ARTICLE

Digital Transformation in GST: The Efficacy of AI-Driven Invoice Matching, Digital Audits and the Reduction of Classification Dispute

As India navigates the mature phases of the Goods and Services Tax (GST) architecture, the indirect tax landscape has transitioned from an era of structural stabilization to one of advanced algorithmic governance. This article evaluates the efficacy of the digital transformation under the "GST 2.0" paradigm. Specifically, it analyzes how the integration of Artificial Intelligence (AI) and Machine Learning (ML) has redefined Input Tax Credit (ITC) verification under Section 16, the operational realities of remote digital audits under Section 65 and the mitigation of tariff classification disputes via predictive language processing. Finally, it addresses the core tension between automated enforcement and the principles of natural justice, outlining strategic imperatives for Company Secretaries to align corporate compliance frameworks with this predictive ecosystem.

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INTRODUCTION

FROM STRUCTURAL TRANSITION TO ALGORITHMIC GOVERNANCE

The launch of the Goods and Services Tax (GST) represented a significant fiscal leap, consolidating a fragmented marketplace into a unified tax regime. The first phase of this journey was naturally preoccupied with the stabilization of the core IT infrastructure, managing transitional credits, and adapting businesses to digital filing.

The administrative paradigm has since undergone a profound evolution. The Central Board of Indirect Taxes and Customs (CBIC) and the Goods and Services Tax Network (GSTN) have shifted their priorities from basic transaction tracking to deep-tech data analytics. Driven by tools like the Business Intelligence and Fraud Analytics (BIFA) engine and the Directorate General of Analytics and Risk Management (DGARM), modern GST administration functions as a proactive compliance ecosystem.

This digital transformation has fundamentally altered the taxpayer-department dynamic. By replacing many manual oversight processes with automated, data-driven interventions, the state has unlocked enhanced revenue buoyancy. This article examines the efficacy of these digital interventions across the core pillars of e-invoicing, invoice matching, departmental audits, and tariff classification.

E-INVOICING AS THE FOUNDATION OF AI ANALYTICS

The true catalyst for advanced analytics within the modern GST framework is the structural mandate of e-invoicing under **Rule 48(4)** of the CGST Rules, 2017. In the initial phases of GST, data analytics engines were constrained by the asynchronous and fragmented nature of manual invoice uploads. Taxpayers frequently modified invoicing patterns weeks after the actual economic event, leading to noisy datasets that limited the predictive accuracy of early algorithmic models.

The progressive expansion of the e-invoicing mandate transformed this paradigm by introducing a uniform, machine-readable JSON schema (GST INV-01). By requiring real-time authentication of invoices through the Invoice Registration Portal (IRP), the system generates an immutable Invoice Reference Number (IRN) and a secure Quick Response (QR) code at the exact moment a transaction occurs.

For AI and machine learning models deployed by DGARM, this standardized data stream is foundational. Machine learning models require clean, structured, and high-velocity data to function effectively without generating excessive false positives. E-invoicing effectively eliminates data cleansing latency, providing an immediate, verified ledger of economic activity.

Furthermore, the seamless integration of e-invoicing with the e-way bill mechanism closes a critical compliance loop. The automated system can instantly cross-verify the value and volume of goods declared on an invoice with the corresponding transit declarations. This continuous ingestion allows analytics engines to track sector-specific supply chain velocities and monitor inter-state trade trends without waiting for monthly return filings. Consequently, e-invoicing serves as the digital bedrock, converting raw transactional inputs into actionable regulatory intelligence.

AI-DRIVEN INVOICE MATCHING: GUARDING THE INPUT TAX CREDIT LIFELINE

The Input Tax Credit (ITC) mechanism is the economic engine of the GST framework, ensuring that taxes are levied only on value additions. However, systemic vulnerabilities historically allowed bad actors to exploit the system through circular trading and the generation of fake invoices from non-existent entities.

- **The Statutory Shift to Rigorous Matching**

  To safeguard public revenue, the legislature progressively tightened the statutory architecture. The introduction of **Section 16(2)(aa)** via the Finance Act, 2021 and **Section 16(2)(ba)** via the Finance Act, 2022 significantly recalibrated the compliance burden for ITC claims.

  - **Section 16(2)(aa) — Finance Act, 2021 (w.e.f. 1 January 2022):** Inserted by Section 109 of the Finance Act, 2021 (No. 13 of 2021) and notified via CBIC Notification No. 39/2021-Central Tax dated 21.12.2021, this provision mandates that ITC can only be claimed if the supplier has reported the relevant invoice or debit note in their GSTR-1/IFF, ensuring it reflects in the recipient's auto-generated **GSTR-2B**. This provision effectively codified the real-time invoice-matching discipline that the earlier Rule 36(4) sought to approximate.

  - **Section 16(2)(ba) — Finance Act, 2022 (w.e.f. 1 October 2022):** Inserted by Section 100 of the Finance Act, 2022 (No. 6 of 2022) and notified via CBIC Notification No. 18/2022-Central Tax dated 28.09.2022. This provision adds a targeted secondary restriction: a registered person shall not avail ITC *to the extent* the credit communicated to the recipient under **Section 38** has been restricted or flagged as ineligible on account of vendor-side defaults specified under Section 38(2)(b) — such as a supplier's default in tax payment or excess ITC claims. Importantly, this is not a blanket bar on all ITC; it restricts only the specific portion of credit that has been communicated as restricted under Section 38, leaving the uncommunicated or unrestricted portion eligible subject to satisfaction of all other conditions under Section 16.

- **The Deployment of Network Analytics**

  Standard data querying can easily match an invoice number between a buyer and a seller. However, sophisticated tax evasion networks use complex, multi-layered chains to pass on fraudulent credit. To counter this, DGARM is understood to utilize advanced analytics frameworks, including network-based transaction analysis and risk-profiling tools:

  - **Cluster Detection:** The analytics framework maps interconnected corporate entities, flags instances where companies have high trading volumes but minimal physical infrastructure (such as warehousing or utility consumption), and identifies potential circular loops.

  - **Dynamic Risk Scoring:** New registrations and sudden spikes in declared turnover are monitored by risk-profiling algorithms. High risk-scores trigger the application of protective measures, such as **Rule 86B** (restricting ITC utilization) or prompt the system to pause e-way bill generation pending verification.

  - **Automated Red Flags:** The system continuously runs reconciliations between GSTR-1 vs. GSTR-3B and GSTR-2B vs. GSTR-3B. Any material discrepancy frequently triggers system-generated notices in **Form GST ASMT-10**.

> For the professional community of Company Secretaries, this shift offers an excellent opportunity to champion advanced corporate tax governance — ensuring that business compliance frameworks are just as sophisticated and resilient as the tax administration itself.

- **Efficacy and Business Impact**

  The AI matching regime appears to have significantly strengthened fraud detection capabilities and improved tax administration outcomes. The expansion of e-invoicing and analytics-based compliance monitoring has closely coincided with sustained growth in gross monthly GST collections, reflecting a broader structural formalization of economic activity across supply chains. However, it also introduces operational friction. Honest corporate buyers frequently experience working capital strain when their ITC is suspended or blocked under **Rule 86A** due to compliance failures located far upstream in their supply chain — an officer-initiated action that, while requiring human authorization, is increasingly triggered by algorithmic risk flags.

THE TRANSITION TOWARD DIGITAL AUDITS: OBJECTIVITY AND PRACTITIONER REALITIES

Traditional tax audits under **Section 65** of the CGST Act have historically been high-touch operations involving direct human interactions, physical book verifications, and localized legal interpretations.

- **From Physical to Portal-Based Audits**

  While the Direct Tax ecosystem has institutionalized "jurisdiction-less" faceless assessments under Section 144B of the Income Tax Act, 1961, the GST framework is currently navigating a transitional phase.

Fully anonymized, faceless audits in GST remain largely in exploratory or pilot stages — no formal legislative provision or CBIC notification establishing a faceless audit scheme under GST has been gazetted as of the date of this publication. However, the *digitalization* of the audit process is a mature operational reality.

Audits are now heavily driven by digital communication via the common portal. Information exchange is executed through **Form GST ADT-01**, and submissions of books, ledgers, and reconciliations are handled electronically. The finalization of findings (**ADT-02**) is increasingly done with minimal physical interface. Tax authorities use machine learning engines to select candidates based on specific, high-risk variances (such as structural ITC inversions) rather than conducting random, low-yield manual audits.

- **Algorithmic Decision-Making and Natural Justice**

This paradigm shift introduces a fundamental administrative challenge: reconciling automated algorithmic risk-profiling with the constitutional principles of natural justice, specifically the right to be heard (*audi alteram partem*). When an automated engine triggers an alert — such as blocking input tax credit under Rule 86A or auto-generating an ASMT-10 discrepancy notice — it performs a binary calculation without inherent context. It is critical to note that Rule 86A blocking is an officer-initiated action that requires the satisfaction of a commissioned officer; it is not a wholly-automated output.

The principles of natural justice apply with full force even where an automated system initiates the compliance process. The Supreme Court of India has consistently affirmed — including in contexts of drastic statutory GST enforcement powers such as provisional attachment — that such powers must be exercised strictly in accordance with statutory conditions and cannot be deployed as a matter of routine without genuine application of mind. When an automated system pushes a flagged discrepancy directly to a formal Show Cause Notice (SCN) without a meaningful, human-led preliminary evaluation, the taxpayer's right to an objective defense risks being compromised. Technology should serve to augment administrative capabilities; ultimately, algorithmic risk-scoring must function as an evaluative tool to assist — not replace — human judgment.

From a practitioner's perspective, this creates an asymmetrical burden. Practicing Company Secretaries and tax heads frequently observe that standard algorithms flag variations that have perfectly valid commercial justifications — such as volume-based post-supply discounts, complex product returns, or

distinct transfer pricing agreements for cross-charges under **Section 25(4)** of the CGST Act. Explaining such nuanced business arrangements through rigid portal text-boxes or limited attachments remains structurally challenging.

PREDICTIVE TECHNOLOGIES AND THE MITIGATION OF CLASSIFICATION DISPUTES

Determining the correct tariff classification under the Harmonized System of Nomenclature (**HSN**) or Service Accounting Codes (**SAC**) has historically been one of the most litigious aspects of indirect taxation. Slight differences in product naming or ingredient proportions can shift an item between tax brackets, exposing companies to substantial retrospective tax demands.

Resolving Ambiguity through Natural Language Processing

To bridge the gap between complex commercial realities and rigid tax schedules, the ecosystem is increasingly turning to Natural Language Processing (NLP) and semantic text-mining models:

- **Predictive Invoice Validation:** Modern ERP systems and GST Suvidha Providers (GSPs) use integrated AI engines that read raw product descriptions entered by billing departments, cross-reference them with the General Rules for Interpretation (GRI), and suggest compliant HSN classifications at the point of invoice generation.
- **Systemic Outlier Detection:** Internal departmental algorithms analyze industry-wide classification behaviors. If an enterprise classifies a product under a lower tax rate while the vast majority of its peers file it under a higher tier, the AI flags the anomaly for systemic review.
- **Harmonizing Cross-Jurisdictional Rulings:** Advanced vector-search databases allow the GST Council to track divergent legal

rulings across different states more efficiently, prompting swift administrative clarifications before local disputes escalate into protracted litigation.

THE STRATEGIC MANDATE FOR COMPANY SECRETARIES

In this data-driven, algorithmic tax environment, corporate compliance can no longer be handled as a retrospective book-keeping exercise. Company Secretaries and corporate legal heads must pivot toward continuous, proactive governance:

- **Proactive Supply Chain Auditing:** Organizations must implement internal tax compliance software that mirrors the analytics used by the department, allowing procurement teams to immediately flag defaulting vendors before the transaction cycle closes.
- **Redesigning Commercial Contracts:** Contracts should incorporate clear indemnity clauses that allow corporate buyers to withhold payments or seek compensation if an upstream vendor's digital non-compliance triggers an AI flag or an ITC block.
- **Crafting a Digital Defense Trail:** Because audits are transitioning to remote formats, written submissions must be highly precise, clear, and contextualized. Company Secretaries must ensure that complex commercial actions are backed by robust, contemporaneous documentation that can stand the independent scrutiny of an external, data-driven auditor.

CONCLUSION: NAVIGATING GST 2.0 TOWARD VIKSIT BHARAT 2047

The ongoing digital transformation of the GST ecosystem demonstrates the systemic impact of technology-driven tax administration. By deploying AI-powered invoice matching, standardizing digital audits, and utilizing predictive classification tools, the framework has established an enhanced level of structural discipline and transparency across the economy.

However, the ultimate success of this digital shift relies on striking a careful balance. Automated algorithms must be continually refined to ensure that they protect compliant businesses from systemic rigidities. Crucially, as the classification dispute landscape illustrates, the law must be represented in its current and complete form — including appellate reversals and unsettled questions — so that practitioners and corporates can make properly informed compliance decisions.

For the professional community of Company Secretaries, this shift offers an excellent opportunity to champion advanced corporate tax governance — ensuring that business compliance frameworks are just as sophisticated and resilient as the tax administration itself.

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iii. *Radha Krishan Industries v. State of Himachal Pradesh, (2021) 6 SCC 771 (India). The Supreme Court held that the power of provisional attachment under Section 83 of the CGST Act is a 'draconian' measure and a 'measure of last resort' that must be exercised strictly in accordance with statutory conditions, with due application of mind. Note: This case's primary holding concerns provisional attachment of property under Section 83, not algorithmic enforcement or automated SCN procedures. It is cited here for the general principle that drastic statutory GST powers require strict procedural compliance and cannot be used as a matter of routine.*

iv. *The Central Goods and Services Tax Act, 2017. Bill No. 12 of 2017. Government of India.*

v. *The Central Goods and Services Tax Rules, 2017. Ministry of Finance, Department of Revenue, Government of India. Rule 48(4) governs the e-invoicing mandate. Note: Rule 36(4), which imposed a prior 5% cap on ITC beyond GSTR-2B, was rendered redundant with effect from 1 January 2022 upon commencement of Section 16(2)(aa), and was subsequently formally omitted by CGST (2nd Amendment) Rules, 2022 w.e.f. 1 October 2022.*

vi. *The Finance Act, 2021 (No. 13 of 2021). Section 109 inserted Section 16(2)(aa) into the CGST Act, 2017. Notified w.e.f. 1 January 2022 via CBIC Notification No. 39/2021-Central Tax dated 21.12.2021. Legislative Department, Ministry of Law and Justice, Government of India.*

vii. *The Finance Act, 2022 (No. 6 of 2022). Section 100 inserted Section 16(2)(ba) into the CGST Act, 2017. Notified w.e.f. 1 October 2022 via CBIC Notification No. 18/2022-Central Tax dated 28.09.2022. Legislative Department, Ministry of Law and Justice, Government of India. Note: This provision restricts ITC only to the extent the credit communicated to the recipient under Section 38 has been flagged as restricted under Section 38(2)(b). It does not impose a blanket or complete bar on ITC.*