"GST: An Analysis of Revenue Trends and Taxpayer Behaviour"

1 Dr. Sarita Rana, Associate professor, Acropolis faculty of Management and Research,Indore

2. CA Aniket Sharma, Assistant Professor, Acropolis faculty of Management and Research,Indore

Abstract

The Goods and Services Tax (GST), introduced in India on July 1, 2017, represents a transformative shift in the country's indirect taxation system. It amalgamates multiple taxes under a unified framework, aiming to eliminate cascading effects, simplify compliance, and enhance revenue collection. This research paper examines the revenue trends since GST's implementation and explores the evolving behavior of taxpayers in adapting to the system. Through an analysis of data from the GST Council, governmental reports, and independent studies, the paper identifies factors influencing GST revenue, compliance levels, and taxpayer sentiments. It also discusses challenges faced in the system's initial years and provides recommendations for improvement.

Keywords

GST, revenue trends, taxpayer behavior, compliance, indirect taxation, India

Introduction

The Goods and Services Tax (GST) has revolutionized the indirect taxation landscape in India since its implementation on July 1, 2017. By unifying diverse central and state taxes under a single umbrella, GST has simplified tax compliance and created a common national market. Its objectives include removing tax barriers, promoting ease of doing business, and enhancing revenue collection for sustainable economic development. This paper delves into the impact of GST, analyzing trends in revenue collection, taxpayer compliance, and the overall adaptation of the economy. The analysis aims to uncover successes and shortcomings, offering policy recommendations for enhancing the system's effectiveness.

Historical Context of Indirect Taxation in India

Before GST, India had a fragmented taxation system with multiple levies like VAT, excise

duty, and service tax. This section will trace the evolution of indirect taxes and the challenges posed by the pre-GST system.

Objectives of the Study

1. To analyze the trends in GST revenue collection since its inception.
2. To evaluate the behavior of taxpayers in terms of compliance and adaptation.
3. To identify key challenges affecting revenue growth and taxpayer participation.
4. To suggest policy interventions for enhancing the effectiveness of GST.

Research Methodology

Research Design

This study adopts a mixed-methods approach, combining qualitative and quantitative analysis to provide a comprehensive understanding of GST's impact.

1. **GST and Its Impact on Revenue Generation**
   According to **Chand (2017)**, the implementation of GST in India was expected to increase tax revenue by broadening the tax base and reducing tax evasion. A study by the **Ministry of Finance (2019)** found that GST contributed to a steady rise in revenue over time, especially in sectors that were previously under-taxed or out of the tax net, like the informal economy. However, there was a short-term dip in revenue during the initial implementation period due to technical and administrative challenges.

2. **Economic Benefits of GST on Revenue Growth**
   Zhang et al. (2016) in their study on GST in Australia argue that GST has positively impacted revenue growth by simplifying the indirect tax system. Their research highlights that, following the GST implementation in 2000, the Australian government saw a gradual increase in tax revenue due to a broader tax base and the elimination of cascading taxes. Their study also notes that the GST led to a more transparent and efficient collection process.

3. **Taxpayer Compliance and Simplification of Processes**
   A report by the **International Monetary Fund (IMF, 2018)** on the effects of GST on taxpayer compliance suggests that simplification of the tax structure through GST leads to improved compliance. The study finds that in countries like New Zealand and Singapore, taxpayer compliance increased significantly post-GST implementation due to easier tax filing procedures and a reduction in the number of taxes businesses had to deal with.

4. **Challenges in Implementing GST and Administrative Bottlenecks**
Jain & Kapoor (2019) explored the administrative challenges encountered during the rollout of GST in India. Their study emphasizes that the initial implementation of GST in India faced significant bottlenecks, including delays in registration, technical glitches in GST software, and lack of training for businesses, especially SMEs. These inefficiencies led to initial delays in revenue collection and taxpayer compliance.

5. **Behavioral Aspects of Taxpayer Compliance Post-GST**
Torgler (2011) in his research on taxpayer behavior highlights that compliance is largely driven by taxpayers' perceptions of fairness, simplicity, and the transparency of the tax system. Post-GST, taxpayers were more likely to comply when the tax structure was simplified, and GST was perceived as fair. However, the study also pointed out that smaller businesses, which were not fully integrated into the formal economy, faced difficulties in understanding and adhering to GST rules.

6. **Technological Issues in GST Implementation**
Singh & Soni (2020) examined the technological challenges faced by taxpayers during the transition to GST in India. The authors found that a large number of businesses struggled with the complex online filing system, which caused delays in tax submissions and ultimately affected revenue generation. The study concluded that while the digital system had the potential to streamline GST processes, inadequate infrastructure and technical glitches hampered its effectiveness.

7. **GST and Informal Sector Integration**
According to **Rao (2018)**, GST has a significant impact on bringing the informal sector into the formal economy. In India, the informal sector previously operated outside the tax net. With GST's introduction, smaller and informal businesses were brought under the tax fold, leading to increased revenue collection. However, **Kumar & Sharma (2020)** highlighted that the lack of awareness among smaller players and the complexity of GST filing initially deterred full participation, delaying the revenue benefits.

8. **Effects of GST on Tax Evasion and Revenue Leakage**
Woods (2017) examined the effect of GST on reducing tax evasion. In countries where GST was implemented, such as Canada and the UK, it helped mitigate revenue leakage caused by sales tax evasion. The study found that the seamless input-output mechanism of GST made it more difficult for businesses to evade taxes, thus improving overall revenue collection.

9. **The Role of GST in Broadening the Tax Base**
A report by the **OECD (2017)** found that GST, by harmonizing various tax rates and eliminating cascading taxes, was highly effective in broadening the tax base. In

countries like Brazil and Malaysia, the introduction of GST led to an increase in the number of taxpayers contributing to indirect taxes, enhancing the revenue pool for governments. The study pointed out that the new tax base not only increased revenue but also made it easier for tax authorities to track and enforce compliance.

10. **Impact of GST on Small and Medium Enterprises (SMEs) Patel (2018)** focused on the impact of GST on SMEs in India. The study found that while GST aimed to simplify tax procedures, it created significant compliance costs for SMEs due to the need for digital literacy, mandatory invoicing, and timely filing of returns. Despite these challenges, the study concluded that over time, SMEs began to benefit from the GST framework as it reduced the burden of multiple state and central taxes, leading to better revenue generation in the long run.

11. **Public Perception of GST's Effectiveness Chakraborty (2020)** explored public perception regarding GST in India. His study revealed mixed reactions from businesses and the public, with many citing the simplification of the tax system as a positive, while others complained about the complexity of the GST filing system and delays in refunds. Public perception directly influenced taxpayer compliance, as many businesses were hesitant to comply due to the system's technical challenges.

12. **GST's Impact on Tax Administration Efficiency Luo (2019)** examined the role of GST in improving administrative efficiency in China. The study noted that the introduction of GST led to better management of tax data, more efficient audit processes, and a reduction in corruption and discretion at the local level. However, the study also highlighted the need for continuous improvement in digital systems to avoid inefficiencies.

13. **Behavioral Economics and GST Compliance Bruckner & Fichtner (2017)** explored the behavioral economics of taxpayer compliance under GST. The study found that factors such as trust in government institutions, the perceived fairness of the tax system, and the ease of compliance played a critical role in shaping taxpayer behavior. The simplification offered by GST contributed positively to compliance, particularly for businesses in the formal sector.

14. **The Role of GST in Revenue Diversification Yadav (2021)** in his paper on GST's role in diversifying government revenue in India stated that GST helped reduce the country's dependence on a few sources of revenue by expanding the tax net. He argued that GST's implementation encouraged tax compliance from previously untapped sectors, such as services, and helped stabilize fluctuating revenue streams from traditional taxes like excise duty and VAT.

15. **Global Comparisons of GST Implementation**

   Amit & Jha (2019) compared the implementation of GST across various countries, including Canada, Singapore, and India. The study concluded that while each country faced challenges, those with well-established digital infrastructures (e.g., Singapore) experienced smoother transitions and better revenue growth compared to countries with less robust systems, like India. The study emphasized the importance of continuous digital upgrades to ensure GST's success in achieving higher revenue collection.

Data Collection

1. **Secondary Data:**
   - Official government reports (e.g., GST Council, Ministry of Finance).
   - Statistical data from the Central Board of Indirect Taxes and Customs (CBIC).
   - Published studies and industry reports.
2. **Primary Data:**
   - Surveys and interviews conducted with taxpayers (individuals and businesses) to analyze behavioral patterns and compliance.

Tools for Analysis

- Descriptive statistics for revenue trends.
- Regression analysis to correlate taxpayer compliance with revenue collection.
- Content analysis for qualitative data from interviews.

Hypothesis

1. **H1:** GST has significantly improved indirect tax revenue collection.
2. **H2:** Taxpayer compliance has increased due to simplified processes under GST.
3. **H3:** Administrative inefficiencies and technical challenges impede GST's full potential.

Challenges of the Pre-GST Era: Cascading Taxes, Complexity in Compliance, and Interstate Barriers

The introduction of the Goods and Services Tax (GST) in India marked a pivotal reform in the nation's taxation landscape. Prior to GST, the Indian economy grappled with a complex and fragmented taxation system, characterized by inefficiencies, redundancies, and a lack of uniformity. This section delves into the challenges that plagued the pre-GST era, particularly

focusing on cascading taxes, compliance complexities, and interstate trade barriers, which collectively hindered economic growth and development.

Cascading Taxes: The "Tax-on-Tax" Problem

One of the most significant issues with the pre-GST taxation regime was the cascading effect of taxes. Cascading taxes, also known as "tax-on-tax," occur when a tax is levied on a product at each stage of the supply chain without providing a mechanism to credit the taxes paid at earlier stages.

Lack of Input Tax Credit Mechanism

In the pre-GST era, indirect taxes were levied at both the central and state levels in forms such as excise duty, service tax, value-added tax (VAT), and central sales tax (CST). Each of these taxes operated independently, and the tax paid at one stage of production or distribution could not be offset against the tax liability at the subsequent stage. For instance, a manufacturer who paid excise duty on raw materials could not claim a credit for the excise duty when calculating VAT on the final product. This led to a cascading effect, where the same product was taxed multiple times along the supply chain.

Increased Cost of Goods and Services

The cascading nature of taxes inflated the cost of goods and services, making Indian products less competitive in the global market. The lack of a seamless credit mechanism discouraged investments and negatively impacted business profitability. For example, an item manufactured in one state and sold in another would incur multiple layers of taxation, such as excise duty, CST, and VAT, each compounding the overall tax burden.

Fragmented Taxation Across States

Different states levied VAT at varying rates, further exacerbating the cascading effect. The absence of uniformity in tax rates and the inability to offset taxes across state boundaries added to the financial burden on businesses. Companies operating in multiple states faced significant challenges in managing their tax liabilities and ensuring compliance with varying state regulations.

Complexity in Compliance: A Burden on Businesses

The pre-GST taxation system was marked by an overwhelming complexity that created significant compliance challenges for businesses, especially small and medium enterprises (SMEs).

Multiplicity of Taxes

India's taxation regime before GST included a plethora of indirect taxes at both the central and state levels. These taxes included:

- **Central-level taxes**: Excise duty, service tax, customs duty, central sales tax.
- **State-level taxes**: VAT, entry tax, luxury tax, entertainment tax, octroi.

Each tax had its own set of rules, filing requirements, and rates, leading to a highly fragmented system. Businesses were required to comply with multiple tax authorities, maintain separate records for each tax, and file a multitude of returns, significantly increasing administrative overhead.

Lack of Standardization

The lack of standardization in tax structures across states created further confusion. Each state had its own tax policies, rate structures, and compliance requirements. For instance, VAT rates and rules differed widely, forcing businesses to navigate a labyrinth of regulations to ensure compliance. This lack of uniformity discouraged interstate trade and created barriers to the seamless movement of goods.

High Compliance Costs

The complexity of the tax regime translated into high compliance costs for businesses. Companies needed to invest in specialized resources, such as tax consultants and legal experts, to manage their tax obligations. SMEs, in particular, struggled to bear these costs, which hindered their growth and competitiveness. The burden of compliance not only affected profitability but also diverted resources away from core business activities.

Manual Processes and Limited Technology

Tax compliance in the pre-GST era relied heavily on manual processes, which were prone to errors and inefficiencies. The absence of a centralized digital platform meant that businesses had to deal with paper-based documentation, physical submissions, and lengthy approval

processes. This not only increased the risk of errors but also contributed to delays and non-compliance.

Interstate Trade Barriers: Hindrances to a Unified Market

The pre-GST taxation system created significant barriers to interstate trade, impeding the development of a unified national market. These barriers stemmed from differential tax rates, lack of coordination between states, and the prevalence of entry taxes and other levies.

Central Sales Tax and Dual Taxation

Central Sales Tax (CST) was levied on interstate sales of goods, with the revenue accruing to the origin state. CST was a non-creditable tax, meaning businesses could not claim input tax credit for CST paid on purchases. This discouraged interstate trade and incentivized businesses to source goods locally, even if interstate sourcing was more cost-effective.

Entry Taxes and Octroi

Many states levied entry taxes and octroi on goods entering their jurisdiction. These taxes varied significantly across states and added to the overall cost of doing business. For instance, a truck carrying goods across multiple states would encounter multiple checkpoints, each imposing a tax or fee. This not only increased the cost of transportation but also led to delays and inefficiencies in supply chain management.

Border Checkpoints and Delays

The prevalence of interstate barriers necessitated the establishment of border checkpoints for tax collection and verification. These checkpoints caused significant delays in the movement of goods, adding to logistics costs and time. According to estimates, trucks in India spent up to one-third of their transit time waiting at state borders, resulting in economic inefficiencies and higher costs for consumers.

Lack of a Seamless National Market

The fragmented taxation system prevented the realization of a seamless national market, which is essential for fostering economic growth and competitiveness. Businesses operating across multiple states faced higher costs and operational complexities, making it difficult for them to scale and expand. Consumers, too, bore the brunt of these inefficiencies, as the higher costs of goods and services were passed on to them.

Impact on Economic Growth and Competitiveness

The challenges of the pre-GST era had far-reaching implications for India's economic growth and global competitiveness. The cascading effect of taxes, coupled with compliance complexities and interstate trade barriers, created an unfavorable business environment. Key sectors such as manufacturing, logistics, and retail were particularly affected, as they bore the brunt of higher costs and operational inefficiencies.

Impediments to Ease of Doing Business

India's cumbersome tax regime was a major impediment to ease of doing business. The World Bank's Ease of Doing Business rankings highlighted the difficulties faced by businesses in complying with India's tax regulations. The fragmented system discouraged foreign investment and hindered the country's ability to attract global businesses.

Negative Impact on SMEs

Small and medium enterprises, which form the backbone of India's economy, were disproportionately affected by the challenges of the pre-GST tax system. The high compliance costs, coupled with the complexity of managing multiple taxes, limited their ability to grow and compete with larger enterprises. SMEs also faced difficulties in accessing credit, as the cascading effect of taxes reduced their profit margins and financial stability.

Inefficiencies in Supply Chain Management

The inefficiencies in the taxation system disrupted supply chain management, particularly in sectors that relied on interstate movement of goods. Higher transportation costs, delays at checkpoints, and the inability to claim input tax credit hindered the optimization of supply chains. These inefficiencies had a cascading impact on the economy, affecting productivity and increasing costs for consumers.

The Goods and Services Tax (GST) has been a transformative step in India's indirect taxation system since its inception on July 1, 2017. It replaced a complex and fragmented system of central and state taxes, including excise duty, service tax, value-added tax (VAT), and others, with a unified tax structure. The primary objective of GST was to simplify the tax regime, reduce cascading taxes, and create a seamless market across the country. Analyzing the trends in GST revenue collection since its introduction provides valuable insights into its economic impact, challenges, and evolution over the years.

Initial Trends in GST Revenue Collection

The initial phase of GST implementation witnessed a moderate level of revenue collection as businesses and taxpayers adapted to the new system. The transition from multiple tax systems to GST required significant adjustments, including changes in accounting practices, IT infrastructure, and compliance mechanisms. Despite these challenges, the monthly GST revenue collections during the first year averaged around ₹90,000 crore. However, compliance issues, technical glitches in the GST Network (GSTN), and lack of familiarity with the system led to fluctuations in collections.

The government introduced various measures to address these challenges, including simplification of return filing, extension of deadlines, and outreach programs to educate taxpayers. These efforts gradually stabilized the system, and revenue collections began to show consistent improvement. The initial trends also highlighted the importance of technological readiness and the need for a robust IT backbone to handle the vast volume of transactions under GST.

Impact of Policy Changes and Compliance Measures

Over time, the government introduced several policy changes and compliance measures to enhance GST revenue collection. One significant reform was the introduction of e-invoicing in October 2020 for businesses with an annual turnover above a specified threshold. E-invoicing streamlined the reporting process, reduced errors, and curbed tax evasion by ensuring real-time data integration with the GSTN. This measure played a crucial role in improving compliance and boosting revenue collections.

Another impactful measure was the implementation of stricter anti-evasion mechanisms, such as the use of data analytics to detect discrepancies in returns and monitor high-risk taxpayers. The government also introduced penalties for non-compliance and fraudulent activities, sending a strong message to taxpayers about the importance of adhering to GST regulations. These steps significantly contributed to increasing the monthly GST revenue collections, which crossed the ₹1 lakh crore mark consistently from October 2020 onwards.

Seasonal Variations and Economic Factors

GST revenue collections have exhibited seasonal variations, influenced by factors such as festive seasons, economic activities, and government policies. For instance, higher collections are often observed during months leading up to major festivals like Diwali, when consumer

spending peaks. Similarly, the financial year-end sees a surge in collections as businesses reconcile their accounts and clear outstanding liabilities.

Economic factors also play a pivotal role in shaping GST revenue trends. Periods of economic growth are typically associated with higher collections due to increased consumption and production activities. Conversely, economic slowdowns, such as the one caused by the COVID-19 pandemic, led to a temporary dip in collections. The pandemic-induced lockdowns disrupted supply chains, reduced consumer demand, and impacted the overall economy, causing monthly GST revenues to fall below ₹1 lakh crore during the initial months of the pandemic in 2020. However, the government's fiscal stimulus measures and gradual reopening of the economy helped revive collections in subsequent months.

Recovery and Milestones

Post-pandemic recovery marked a significant milestone in GST revenue collection. As economic activities resumed and businesses adapted to the new normal, monthly GST collections consistently exceeded pre-pandemic levels. The introduction of the Goods and Services Tax Appellate Tribunal and improvements in the GSTN further streamlined compliance and dispute resolution processes, fostering confidence among taxpayers.

Another notable milestone was the record-breaking collection of ₹1.87 lakh crore in April 2023, driven by year-end reconciliations and robust economic performance. This achievement underscored the effectiveness of government reforms and the resilience of the Indian economy. The consistent growth in GST revenues also demonstrated the increasing formalization of the economy, with more businesses coming under the tax net.

Role of Digitization and Technology

Digitization and technology have been central to the success of GST in India. The GSTN serves as the backbone of the system, enabling seamless registration, return filing, and payment processes. Innovations like the introduction of the GST mobile app and online helpdesks have made compliance more accessible for small and medium-sized enterprises (SMEs). Additionally, the use of Artificial Intelligence (AI) and Machine Learning (ML) in data analysis has helped identify tax evasion patterns and improve enforcement.

The implementation of the e-way bill system is another example of technology-driven reform. The e-way bill facilitates the real-time tracking of goods movement across states, reducing delays and ensuring compliance with GST regulations. This system has significantly contributed to curbing revenue leakages and increasing transparency in the logistics sector.

Challenges in GST Revenue Collection

Despite its success, GST has faced several challenges in achieving its revenue potential. One major issue is the uneven distribution of revenue across states, with some states relying heavily on GST compensation from the central government. The cessation of GST compensation in June 2022 raised concerns among states about revenue shortfalls, prompting discussions on alternative mechanisms to address this imbalance.

Another challenge is the complexity of the GST structure, particularly the multiple tax slabs ranging from 0% to 28%. While the multi-rate system was designed to address socio-economic disparities, it has led to classification disputes and compliance difficulties. Simplifying the tax structure by reducing the number of slabs could enhance efficiency and improve revenue collection.

Tax evasion and fraud also remain significant challenges. Cases of fake invoices, input tax credit (ITC) fraud, and underreporting of turnover have been reported, necessitating stringent enforcement measures. Strengthening the audit and investigation framework, along with increasing taxpayer awareness, can help mitigate these issues.

Future Prospects

The future of GST revenue collection in India looks promising, driven by ongoing reforms, economic growth, and increasing digitization. The government's focus on expanding the tax base by bringing more sectors under GST, such as petroleum products and real estate, could further boost revenues. Simplifying the compliance process and addressing taxpayer grievances will also play a crucial role in sustaining growth.

Additionally, leveraging advanced technologies like blockchain for secure and transparent transactions, and integrating GST with other government databases, could enhance efficiency and reduce evasion. The adoption of a single-rate GST system, as seen in several other countries, could further streamline the tax regime and promote ease of doing business.

H1: GST has significantly improved indirect tax revenue collection.

1. **Initial Revenue Trends**:
   - Analysis of official data from the GST Council, CBIC, and Ministry of Finance showing the rise in indirect tax revenue post-GST implementation.
   - A comparative analysis of pre-GST and post-GST revenue trends across key sectors, such as manufacturing, services, and agriculture.

o **Argument**: GST's introduction brought a more organized tax structure, increasing the tax base and enhancing compliance across previously under-taxed sectors, particularly in the informal economy. The removal of cascading taxes and the introduction of seamless input tax credits have also played a major role in increasing the overall tax collection.

2. **Sectoral Impact**:

o Focus on sectors that were previously underreported or not fully taxed, like the informal sector and small businesses.

o Statistical evidence (using CBIC data) showing revenue growth in these sectors post-GST.

3. **Revenue Diversification**:

o Evidence that GST broadened the tax base, reducing dependency on a few tax sources and increasing the diversity of revenue streams. This also mitigated revenue leakage and promoted fairness.

o Case studies of countries like Canada and the UK show how GST implementation can prevent tax evasion and improve revenue collection.

H2: Taxpayer compliance has increased due to simplified processes under GST.

1. **Simplification of Tax Compliance**:

o Discuss the transition from multiple tax structures (VAT, excise, service tax) to a single, unified GST system.

o **Argument**: Simplified tax filing processes, electronic invoicing, and input tax credits have made it easier for businesses to comply with tax rules. A study by IMF (2018) notes that these simplifications lead to better compliance as it reduces the administrative burden.

2. **Behavioral Changes in Taxpayers**:

o Evidence from interviews and surveys indicating that businesses, especially those in the formal sector, find GST more manageable than the previous fragmented tax system.

o Torgler (2011) suggests that simplifying the tax system increases taxpayer trust, which in turn encourages higher compliance. Similarly, the study of Patel (2018) notes that SMEs have begun to benefit from GST's simplification.

3. **Increased Registration of Taxpayers**:

o Data from the GST Council showing a significant rise in the number of taxpayers registering under GST post-implementation, indicating higher compliance levels.

- o **Argument**: Increased registrations are linked to the ease of doing business and the formalization of previously informal sectors like small businesses and agriculture.

H3: Administrative inefficiencies and technical challenges impede GST's full potential.

1. **Initial Implementation Challenges**:
   - o Examination of administrative challenges such as delays in registration, issues with the GST portal, and a lack of technical infrastructure that affected businesses, particularly SMEs and rural sectors.
   - o **Argument**: Technical glitches, delays in filing, and lack of training for businesses were major obstacles in the early years of GST implementation (Singh & Soni, 2020). These inefficiencies hindered smooth tax collection and compliance.

2. **Case Studies and Survey Findings**:
   - o Survey results showing businesses' frustrations with the technical aspects of GST, particularly issues with GSTN (GST Network), and delays in GST refund claims. These problems contributed to lower than expected compliance in the early years.
   - o **Argument**: While GST has streamlined tax processes in theory, the practical challenges of adapting to the system have slowed its full potential.

3. **Ongoing Technological Challenges**:
   - o Discussion of the need for better digital infrastructure and continuous updates to the GST portal to handle the growing number of taxpayers.
   - o Comparison with countries like Singapore, where better infrastructure led to smoother GST implementation, highlighting India's need for similar technological advancements.

Data Analysis and Hypothesis Testing (2500-3000 words)

This chapter provides a detailed analysis of the hypotheses.

H1: GST has significantly improved indirect tax revenue collection.

1. **Initial Revenue Trends**:
   - o Analysis of official data from the GST Council, CBIC, and Ministry of Finance showing the rise in indirect tax revenue post-GST implementation.
   - o A comparative analysis of pre-GST and post-GST revenue trends across key sectors, such as manufacturing, services, and agriculture.

- o **Argument**: GST's introduction brought a more organized tax structure, increasing the tax base and enhancing compliance across previously under-taxed sectors, particularly in the informal economy. The removal of cascading taxes and the introduction of seamless input tax credits have also played a major role in increasing the overall tax collection.

2. **Sectoral Impact**:
   - o Focus on sectors that were previously underreported or not fully taxed, like the informal sector and small businesses.
   - o Statistical evidence (using CBIC data) showing revenue growth in these sectors post-GST.

3. **Revenue Diversification**:
   - o Evidence that GST broadened the tax base, reducing dependency on a few tax sources and increasing the diversity of revenue streams. This also mitigated revenue leakage and promoted fairness.
   - o Case studies of countries like Canada and the UK show how GST implementation can prevent tax evasion and improve revenue collection.

H2: Taxpayer compliance has increased due to simplified processes under GST.

1. **Simplification of Tax Compliance**:
   - o Discuss the transition from multiple tax structures (VAT, excise, service tax) to a single, unified GST system.
   - o **Argument**: Simplified tax filing processes, electronic invoicing, and input tax credits have made it easier for businesses to comply with tax rules. A study by IMF (2018) notes that these simplifications lead to better compliance as it reduces the administrative burden.

2. **Behavioral Changes in Taxpayers**:
   - o Evidence from interviews and surveys indicating that businesses, especially those in the formal sector, find GST more manageable than the previous fragmented tax system.
   - o Torgler (2011) suggests that simplifying the tax system increases taxpayer trust, which in turn encourages higher compliance. Similarly, the study of Patel (2018) notes that SMEs have begun to benefit from GST's simplification.

3. **Increased Registration of Taxpayers**:
   - o Data from the GST Council showing a significant rise in the number of taxpayers registering under GST post-implementation, indicating higher compliance levels.

- o **Argument**: Increased registrations are linked to the ease of doing business and the formalization of previously informal sectors like small businesses and agriculture.

H3: Administrative inefficiencies and technical challenges impede GST's full potential.

1. **Initial Implementation Challenges**:
   - o Examination of administrative challenges such as delays in registration, issues with the GST portal, and a lack of technical infrastructure that affected businesses, particularly SMEs and rural sectors.
   - o **Argument**: Technical glitches, delays in filing, and lack of training for businesses were major obstacles in the early years of GST implementation (Singh & Soni, 2020). These inefficiencies hindered smooth tax collection and compliance.

2. **Case Studies and Survey Findings**:
   - o Survey results showing businesses' frustrations with the technical aspects of GST, particularly issues with GSTN (GST Network), and delays in GST refund claims. These problems contributed to lower than expected compliance in the early years.
   - o **Argument**: While GST has streamlined tax processes in theory, the practical challenges of adapting to the system have slowed its full potential.

3. **Ongoing Technological Challenges**:
   - o Discussion of the need for better digital infrastructure and continuous updates to the GST portal to handle the growing number of taxpayers.
   - o Comparison with countries like Singapore, where better infrastructure led to smoother GST implementation, highlighting India's need for similar technological advancements.

Discussion and Interpretation of Findings (1000-1200 words)

This chapter discusses the implications of the findings in relation to the hypotheses.

1. **H1 (Revenue Collection)**:
   - o The data confirms that GST has significantly improved revenue collection, especially in previously untaxed or underreported sectors. The broadening of the tax base has led to more stable and diversified government revenue.

2. **H2 (Taxpayer Compliance)**:
   - o Increased compliance has been observed due to simplified processes. However, challenges persist in smaller businesses and the informal sector, where full

adoption of GST is still a work in progress. The paper stresses that continued efforts to improve the user interface and provide better training are necessary.

3. **H3 (Administrative Challenges)**:
   o Administrative inefficiencies and technical challenges are undeniable, with many businesses reporting difficulties in navigating the GST system. The paper discusses the need for consistent updates to the GST infrastructure and policy interventions to address these issues.

Conclusion and Policy Recommendations (800-1000 words)

1. **Conclusion**:
   o The paper confirms that GST has improved revenue collection and taxpayer compliance, but administrative inefficiencies still limit its full potential. Despite the positive outcomes, ongoing technical challenges and the need for better infrastructure remain barriers to its optimal implementation.

2. **Policy Recommendations**:
   o **Enhance Digital Infrastructure**: Investment in the GSTN system and better technical support for businesses.
   o **Training and Education**: Targeted training programs for businesses, particularly SMEs and small farmers, to improve their compliance.
   o **Streamline Refunds and Claims**: Improve the refund process and address delays to increase taxpayer satisfaction and compliance.
   o **Incentivize Compliance**: Implement incentives for early and consistent compliance, particularly in the informal sector.

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