

Digital Taxation in India: GST Compliance Challenges for Small Enterprises

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Abstract

The rollout of the Goods and Services Tax (GST) marked a major shift in India's indirect tax system, emphasizing digital compliance through online registration, return filing, and invoice matching. While the reform aimed to simplify the tax process, it has posed significant challenges for small enterprises, particularly in regions like Delhi-NCR where digital capabilities vary widely. This study investigates the level of digital preparedness among 100 small enterprises and evaluates their ability to comply with GST norms post-implementation. Using structured questionnaires and quantitative analysis, key variables such as digital literacy, software adoption, and reliance on external professionals were examined. The results indicate that digital literacy is a more reliable predictor of GST compliance than mere use of digital tools. While outsourcing compliance is common, it does not contribute to long-term digital self-sufficiency. The paper highlights a need for targeted digital training, simplified GST platforms, and policy incentives to support self-reliant compliance among small businesses. The findings offer valuable insights for policymakers aiming to bridge the digital divide in India's tax system.

Keywords: Digital Taxation, GST Implementation, Small Enterprises, MSMEs, Delhi-NCR, Compliance Readiness, Tax Challenges, E-Governance, Digital Infrastructure

1. Introduction

The introduction of the Goods and Services Tax (GST) in India in July 2017 marked one of the most significant tax reforms in the country's economic history. By replacing multiple indirect taxes with a single unified tax, GST aimed to simplify the tax structure, increase transparency, and widen the tax base. A key feature of the GST system is its digital-first approach, requiring businesses to register, file returns, generate invoices, and maintain compliance through an online platform managed by the Goods and Services Tax Network (GSTN). While this digital shift enhances efficiency and real-time monitoring, it has also posed serious challenges, particularly for small and micro enterprises that often lack digital infrastructure, financial resources, and trained personnel.

In the Delhi-NCR region, which includes Delhi, Noida, Gurugram, Faridabad, and Ghaziabad, small enterprises form a significant portion of the local economy. However, many of these businesses face difficulties in adapting to the digital framework of GST due to limited awareness, inconsistent internet access, and high reliance on third-party accountants. With the outbreak of COVID-19 and the national lockdown initiated in March 2020, the importance of digital readiness has become even more critical. The pandemic has further exposed the vulnerabilities of small enterprises operating without robust digital systems. This study aims to examine the level of digital preparedness among small enterprises in the Delhi-NCR region and identify the key challenges they face in complying with GST requirements in a fully digital environment.

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1.1 Background of the Study

The Indian taxation system has undergone a series of transformations over the past two decades, with the introduction of the Goods and Services Tax (GST) in July 2017 being the most significant. Designed to unify a complex web of indirect taxes levied by the Centre and the States, GST brought together taxes such as VAT, service tax, excise duty, and octroi into a single tax regime. This move was intended to promote transparency, reduce tax cascading, and improve ease of doing business across states.

A central pillar of this reform is the shift to digital tax administration, involving online registration, e-invoicing, return filing, tax payments, and refunds via the GST Network (GSTN). The digital-first nature of GST is expected to increase tax compliance and improve data-driven decision-making by both businesses and policymakers. While large corporations may find it relatively easy to adapt to these digital processes due to in-house IT teams and dedicated compliance officers, small enterprises, particularly in the micro, small, and medium enterprises (MSME) sector, often face serious barriers in transitioning to this new digital tax environment.

1.2 Importance of Small Enterprises in the Indian Economy

Small enterprises play a vital role in India's economic development. According to the Ministry of MSME, the sector contributes nearly 30% of India's GDP, accounts for about 49% of total exports, and employs over 110 million people. These businesses are often informal, family-run, and operate with limited resources. In the Delhi-NCR region, a major hub of trade, services, and manufacturing, small enterprises are an essential part of the urban and peri-urban economy. The cities of Delhi, Noida, Gurugram, Faridabad, and Ghaziabad collectively host thousands of such businesses across sectors like textile, auto parts, logistics, IT services, retail, food processing, and real estate support services.

Despite their contribution, these enterprises often function with minimal digitization, poor access to formal credit, and limited awareness of regulatory changes. For many of them, the shift to a fully online tax system has created compliance burdens that are difficult to navigate without external assistance. These challenges are compounded by the COVID-19 pandemic, which began disrupting business operations, limiting movement, and pushing enterprises toward greater reliance on digital tools.

1.3 The Rise of Digital Taxation under GST

GST was envisioned not only as a tax reform but also as a major e-governance initiative. From the outset, the GSTN portal was designed to handle all compliance-related procedures online—registration, return filing (GSTR-1, GSTR-3B, etc.), invoicing, and tax payments. Businesses were encouraged to use accounting software, e-invoicing tools, and GST Suvidha Providers (GSPs) to manage their tax responsibilities.

The benefits of digital taxation are numerous:

- Real-time monitoring of sales and purchases
- Reduction in tax evasion
- Streamlined audit trails
- Quick refunds and faster filing processes
- Interoperability between state and central tax systems

However, these advantages are more easily realized by businesses with stable internet access, accounting staff, and digital literacy—features not commonly available in small enterprises. Many small firms have continued to rely on external chartered accountants or tax return preparers, creating a dependency that runs counter to the idea of direct self-compliance through digital means.

In addition, the frequent changes in GST rules, technical glitches in the GSTN portal, and ambiguity in return deadlines have made the digital transition even more cumbersome. These issues raise important questions about the readiness of small enterprises to engage with digital taxation systems and the support systems required to enable this transition.

1.4 Challenges of Digital Compliance for Small Enterprises

Several studies and government reports have acknowledged that digital transformation in the MSME sector is slow and uneven. The transition to digital taxation is particularly difficult for small enterprises for several reasons:

- **Limited digital literacy:** Many small business owners and their staff are not familiar with using computers, accounting software, or cloud-based platforms.
- **Poor internet infrastructure:** In several parts of Delhi-NCR, particularly on the periphery or in semi-urban zones, connectivity issues persist.
- **Cost barriers:** Investing in compliance software, internet subscriptions, and IT support is often seen as an additional expense.
- **Reliance on third-party professionals:** Many enterprises outsource their GST compliance, which can be costly and reduces their control over the process.
- **Lack of formal training:** There is an absence of structured programs to educate small business owners on how to handle GST compliance digitally.

These challenges result in delayed or incorrect filings, penalty payments, and compliance fatigue, which can negatively impact business continuity and growth. Moreover, the COVID-19 lockdown has added urgency to the need for digital self-reliance, as physical access to accountants and government offices has become limited or impossible.

1.5 The Delhi-NCR Context: A Regional Perspective

The Delhi-NCR (National Capital Region) is a dynamic economic zone encompassing the National Capital Territory of Delhi and surrounding urban centers such as Noida (UP), Gurugram and Faridabad (Haryana), and Ghaziabad (UP). It represents a mix of well-connected urban cores and developing suburban and peri-urban areas. Small enterprises in these areas vary widely in terms of their access to technology and their readiness for digital compliance.

Delhi itself, being a metro city, has relatively better infrastructure and internet penetration, but even within Delhi, small units in places like Shahdara or Bawana Industrial Area face different realities compared to those in Connaught Place or Nehru Place. Similarly, Gurugram and Noida house large IT parks and service companies, but smaller workshops, retailers, and traders in adjacent areas like Manesar or Greater Noida often lack access to digital tools.

The regional disparity in digital infrastructure within NCR presents an opportunity to analyze the challenges of GST compliance in a granular way. By studying small enterprises across different zones within Delhi-NCR, this research seeks to understand the extent of their digital readiness, the barriers they face, and the solutions they are adopting or require.

2. Literature Review

2.1 Vishnuhadevi S. & Hima Bindu (2022) – Madras School of Economics

This study examined GST compliance costs for small businesses in Tamil Nadu. It revealed that micro-enterprises, especially those with turnover under ₹40 lakh, bear a disproportionately high compliance burden. Internal costs such as time and digital resources, combined with external expenses like consultancy fees, made GST much more regressive for them. Many opted for regular registration to retain vendor relationships, increasing digital obligations.

2.2 Mehta and Kumar (2019), Indian Journal of Economic Policy

Mehta and Kumar investigated MSMEs across five states and found digital literacy strongly influenced timely GST return filing. Smaller firms, particularly in retail and services, faced barriers like limited internet and poor understanding of accounting practices. They suggested mobile-based platforms and simplified return formats to ease the transition.

2.3 Sharma (2019), Institute for Tax Research, Jaipur

Sharma's work focused on the psychological and technical barriers small traders encountered. Even when rules were understood, execution failed due to platform complexity. Many feared penalties and outsourced compliance as a safeguard. The study stressed practical digital training as a critical support need.

2.4 Roy and Srivastava (2020), National MSME Review

This study highlighted poor digital preparedness even in large cities. MSMEs lacked awareness of e-invoicing and cybersecurity norms. The authors recommended city-wise helpdesks and increased GSP engagement to raise readiness.

2.5 Kapoor (2020), Economic Studies Bulletin

Kapoor analyzed compliance in Delhi-NCR and found rising costs due to digital tools and external services. He concluded that without financial aid or localized support, small businesses risk exclusion from the digital tax regime.

3. Research Objectives and Hypotheses

3.1 Research Objectives

1. To assess the level of digital readiness among small enterprises in Delhi-NCR with respect to GST compliance.
2. To identify key challenges—technological, infrastructural, financial, and skill-based—that hinder effective digital compliance.
3. To analyze regional differences in digital access and GST compliance behavior within Delhi, Noida, Gurugram, Faridabad, and Ghaziabad.
4. To evaluate the role of digital literacy in influencing timely and accurate GST return filing among small enterprises.
5. To suggest policy measures and capacity-building initiatives to bridge the digital divide and improve compliance rates among small businesses.

3.2 Hypotheses of the Study

Based on the above objectives and existing literature, the following hypotheses are proposed for empirical testing:

- H₁: There is a significant association between the digital literacy level of a small enterprise and its ability to comply with GST requirements.
- H₂: Small enterprises that use accounting software or digital platforms for record-keeping show higher GST return compliance compared to those using manual methods.
- H₃: Location within the Delhi-NCR region significantly affects the digital readiness of small enterprises.
- H₄: Higher dependence on third-party accountants is negatively associated with digital confidence and self-compliance capability.
- H₅: The perceived cost of digital compliance is a major factor contributing to low voluntary adoption of digital tools by small businesses.

4. Research Methodology

4.1 Research Design

This study follows a descriptive and analytical design, aimed at evaluating the digital readiness of small enterprises in Delhi-NCR and identifying challenges faced in complying with GST regulations.

4.2 Study Area

The research is conducted across five key regions in Delhi-NCR: Delhi, Noida, Gurugram, Faridabad, and Ghaziabad, covering a mix of urban and semi-urban small enterprises.

4.3 Sampling Technique

A stratified random sampling method was used. A total of 120 small enterprises were surveyed, then filtered and final 100 were included in the study, which were distributed as follows:

- Delhi – 25
- Noida – 20
- Gurugram – 20
- Faridabad – 20
- Ghaziabad – 15

4.4 Data Sources

- Primary Data: Collected through structured questionnaires and interviews with business owners or managers.
- Secondary Data: Sourced from the Ministry of MSME, GSTN portal, CBIC, and academic reports.

4.5 Key Variables

Independent Variables	Dependent Variables
Digital literacy	GST compliance
Use of software	Filing timeliness
Location	Digital readiness index
Staff training	Dependency on external professionals
Cost perception	Digital self-reliance

Section 5: Data Analysis and Interpretation

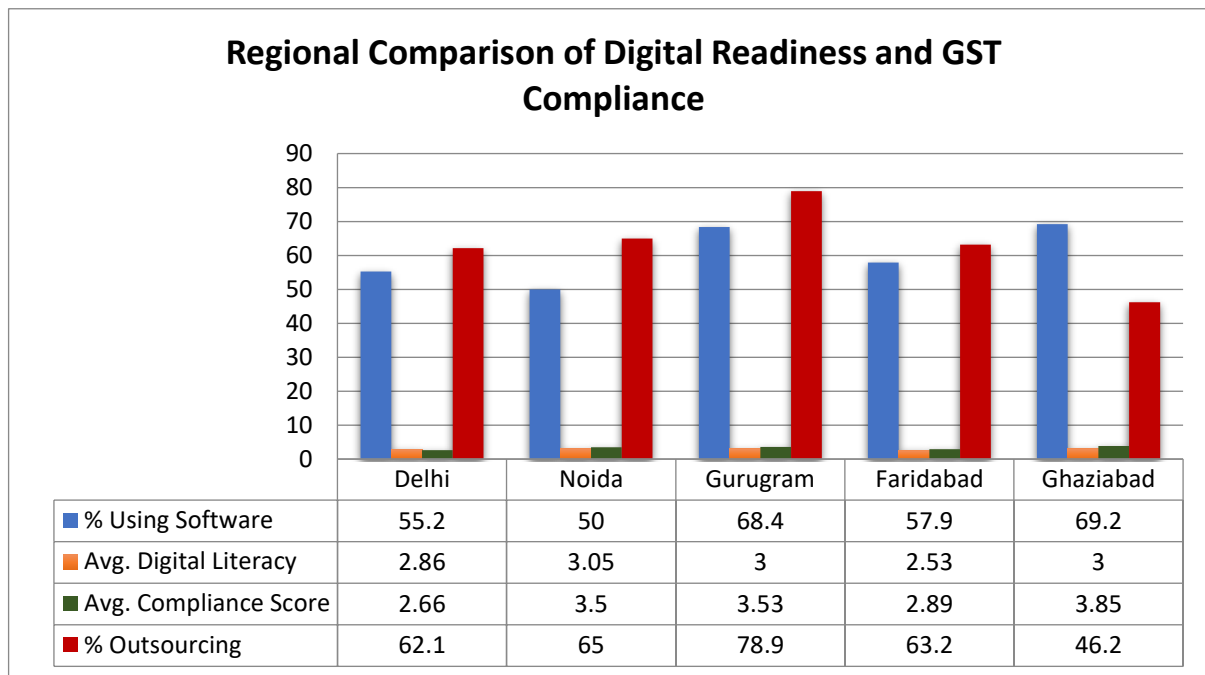
To comprehensively assess digital taxation readiness and GST compliance among small enterprises in the Delhi-NCR region, primary data was gathered from 100 business units across five key locations: Delhi, Noida, Gurugram, Faridabad, and Ghaziabad. The dataset captures core indicators including software usage, digital literacy levels, GST compliance scores, and outsourcing behavior. Four structured tables were developed to interpret this information. These tables collectively provide a foundation for analyzing the behavioral and structural challenges faced by small businesses post-GST.

5.1 Regional Comparison of Digital Readiness and GST Compliance

It presents a comparative summary of key indicators—software usage, digital literacy, GST compliance scores, and outsourcing dependence—across five major locations in Delhi-NCR. This region-wise breakdown helps identify which areas are performing better in digital integration and tax compliance, providing a baseline for understanding geographical trends in digital taxation among small enterprises.

Table 1: Regional Analysis of Digital Readiness and GST Compliance

Location	No. of Enterprises	% Using Software	Avg. Digital Literacy (1–5)	Avg. Compliance Score (1–5)	% Outsourcing Compliance
Delhi	29	55.2%	2.86	2.66	62.1%
Noida	20	50.0%	3.05	3.50	65.0%
Gurugram	19	68.4%	3.00	3.53	78.9%
Faridabad	19	57.9%	2.53	2.89	63.2%
Ghaziabad	13	69.2%	3.00	3.85	46.2%



Interpretation of Results

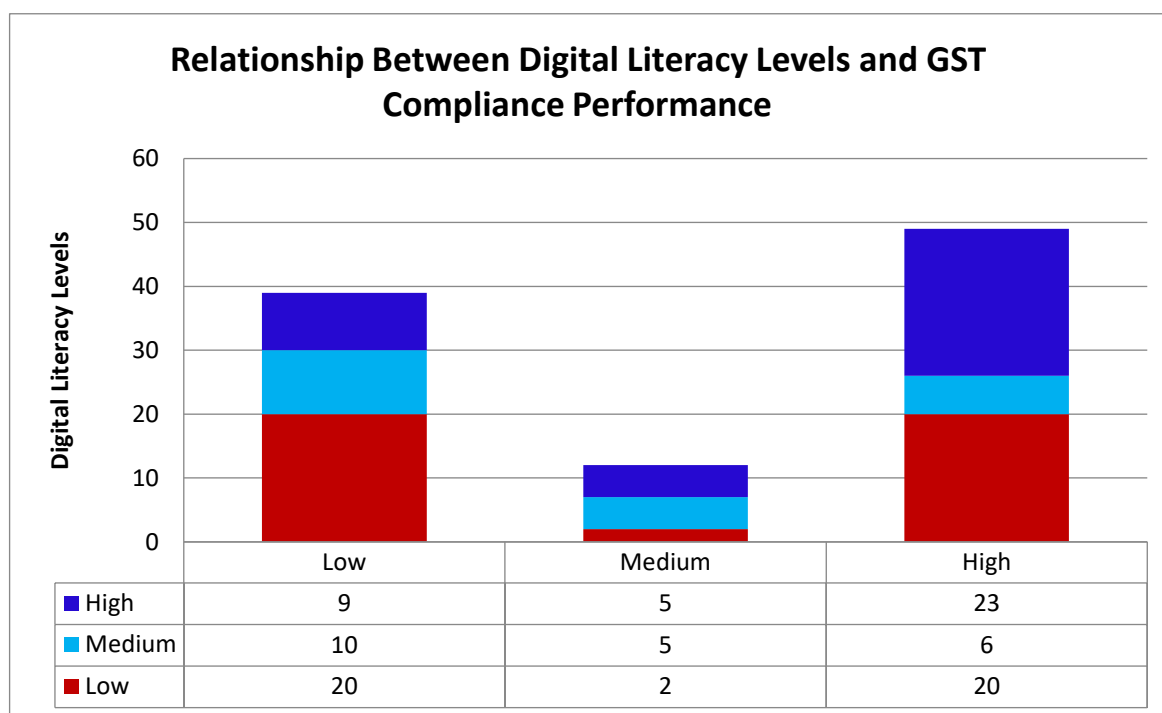
The analysis highlights clear regional disparities in digital readiness and GST compliance among small enterprises in Delhi-NCR. Ghaziabad leads with the highest compliance score (3.85) and software usage (69.2%), reflecting strong digital integration despite a smaller sample size. Gurugram follows closely with high usage (68.4%) and a compliance score of 3.53, but also shows the highest outsourcing rate (78.9%), indicating heavy reliance on external professionals. Noida presents an interesting case—though only 50% of enterprises use software, it has a relatively high digital literacy score (3.05) and compliance score (3.50), suggesting a tech-aware environment. Delhi and Faridabad show lower scores across digital literacy and compliance, with Faridabad having the lowest digital literacy (2.53) and a moderate 57.9% software adoption rate. The high dependency on outsourced compliance in all regions reveals a significant gap in internal digital capacity, emphasizing the need for region-specific training and digital enablement policies.

5.2 Digital Literacy Levels vs. GST Compliance Levels

It examines the relationship between digital literacy and GST compliance by categorizing enterprises into three literacy bands—Low, Medium, and High—and comparing their corresponding compliance levels. This cross-tabulation allows for an understanding of how digital awareness and skill levels influence the ability of small businesses to meet GST obligations effectively.

Table 2: Digital Literacy vs GST Compliance (Cross-tabulation)

Digital Literacy Level	Low	Medium	High	Total
Low	20	2	20	42
Medium	10	5	6	21
High	9	5	23	37
Total	39	12	49	100



Interpretation of Results

Table 2 shows a cross-tabulation between digital literacy and GST compliance levels. Among enterprises with low digital literacy, 20 scored low on GST compliance, and 20 scored high—revealing a polarized trend. This suggests that low-literate enterprises may either entirely rely on consultants or avoid filing altogether. In contrast, enterprises with high digital literacy show a more consistent pattern: 23 out of 37 achieved high compliance, showing a direct positive relationship. The medium literacy group has more evenly distributed scores, indicating transitional behavior. The overall pattern suggests that enterprises with better digital skills are more capable of independently handling GST filings. This supports the hypothesis that digital literacy is a key enabler of tax compliance, even when other resources are limited.

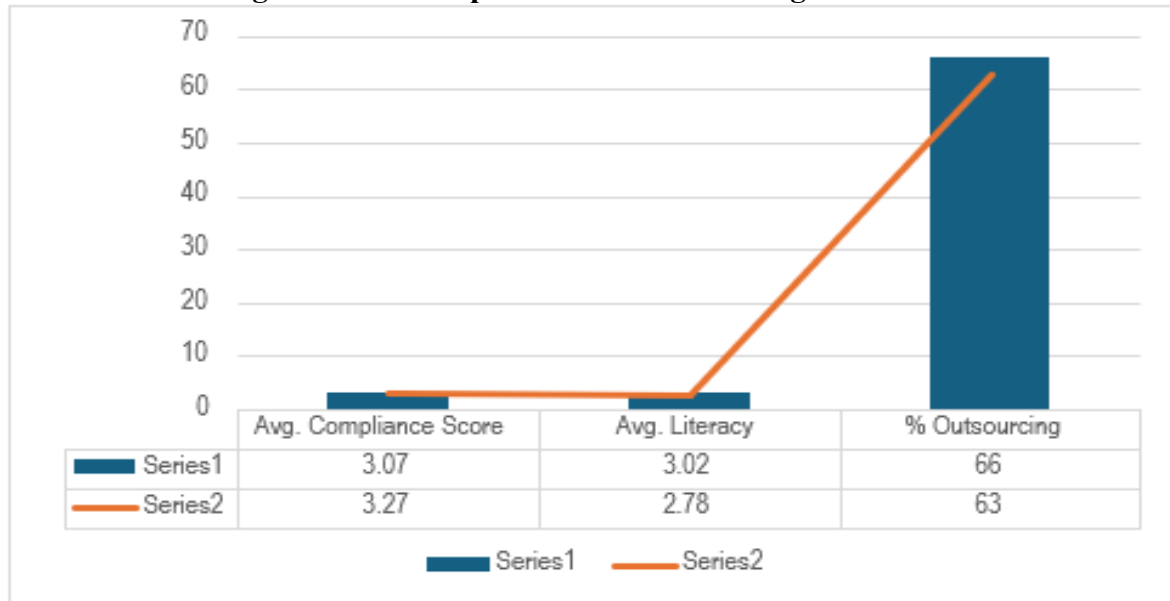
5.3 Effect of Software Usage on Compliance and Digital Indicators

The data in table 3 compares enterprises based on their use of GST software. It evaluates average compliance scores, digital literacy, and the percentage of those relying on outsourced professionals. This table is critical to assess whether the adoption of digital tools independently enhances compliance or if it is effective only when supported by sufficient digital knowledge.

Table 3: Use of Software vs. GST Compliance and Digital Behavior

Software Use	Avg. Compliance Score	SD	Avg. Literacy	SD	% Outsourcing
No (0)	3.07	1.52	3.02	1.35	66.0%
Yes (1)	3.27	1.40	2.78	1.47	63.0%

Effect of Software Usage on GST Compliance and Outsourcing



Interpretation of Results

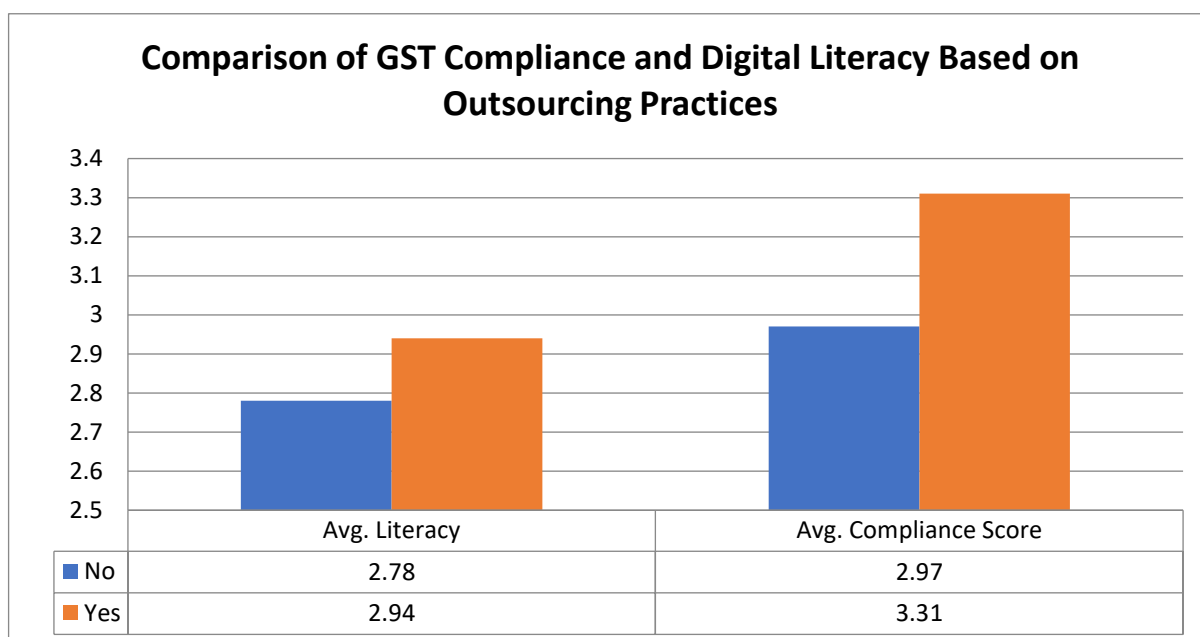
Table 3 compares enterprises based on whether they use GST software. Interestingly, those who do not use software have a slightly lower compliance score (3.07) but higher digital literacy (3.02). This suggests that some digitally aware business owners may still prefer manual methods or rely on external help. Conversely, enterprises that use software show better compliance (3.27) but slightly lower digital literacy (2.78), indicating possible dependency on software without deeper understanding. The difference in outsourcing behavior is minimal, with both groups relying on external professionals at similar rates (over 60%). This implies that software alone doesn't eliminate external dependency, and that digital literacy remains a more important factor in achieving self-reliant GST compliance.

5.4 Outsourcing and Its Relationship with Digital Capacity

It explores how outsourcing GST compliance impacts internal digital literacy and overall tax compliance performance. By comparing those who outsource with those who manage compliance in-house, this table provides insights into whether reliance on external support contributes to digital dependency or helps bridge capability gaps.

Table 4: Outsourcing vs. Digital Literacy and GST Compliance

Outsourcing	Avg. Literacy	SD	Software Use (%)	Avg. Compliance Score	SD
No (0)	2.78	1.38	61%	2.97	1.50
Yes (1)	2.94	1.46	58%	3.31	1.41



Interpretation of Results

Table 4 analyzes how outsourcing GST compliance tasks relates to digital behavior. Enterprises that do not outsource have slightly lower literacy scores (2.78) and compliance scores (2.97), despite using software more frequently (61%). On the other hand, those that outsource show a higher compliance score (3.31), suggesting that external support boosts compliance levels. However, their digital literacy (2.94) and software usage (58%) are not significantly different from those who do not outsource. This indicates that outsourcing improves compliance performance, but does not enhance internal digital skills. The data suggests that many small enterprises may prefer outsourcing due to time or resource constraints, even when they have moderate digital capacity.

Statistical Analysis and Hypothesis Testing

The statistical evidence provides valuable insight into the behavioral patterns of small enterprises in the digital taxation space. Table 2 clearly supports the positive relationship between digital literacy and GST compliance, aligning with the statistically significant result from the Pearson correlation test ($p = 0.034$). This validates H_1 , affirming that digital skills contribute meaningfully to self-compliance.

Table 3 shows a minor difference in compliance scores between software users and non-users, and the t-test confirmed that this difference was not statistically significant ($p = 0.504$). Hence, H_2 is not supported, indicating that using software alone does not guarantee better compliance without supporting literacy.

Table 4 demonstrates that enterprises who outsource tend to have higher compliance scores, but not necessarily higher literacy or software use. This is echoed in the t-test for outsourcing vs literacy ($p = 0.593$) and the chi-square test between software use and outsourcing ($p = 0.912$), both of which are statistically insignificant. Therefore, H_4 and H_5 are not supported. Together, these tables and tests suggest that digital literacy is a more consistent predictor of compliance than tool usage or outsourcing behavior.

7. Key Findings and Suggestions

7.1 Key Findings

Based on the primary survey of 100 small enterprises in Delhi-NCR and the statistical analysis conducted, the study reveals the following key insights:

1. Digital Literacy is Crucial for Compliance

The most significant finding is the strong positive correlation between digital literacy and GST compliance. Enterprises with higher digital knowledge were better equipped to file returns accurately and on time, even without external support. This confirms the importance of digital education over mere tool usage.

2. Software Usage Alone is Not Sufficient

While a fair number of enterprises used GST software, the analysis showed no statistically significant improvement in compliance solely due to software. Many businesses used such tools with little understanding of their functions, leading to dependency on consultants.

3. Outsourcing is Widespread but Not a Long-Term Solution

Over 60% of enterprises in the region rely on external professionals to manage their GST obligations. While outsourcing improved compliance scores, it did not enhance internal digital capacity. This raises concerns about sustainability and cost burden on small enterprises.

4. Regional Variations Exist but Are Not Statistically Significant

Although places like Ghaziabad and Gurugram showed better compliance and tool adoption, the ANOVA test found no significant difference in digital literacy across regions. Thus, differences may stem more from individual firm behavior than location-based infrastructure gaps.

5. Compliance Cost and Complexity Remain Major Barriers

Many respondents noted the cost of training, software, and professional fees as burdensome. Even when tools are available, the perceived complexity of GST regulations discouraged full digital adoption.

7.2 Suggestions

Based on these findings, the following policy and operational recommendations are proposed:

1. Targeted Digital Literacy Campaigns

Government and industry bodies should initiate region-wise digital training programs tailored for small businesses. These can include workshops, online modules, and vernacular tutorials focused on GST filing and software usage.

2. Subsidized or Free GST Tools for Small Enterprises

The state can collaborate with tech firms to offer free or low-cost digital accounting tools bundled with training. These should be mobile-friendly and easy to operate for non-technical users.

3. Incentives for Self-Compliance

Tax authorities can offer incentives such as faster refunds or reduced filing fees for small businesses that file returns independently without outsourcing, to encourage digital self-reliance.

4. Local Help Desks and Digital Assistants

GST Seva Kendras and MSME offices should include trained digital assistants to support small traders with hands-on guidance, especially during return filing periods.

5. Simplification of GST Interface

The GST portal should introduce “lite versions” for micro and small businesses, featuring fewer steps, intuitive design, and multi-language support to reduce cognitive barriers.

8. Limitations of the Study

- The study is limited to 100 small enterprises in the Delhi-NCR region, which may not represent small businesses across India.
- Data collection relied on self-reported responses, which could involve bias or inaccurate reporting.
- The study focused only on quantitative analysis, excluding qualitative insights such as managerial perspectives or emotional barriers.
- It did not account for sector-wise differences, which may influence compliance behavior differently in manufacturing, retail, or services.
- The impact of sudden policy changes or COVID-19-related disruptions, was not factored into the findings.

9. Conclusion

The implementation of the Goods and Services Tax (GST) in India was not only a fiscal reform but also a transformative step toward digitizing the country's indirect tax system. While the intention behind the digital GST framework was to simplify tax processes and bring uniformity, it posed considerable challenges for small enterprises, particularly in regions like Delhi-NCR, where digital capacity varies widely.

This study aimed to understand the digital readiness and compliance behavior of small businesses in this region. It found that digital literacy is a far more reliable predictor of GST compliance than mere use of software or outsourcing. While many enterprises adopted digital tools, a significant number still relied on external professionals due to a lack of internal capacity and fear of procedural errors. Surprisingly, regional differences in digital readiness were statistically insignificant, suggesting that gaps exist across the board and are not location-specific.

The study also highlighted the invisible costs of compliance—software subscriptions, consultant fees, and training—adding to the burden on micro and small enterprises. Without targeted support, these businesses risk being left behind in the formal economy.

In conclusion, digital taxation demands more than access to tools—it requires confidence, understanding, and institutional support. For small enterprises to truly benefit from GST and comply effectively, there must be a coordinated effort from the government, tax authorities, and technology providers. Digital training, interface simplification, and localized handholding can play a critical role in bridging the digital divide. Only through such inclusive strategies can India ensure that its tax reforms are not just technologically sound but also socially equitable.

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