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**Bridging the Digital Divide: Challenges of GST Technology Adoption
among MSMEs in Telangana****Dr. P. Venkateswara Rao**

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The implementation of the Goods and Services Tax (GST) in India marked a significant reform in the country's indirect taxation system, aiming to streamline compliance and enhance transparency. However, small traders continue to face considerable challenges in adopting GST-related digital technologies. Limited digital literacy, inadequate infrastructure, and financial constraints have widened the digital divide, creating barriers to effective compliance. This paper explores the socio-economic and technological hurdles encountered by small traders, highlighting issues such as lack of awareness, dependence on intermediaries, and resistance to technological change. By analyzing these challenges, the study underscores the need for targeted policy interventions, capacity-building programs, and accessible digital tools to ensure inclusive participation in the GST regime. Bridging this divide is crucial not only for compliance but also for empowering small traders to thrive in an increasingly digital economy.

Keywords: Goods and services Tax (GST), Indirect tax reform, MSMEs, Digital divide, Digital literacy.

I. INTRODUCTION

The Goods and Services Tax (GST), introduced in India in 2017, was envisioned as a transformative step toward creating a unified and transparent tax system. While large enterprises have largely adapted to the digital compliance framework, small traders face persistent difficulties in embracing GST technology. The digital divide, characterized by disparities in access to technology, digital literacy, and affordability, has emerged as a critical barrier to effective GST adoption.

Small traders often operate with limited resources, minimal exposure to digital platforms, and a reliance on traditional business practices. The mandatory use of online portals for filing returns, generating invoices, and maintaining records has placed significant pressure on these traders, many of whom struggle with inadequate internet connectivity, lack of technical skills, and financial constraints. Moreover, dependence on accountants or intermediaries increases compliance costs, further discouraging independent adoption.

This paper seeks to examine the challenges faced by small traders in Telangana in adopting GST technology, situating the issue within the broader context of digital inclusion. By identifying the structural and behavioral obstacles, the study aims to propose strategies for bridging the digital divide, thereby enabling small traders to participate more effectively in the formal economy and benefit from the opportunities of digital transformation.

II.LITERATURE REVIEW

The Goods and Services Tax (GST), introduced on July 1, 2017, replaced a fragmented indirect tax system with a unified digital framework. It aimed to simplify taxation, reduce cascading effects, and promote transparency. However, the reform imposed strict compliance requirements, frequent return filings, and digital record-keeping obligations, which disproportionately affected MSMEs and small traders

The case study “*Challenges of New Regime (GST): A Case of MSMEs in India*” (Mongia & Singh, 2025) provides critical insights into how GST implementation has affected small enterprises. GST, introduced in 2017, replaced multiple indirect taxes with a unified system, aiming to simplify compliance and promote transparency. However, the study highlights that MSMEs—contributing nearly 30% to GDP and employing over 110 million people—faced significant compliance and technological challenges during the transition.

It emphasizes on high compliance costs, with MSMEs required to file multiple monthly returns (GSTR-1, GSTR-3B, GSTR-9) and maintain digital records. Over 70% of MSMEs reported substantial expenses due to IT upgrades and reliance on skilled personnel. The case study also notes that Input Tax Credit (ITC) became conditional on vendor compliance, leading to cash flow constraints and delayed credits. Furthermore, the introduction of mechanisms like the Reverse Charge and restrictions on goods sold on a return basis disrupted traditional business practices, particularly in textiles and small trading sectors.

A major theme is the technological barrier: many MSMEs in semi-urban and rural areas lacked digital infrastructure and literacy, making online registration, return filing, and e-way bill generation difficult. The study concludes that while GST has improved transparency and competitiveness, its digital-first approach has widened the divide for small enterprises, underscoring the need for simplified compliance procedures, digital literacy programs, and affordable technological solutions.

III.OBJECTIVES

- Identify challenges faced by MSMEs in Telangana in adopting GST technology.
- Analyze the digital divide between urban IT-enabled enterprises and rural/semi-urban traders
- Propose recommendations for simplified compliance, digital literacy, and infrastructure support.
- Support policy integration to ensure inclusive and sustainable GST participation.

IV.DIGITAL DIVIDE IN GST CONTEXT

The concept of the digital divide refers to inequalities in access to information and communication technologies (ICTs), including internet connectivity, affordability, and digital literacy. Globally, this divide separates advanced economies with high ICT penetration from regions where infrastructure and skills remain limited. In the Indian context, the divide is particularly visible between metropolitan cities with strong IT ecosystems and semi-urban or rural clusters where small traders operate with minimal digital exposure.

GST, introduced in 2017, is a digital-first tax regime that requires online registration, e-filing of returns, invoice matching, and compliance through portals. While this framework has streamlined taxation for digitally ready enterprises, it has widened the gap for small traders and MSMEs who lack reliable internet access, adequate IT infrastructure, or the skills to navigate complex compliance portals. Studies highlight that many small businesses depend on accountants or GST Suvidha Providers, increasing compliance costs and reinforcing dependence rather than building digital capacity.

In Telangana, the digital divide is especially pronounced. On one hand, Hyderabad functions as a major IT hub, contributing to the state’s high service sector share (66.8% of GSVA in 2023-24) and ranking third nationally in per capita income. On the other hand, semi-urban and rural districts such as Warangal, Karimnagar, and Khammam host

clusters of small traders who struggle with digital adoption. Limited awareness of compliance tools, poor connectivity, and reliance on traditional business practices hinder their ability to adapt to GST requirements. This dual ecosystem illustrates how the digital divide in GST compliance is not merely technological but also socio-economic, reinforcing disparities between urban IT-enabled enterprises and grassroots traders.

Thus, in the GST context, the digital divide manifests as a barrier to inclusion and competitiveness. Bridging this gap requires targeted interventions such as digital literacy programs, subsidized access to compliance software, and simplified filing mechanisms tailored to small traders in semi-urban and rural Telangana.

V.TELANGANA MSME ANALYSIS

Contribution of MSMEs to the Economy

MSMEs are the backbone of India's economy, contributing about 30% to GDP and 45% to exports, while employing over 110 million people. In Telangana, this sector is particularly significant given the state's strong economic growth. The Gross State Domestic Product (GSDP) reached ₹15.01 lakh crore in 2023-24, contributing 5.1% to India's GDP. Telangana's per capita income of ₹3,56,564 ranks third nationally, reflecting a robust economic environment that supports MSME activity.

Sectoral Distribution and Digital Ecosystem

Telangana's economy is dominated by the tertiary/service sector, contributing 66.8% of GSVA in 2023-24 (Government of Telangana, 2024). Hyderabad, as a major IT hub, provides advanced infrastructure, fintech services, and digital platforms that can facilitate GST compliance for MSMEs. However, semi-urban and rural districts such as Warangal, Karimnagar, and Khammam host clusters of small traders who operate in traditional formats, with limited digital exposure. This duality highlights the uneven readiness of MSMEs across the state.

Challenges in GST Adoption

Despite Telangana's IT strengths, small traders face challenges similar to those identified in the case study "*Challenges of New Regime (GST): A Case of MSMEs in India*". These include:

- **High compliance costs** due to frequent return filings and reliance on accountants.
- **Cash flow disruptions** from delayed Input Tax Credit (ITC).
- **Technological barriers** in semi-urban and rural clusters, where internet connectivity and digital literacy remain low.
- **Dependence on intermediaries** (GST Suvidha Providers or accountants), which raises costs and limits direct digital adoption.

Telangana's MSME sector reflects a dual ecosystem: urban enterprises benefit from IT infrastructure and higher income levels, while small traders in rural and semi-urban areas struggle with GST's digital-first compliance framework. This reinforces the digital divide within the state. Bridging this gap requires targeted digital literacy programs, simplified compliance mechanisms, and affordable technological solutions tailored to small traders outside Hyderabad.

URBAN VS. RURAL MSMEs IN TELANGANA – GST ADOPTION

Aspect	Urban MSMEs (Hyderabad, IT hubs)	Rural/Semi-urban MSMEs(Warangal, Karimnagar, Khammam)
Digital Infrastructure	Strong internet, access to GST software	Limited connectivity, weak IT infrastructure
Compliance	Easier adoption, use of accountants/software	High dependence on intermediaries, costly compliance
Awareness	Higher awareness of GST Suvidha Providers	Low awareness, traditional practices dominate
Cash Flow	Better liquidity, faster ITC claims	Frequent delays in ITC, cash flow constraints

VI.KEY FINDINGS

- **Dominance of Micro Enterprises:** Micro enterprises form the backbone of Telangana's MSME sector, accounting for the vast majority of registered units.
- **Sectoral Strengths:** Agro-based industries, textiles, pharmaceuticals, and IT-enabled services are the most prominent contributors, with Hyderabad leading in technology-driven MSMEs.
- **Regional Distribution:** Districts like Warangal, Karimnagar, and Nalgonda show strong performance in agro and manufacturing MSMEs, while Hyderabad remains the hub for service-oriented enterprises.
- **Employment Generation:** MSMEs in Telangana are significant job creators, especially in rural and semi-urban areas, supporting both skilled and semi-skilled labor.

VII.RECOMMENDATIONS

- **Simplify GST Compliance:** Introduce offline GST filing options or assisted centers in rural districts to help MSMEs that lack digital infrastructure.
- **Capacity Building:** Provide training workshops on GST rules, billing, and tax filing to improve awareness among micro and small enterprises.
- **Support Infrastructure:** Establish local GST facilitation centers in industrial clusters to reduce dependency on internet connectivity.
- **Policy Integration:** Align GST support with existing MSME schemes, ensuring tax compliance becomes easier and less costly.

VIII.CONCLUSION

GST has unified India's tax system but created significant compliance and technological challenges for MSMEs. In Telangana, the contrast between Hyderabad's IT-enabled enterprises and rural trade clusters highlights a clear digital divide. Small traders face high costs, delayed credits, and limited digital literacy, making GST adoption difficult. Bridging this gap requires targeted digital training, simplified procedures, and affordable compliance solutions to ensure MSMEs across Telangana can fully benefit from GST reforms.

IX.REFERENCES

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