risk assessment is conducted without clear guidelines or is subjected to independent oversight.

5. Natural Justice

In the context of Indian administrative law, the concept of natural justice entails the provision of a fair hearing and of notice and reasonable decisions to those who may be affected by a decision.[11] Therefore, the automated compliance notifications and/or the automated GST scrutiny should be designed to assist decision-makers in exercising their judgment, and not in any way replace their judgment.

It is a well-established principle of administrative law that an authority exercising a statutory power must arrive at its own decision. If a negative decision in respect of GST is based solely on an algorithmic design and there has been no substantive human intervention, the decision is likely to be challenged and the courts are likely to rule in favor of the challenge.

6. Absence of Regulation

With the rapid adoption of AI by the Indian state, there is a need for comprehensive legislation on the use of AI in the field of taxation. The Government's IndiaAI Mission aims at the responsible development of AI and public-sector related innovations. The India AI Governance Guidelines[12] promote the adoption of AI with a focus on transparency, accountability, and

[11] *A.K. Kraipak v. Union of India*, (1969) 2 S.C.C. 262 (India).
[12] Ministry of Electronics & Information Technology, Government of India, IndiaAI Governance Guidelines: Development of Safe and Trusted AI (2025).

fairness with a human-in-the-loop approach. However, from a legal perspective, these are the guidelines and not laws.

The CGST Act of 2017, along with the CGST Rules of 2017, similar to the provisions on digital records and returns, and technology-supported compliance, also fall short of setting standards for explainable AI, algorithmic audits, or taxpayer protections against automated decision-making. Due to this gap in regulations, the application of AI in the administration of GST poses the greatest legal uncertainty and almost no accountability.

The deeper integration of AI into the system calls for the introduction of a comprehensive legal framework. This would set the standards of the right to reasonable and explainable decisions, the right of access to personal data and its protection, and the right to due process and legal certainty. With these safeguards in place, it would be possible to create more technological innovations in tax administration and make it more efficient while continuing to respect the rights of taxpayers.

COMPARATIVE ANALYSIS: AI IN TAX ADMINISTRATION – LESSONS FROM THE EU, OECD AND SINGAPORE

Artificial Intelligence (AI) is being adopted by numerous jurisdictions globally in order to enhance compliance, fraud detection, and administrative efficiency in tax systems, and the phenomenon is being described as a global trend. Unlike India, however, many jurisdictions have used the opportunity of the adoption of AI for tax administration to create governance systems that balance the use of technology with the need for transparency, accountability, and the right to remain of someone. Analyzing the EU, OECD, and Singapore shows that balancing taxpayer rights with technological advances is crucial.

The EU is one of the first jurisdictions to have a robust regulatory framework for AI after the EU adopted the AI Act. The AI Act puts a classification system for AI systems in public administration, and systems used for public administration are classified as "high-risk" systems. The adoption of AI in a "high-risk" system makes the EU's AI Act framework more robust for regulation of transparency, oversight from the AI system, and accuracy.[13] If AI systems are used to make an automated decision that has a negative impact on a person, EU

[13] Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 Laying Down Harmonised Rules on Artificial Intelligence (Artificial Intelligence Act), 2024 O.J. (L 1689).

law requires there to be a meaningful human intervention before the automated decision is made.[14]

The EU's AI regulatory framework and the structure of the GDPR demonstrate that AI can be a powerful tool for public administration and the protection of citizens' rights and fairness can coexist. The OECD Principles on Artificial Intelligence have been updated to ask governments to make sure AI systems are transparent, thoughtful, secure, and accountable.[15] These systems should assist people with making decisions, and should always be monitored and assessed. The OECD further recommends that public bodies create and maintain records and logs, make AI known and evident, and create a system of accountability when AI systems make errors and incorrect automated decisions. These systems are meant to help focus the efforts of tax authorities on improving systems that help members of the public while keeping their trust.

Of the various countries, Singapore is the most advanced for having responsible governance of AI in their public service. The IRAS employs AI and advanced analytics in the detection of non-compliance, risk assessment, and service to taxpayers. However, AI's use is controlled by Singapore's Model AI Governance Framework which emphasizes explainability, responsibility, fairness, and the centering of humans in AI.[16] This Framework integrates AI to administrative functions and processes, but takes care to maintain oversight. This ensures that major regulatory decisions are still subject to the scrutiny and review of qualified people.

In comparison to these jurisdictions, while the Indian GST framework has seen the benefits of modernization through the introduction of the GSTN, e-invoicing, and data analytics, there are still no AI dedicated tax administration systems. There are also no frameworks providing guidance on the algorithms' transparency, oversight, and taxpayer protections for automated decision making in the CGST Act of 2017 and its Rules. While the IndiaAI Mission focuses on responsible AI usage, its recommendations don't have to be followed by law.

The comparative analysis of the EU, OECD, and Singapore demonstrates that India's future AI governance systems of the GST should feature mandatory human review of adverse decisions,

[14] Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the Protection of Natural Persons with Regard to the Processing of Personal Data and on the Free Movement of Such Data (General Data Protection Regulation), 2016 O.J. (L 119) 1.
[15] Organisation for Economic Co-operation & Development, Recommendation of the Council on Artificial Intelligence, OECD/LEGAL/0449 (May 22, 2019), https://legalinstruments.oecd.org
[16] Infocomm Media Development Authority, Model AI Governance Framework (2d ed. 2020), https://www.imda.gov.sg.

explainable AI systems, algorithmic audit mechanisms, and grievance redress mechanisms. These improvements would respect the growing deployment of AI technologies against the backdrop of the Constitution's requirements of fairness and accountability, and the Rule of Law, while simultaneously improving the efficiency of administration.

NEED FOR A REGULATORY FRAMEWORK:

The way the government has integrated Artificial Intelligence (AI) into India's Goods and Services Tax (GST) administration is clearly an example of the government's digital governance and efficient tax compliance. Once again, tech is ahead of the law. Although advances in technology can aid the government in detecting fraud, analyzing data, and improving compliance, there is no law governing AI-assisted decisions, and the absence of a comprehensive legal framework causes many challenges in the compliance space. The extant law(s) like the Central Goods and Services Tax Act, 2017 and the CGST Rules, 2017, facilitate electronic compliance. However, they do not set out the standards for the use, governance, or liability of AI in tax administration. There is a compelling case for the development of a regulatory framework that balances the need for innovation against the rights of tax payers and the constitution.

Any such framework must start from the premise that AI is a support tool and not a replacement of a legal decision. Within the GST framework, the powers of assessment, audit, and investigation, as well as adjudication, are the domain of certain authorities. AI’s role would be to assist in the process of identifying outliers or deciding on the nature of risks, and the final determination would be with the appropriate authority as a result of a critical review. This would facilitate the application of the principles of natural justice and would mitigate the risks of arbitrary administration.

The regulatory framework must incorporate the principle of transparency when it comes to the algorithms. Taxpayers should be provided with sufficient reasoning (known as explainability) as to the decisions made by the AI as to its assessment, as to which audit they have been selected for, or why the Input Tax Credit (ITC) has been denied. This increases accountability and will also allow the courts to review decision-making and governance functions, and enable taxpayers to have greater faith in the government’s use of digital technologies.

Human oversight is an important piece of the puzzle. Automated systems should not have the ability to send negative notices or assess tax liabilities. Instead, AI outputs should be verified and approved by authorized personnel before any formal processes are initiated. This system of oversight would reduce the effect of data errors, algorithm bias, or system failures.

The system needs to express an emphasis on both data protection and system safety. Given that compliance AI systems utilize large amounts of a given population's data, the Digital Personal Data Protection Act, 2023 should be upheld. AI compliance systems should implement data safety policies for collection, storage, retention and sharing, in addition to safety policies to guard against data breaches.

Finally, the system should express support for independent audits and the ability to lodge a grievance. Routine audits of AI systems would assist in the discovery of bias and failure of systems for a given purpose. Automated processes should also be responsive to the grievances of the affected constituents. These safeguards would create a greater sense of transparency and fairness while not impinging on the operational efficiency AI systems offer.

RECOMMENDATIONS:

Applying Artificial Intelligence to GST frameworks means the evolution of Indirect Taxes in India is possible, with the potential benefits being greater levels of compliance from taxpayers, less evasion of tax, and the overall efficiency of administrative processes and systems. Even with such advancements and capabilities, technology cannot substitute the core legal rules of public administration. Thus, AI will have to act as a support mechanism for the making of decisions, rather than a self-sufficient entity with power to exercise legal functions.

To provide this support system, multiple policies will have to be implemented. The first policy will be a directive from the Central Board of Indirect Taxes and Customs (CBIC) to develop a policy to govern the control mechanism for the use of AI in the administrative processes of GST, with an explicit description of frameworks for the automation of decision support systems and the role of tax officials. The second policy will be an amendment to the CGST Act, 2017 to include AI compliance and the necessity of significant human control in order to avoid negative administrative decisions.

Taxpayers will also have a legal entitlement to the explanation for AI-driven decisions that adversely affect them in order to achieve the third policy. This ensures a higher level of procedural justice while helping to align the use of AI in support of public governance with the values and principles of Articles 14 and 21. The fourth policy states that AI used in the GST system will be independently reviewed on a regular basis in order to promote accuracy, justice, and the absence of bias. This will aid both the confidence and transparency of the implementation of AI in order to support public governance in tax administration.

India can establish innovative frameworks incorporating the principles of explainable AI leveraged by the European Union, the trustworthy AI principles set forth by the OECD, and Singapore's human-centric governance. Framing these principles within the existing GST structures would also protect the rights of taxpayers in India.

CONCLUSION:

India's adoption of AI and modern data analytics for tax compliance and revenue administration is gaining momentum. Goods and Services Tax Network (GSTN) has developed AI-based systems for analyzing GST return data. These systems also analyze data on e-invoices, e-way bills, and customs, as well as other government data, to identify discrepancies, detect fake invoices, and flag suspicious ITC claims. AI is also used for the risk profiling of taxpayers, prediction of audits, and detection of anomalies, as well as for the automated reconciliation of GST returns. This allows tax authorities to limit compliance enforcement to high-risk cases, as opposed to performing a routine audit. AI compliance modules help ease tax compliance by assisting with the generation of invoices, classification of HSN/SAC codes, preparation of returns, ITC reconciliation, and error detection, thus simplifying tax compliance and improving the precision of tax reporting. The IndiaAI Mission and other recent government projects express the intention of the Indian government to responsibly and accountably integrate AI into its administrative processes. Given its data-centric tax design, the Indian GST system will most certainly incorporate safeguards around the legal and compliance frameworks to prevent fraud and improve tax payer experience, in a controlled manner.

The future of Artificial Intelligence in the realm of GST suggests that a massive paradigm shift is around the corner for the ease of tax administration. AI can make tax administration faster, easier, and more accurate. The real acceptance of AI in public administration would concern the transparency and accountability of services as well as the respect for the rights of citizens. The present legal structures across the world do not address these gaps, and emerging regulations are welcome. AI must be understood as a decision support system that operates under the law and not as a replacement for what humans do. With a rational regulation around explainability, oversight, protection of information, and grievances, India's legal structures will adopt the practice of AI while keeping technological progress aligned with the rule of law and the protection of the taxpayer.