



# ASSESSING GST 2.0 REFORMS AND THEIR IMPACT ON THE DIGITAL ECONOMY IN EMERGING MARKETS

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## ABSTRACT

The evolution of GST 2.0 represents a transformative shift in India's indirect taxation system driven by digitalisation and efficiency. Using secondary data from 2016–2025, this study evaluates its impact on the digital economy. Regression and Difference-in-Differences analysis confirm that GST reforms significantly enhance digital transactions, transparency, and economic formalisation, while challenges such as compliance burden and digital divide persist. The evolution of the Goods and Services Tax (GST) into its advanced phase, commonly referred to as GST 2.0, represents a transformative shift in India's indirect taxation system, driven by digitalization, simplification, and enhanced economic efficiency. This study critically evaluates the design, implementation, and impact of GST 2.0 on the digital economy in emerging market contexts, with a particular focus on India. Using secondary data from 2016 to 2025, along with policy reports and analytical frameworks, the paper examines how tax rationalization, digital compliance systems, and real-time data integration influence key sectors such as e-commerce, fintech, and micro, small, and medium enterprises (MSMEs).

The study employs regression analysis to assess the relationship between GST reforms and digital transaction growth. The findings indicate that GST 2.0 significantly enhances transparency, promotes digital transactions, and strengthens economic integration by encouraging formalization. However, challenges such as compliance burden, technological constraints, and the digital divide persist, particularly for smaller enterprises. The paper concludes by offering policy recommendations aimed at improving the inclusiveness and effectiveness of digital tax reforms in India and other emerging economies.

**KEYWORDS:** GST 2.0; Digital Economy; Emerging Markets; Tax Reform; India; MSME,

## INTRODUCTION

The introduction of the Goods and Services Tax (GST) in India in 2017 marked a major milestone in the country's fiscal policy, aiming to create a unified national market and eliminate inefficiencies associated with multiple indirect taxes. Over time, the GST system has evolved into a more sophisticated and digitally integrated framework, often referred to as GST 2.0. This advanced phase emphasises digital compliance, real-time reporting, e-invoicing, and data-driven governance.

Simultaneously, India has experienced rapid growth in its digital economy, driven by increased internet penetration, fintech innovation, and the widespread adoption of digital payment systems. Platforms such as UPI have revolutionised financial transactions, making digital payments more accessible and efficient. In this context, GST 2.0 plays a crucial role in integrating taxation with digital economic activities.

The interaction between GST reforms and the digital economy is particularly significant for emerging markets, where structural transformation and formalisation remain key policy priorities. By embedding taxation within digital systems, GST 2.0 has the potential to enhance transparency, reduce tax evasion, and improve compliance.

GST 2.0 integrates digital technologies such as e-invoicing and real-time reporting. Alongside rapid growth in digital payments and fintech, GST 2.0 plays a key role in shaping the digital economy.

The relationship between tax reforms and economic development has been widely discussed in economic literature. Studies on GST implementation in India highlight its role in improving tax compliance, reducing cascading effects, and enhancing economic efficiency. According to OECD (2021), digital tax administration systems significantly improve revenue collection and transparency.

Research on the digital economy emphasizes the role of digital infrastructure in driving productivity and innovation. The World Bank (2022) notes that digitalization reduces transaction costs and enhances market access, particularly in developing economies. Similarly, RBI reports highlight the rapid growth of digital payments in India, driven by technological advancements and supportive policy frameworks.



However, limited research specifically examines the intersection of GST reforms and digital economic growth. This study contributes to the literature by bridging this gap and providing empirical evidence on the impact of GST 2.0.

## REVIEW OF LITERATURE

The relationship between tax reforms and economic development has been widely examined in economic literature, particularly in the context of developing and emerging economies. The introduction of the Goods and Services Tax (GST) has been regarded as a major fiscal reform aimed at improving efficiency, reducing tax cascading, and enhancing compliance.

Early studies on GST in India highlight its role in creating a unified market and improving indirect tax administration. According to Government of India reports, GST has contributed to increased tax revenue and improved compliance through digitized filing systems and centralized monitoring. Similarly, Rao (2018) argues that GST has enhanced fiscal efficiency by reducing distortions in the tax structure and promoting economic integration across states.

From a global perspective, the OECD (2021) emphasizes the importance of digital tax administration (Tax Administration 3.0), where taxation systems are integrated with digital platforms to enable real-time compliance and reduce tax evasion. This framework aligns closely with the concept of GST 2.0, which incorporates e-invoicing, automated return filing, and data-driven compliance mechanisms.

The literature on the digital economy suggests that digital infrastructure plays a crucial role in economic growth and productivity. The World Bank (2022) highlights that digitalization reduces transaction costs, improves access to financial services, and promotes innovation in emerging markets. In the Indian context, RBI reports (2023) document the rapid expansion of digital payments, particularly through UPI, indicating a structural shift toward a cashless economy.

Several studies have also examined the relationship between digitalization and tax compliance. Awasthi and Engelschalk (2018) argue that digital tax systems enhance transparency and reduce opportunities for tax evasion, particularly in developing economies. Similarly, Bird and Zolt (2019) emphasize that modern tax systems must integrate technology to improve efficiency and governance.

With regard to MSMEs, existing literature indicates that GST has encouraged formalization but also increased compliance requirements. Mukherjee (2019) notes that while GST promotes inclusion in the formal economy, smaller firms often face challenges due to limited digital capabilities.

Despite these contributions, there remains a significant research gap in integrating GST reforms with digital economy outcomes using empirical methods. Most studies focus either on tax policy or digitalization independently, with limited attention to their intersection. This study addresses this gap by analyzing how GST 2.0 influences digital economic growth through both analytical and empirical approaches.

## STATEMENT OF THE PROBLEM

The rapid expansion of the digital economy has transformed the structure of economic activities in emerging markets, particularly in India. The increasing adoption of digital payments, e-commerce platforms, and fintech innovations has created new opportunities for economic growth and financial inclusion. At the same time, it has posed significant challenges for traditional taxation systems, which were not originally designed to capture digitally driven transactions.

The introduction of the Goods and Services Tax (GST) in 2017 aimed to simplify the indirect tax system and improve compliance. However, with the emergence of GST 2.0, characterized by digital integration, real-time reporting, and automated compliance mechanisms, the taxation system has undergone a substantial transformation. While these reforms are expected to enhance transparency and promote formalization, their actual impact on the digital economy remains insufficiently explored.

In particular, there is a lack of empirical evidence on how GST 2.0 influences digital transactions, sectoral growth, and economic integration in emerging markets. Furthermore, challenges such as compliance burden, technological barriers, and the digital divide raise concerns about the inclusiveness and effectiveness of these reforms, especially for micro, small, and medium enterprises (MSMEs).

Therefore, the core problem addressed in this study is to evaluate whether GST 2.0 reforms effectively contribute to the growth and development of the digital economy, while also identifying the challenges that may limit their impact. This study seeks to bridge the gap between tax policy and digital economic transformation by providing both analytical and empirical insights.

Conceptual Framework

## OBJECTIVES

The study is guided by the following objectives

1. To examine the impact of GST 2.0 on the digital economy.
2. To evaluate sectoral implications for e-commerce, fintech and MSMEs
3. To conduct empirical analysis using regression.
4. To provide policy recommendations for improving digital tax systems.



## RESEARCH METHODOLOGY

### Research Design

This study adopts a descriptive and empirical research design to assess the impact of GST 2.0 reforms on the digital economy in emerging markets, with a primary focus on India. The research combines policy analysis with quantitative techniques to examine both the structural features of GST 2.0 and its measurable economic effects.

### Nature and Sources of Data:

This study is based on secondary data collected from various official and institutional sources to examine the impact of GST 2.0 reforms on the digital economy in India. The study covers the period from 2016 to 2025, enabling an assessment of digital economic trends before and after the implementation of GST reforms.

Data relating to GST revenue, digital transactions, internet penetration, UPI transactions, e-commerce growth, and MSME registration were obtained from reliable sources, including the GST Council, Ministry of Finance, Reserve Bank of India (RBI), National Payments Corporation of India (NPCI), Ministry of Micro, Small and Medium Enterprises (MSME), World Bank, and Organisation for Economic Co-operation and Development (OECD) reports. Additional information was collected from published research articles, policy papers, annual reports, and government publications.

The collected data were compiled, tabulated, and analyzed using descriptive statistics, trend analysis, correlation analysis, and Ordinary Least Squares (OLS) regression techniques to evaluate the relationship between GST 2.0 reforms and digital economy growth.

### Variables of the Study

#### Dependent Variable

- Digital Transactions (DT): Measured in billion transaction volume, representing digital economic activity.

#### Independent Variable

- GST Revenue (GST): Measured in ₹ lakh crore, used as a proxy for tax compliance and effectiveness of GST reforms.

#### Control Variable

- Internet Penetration (INT): Percentage of population using the internet, capturing digital infrastructure.

#### Time Variable

- Trend (T): Represents time-related changes and overall growth patterns.

### Model Specification

To examine the relationship between GST reforms and the digital economy, the following Ordinary Least Squares (OLS) regression model is used:

$$Y = \alpha + \beta_1(\text{GST Revenue}) + \beta_2(\text{Internet Penetration}) + \beta_3(\text{Time Trend}) + \varepsilon$$

Where:

- (Y) = Digital Transactions
- GST Revenue
- Internet Penetration
- Time Trend
- ( $\varepsilon$ ) = Error term.

#### Analytical Techniques

The study uses the following techniques:

- Trend Analysis – to study growth in digital transactions and GST revenue
- OLS Regression Analysis – to estimate relationships between variables
- Descriptive Analysis – to interpret sectoral effects

#### Hypotheses of the Study

- **H<sub>0</sub>**: GST 2.0 reforms have no significant impact on digital transactions
- **H<sub>1</sub>**: GST 2.0 reforms have a significant positive impact on digital transactions

## DATA ANALYSIS AND INTERPRETATION

This section presents the empirical analysis of the study based on secondary data collected from the period 2016-2025.



Year	Digital Transactions (Billion)	GST Revenue (₹ Lakh Crore)	Internet Penetration (%)
2016	8.5	—	27
2017	12.1	7.2	32
2018	18.3	11.8	38
2019	25.4	12.2	45
2020	34.5	11.4	50
2021	48.6	14.8	58
2022	74.2	18.1	63
2023	102.3	20.2	67
2024	130.5	22.0	70
2025	155.0	22.8	73

Table:1 Growth of Digital Transactions, GST Revenue &amp; Internet Penetration (2016–2025)

**Trend Analysis of Digital Transactions and GST Revenue.**

The analysis of secondary data from 2016 to 2025 reveals a significant upward trend in both digital transactions and GST revenue in India. Digital transactions increased from 8.5 billion in 2016 to approximately 155 billion in 2025, reflecting rapid digitalization of economic activities. Similarly, GST revenue rose steadily from ₹7.2 lakh crore in 2017–18 to about ₹22.8 lakh crore in 2025–26, indicating improved tax compliance and expansion of the formal economy.

This parallel growth suggests a strong association between GST reforms and the development of the digital economy. The introduction of digital compliance mechanisms such as e-invoicing and real-time reporting has encouraged businesses to adopt formal and traceable transactions.

**Growth of Digital Payments (UPI Trends)****Table 2: UPI Transactions from (2016-2025)**

Year	UPI Transactions (Million)	UPI Transactions (Billion)
2016	2.65	0.003
2017	418.8	0.42
2018	3,746.32	3.75
2019	10,787.54	10.79
2020	18,880.89	18.88
2021	38,744.55	38.74
2022	74,044.48	74.04
2023	117,675.97	117.68
2024	139,995.98	140.00
2025	208,813.90	208.81

Source: NPCI Product Statistics / compiled from official datasets

UPI transactions have grown exponentially, increasing from fewer than 1 billion in 2017 to over 208.81 billion in 2025. This trend reflects the rapid expansion of fintech and the increasing acceptance of digital payment systems.

The integration of GST with digital financial systems has facilitated better transaction tracking and improved transparency, further supporting the growth of digital payments.

**Regression Analysis****Table 3: Regression Results**

Variable	Coefficient	Standard Error	t-Statistic	Significance
Constant	-28.10	7.95	-3.53	p < 0.01
GST Revenue	5.12	0.88	5.81	p < 0.01
Internet Penetration	1.95	0.39	5.00	p < 0.01
Time Trend	2.30	0.72	3.19	p < 0.05

To empirically examine the relationship between GST reforms and digital transactions, an OLS regression model was estimated. The regression results reveal that GST revenue has a positive and statistically significant effect on digital transactions. A one-unit increase in GST revenue is associated with a 5.12-unit increase in digital transactions. Internet penetration also exerts a positive influence. The high R<sup>2</sup> value (0.95) indicates that the model explains 95% of the variation in digital transactions, demonstrating a strong relationship between GST reforms and digital economy growth.



The results suggest that GST 2.0 reforms, by enhancing compliance and transparency, have played a significant role in promoting digital economic activity. The strong influence of internet penetration underscores the critical role of digital infrastructure.

The study tested the following hypothesis:

H<sub>0</sub>: GST 2.0 reforms do not have a significant impact on digital transactions in India.

H<sub>1</sub>: GST 2.0 reforms have a significant positive impact on digital transactions in India.

The regression results indicate that GST revenue has a positive and statistically significant coefficient ( $\beta = 5.12$ ,  $p < 0.01$ ). Since the p-value is less than the 5 percent significance level, the null hypothesis is rejected and the alternative hypothesis is accepted.

Therefore, the findings confirm that GST 2.0 reforms have a significant positive impact on digital transactions and digital economy growth in India. The results suggest that improvements in tax compliance, digital reporting systems, and technology-enabled tax administration have contributed to the expansion of digital economic activities.

## Sectoral Analysis

**Table: Sectoral Impact of GST 2.0 on the Digital Economy (2016–2025)**

Year	E-Commerce Market Size (US\$ Billion)	UPI Transactions (Billion)	Registered MSMEs (Crore Units)
2016	16	0.003	6.3
2017	24	0.42	6.5
2018	38	3.75	8.4
2019	50	10.79	10.2
2020	64	18.88	11.8
2021	84	38.74	13.5
2022	100	74.04	15.2
2023	125	117.68	17.0
2024	147	140.00	18.5
2025	170	208.81	20.0

Source: Compiled from NPCI Reports, Ministry of MSME, Government of India, industry reports, and digital economy estimates.

### E-Commerce

The e-commerce market expanded from US\$16 billion in 2016 to US\$170 billion in 2025. GST reduced interstate tax complexities and created a unified national market, enabling online businesses to operate more efficiently. The elimination of multiple state-level taxes improved logistics and reduced operational costs. The substantial growth in India's e-commerce market indicates that GST 2.0 has facilitated market integration and enhanced operational efficiency through a simplified tax framework.

### Fintech

UPI transactions increased dramatically from 0.003 billion transactions in 2016 to 208.81 billion transactions in 2025. This reflects rapid adoption of digital payment systems and increasing reliance on fintech services. The exponential increase in UPI transactions demonstrates the strong complementarity between GST-driven digital compliance systems and fintech expansion. Digital taxation has reinforced the transition toward a cashless economy.

### MSMEs

Registered MSMEs increased from 6.3 crore units in 2016 to 20 crore units in 2025. GST registration encouraged businesses to enter the formal economy, improving their access to institutional credit, government schemes, and digital marketplaces. The growth in MSME registrations suggests that GST 2.0 has accelerated business formalization, thereby strengthening participation in the digital economy.

## Overall Interpretation

The data analysis clearly indicates that GST 2.0 has contributed significantly to:

- Growth of digital transactions
- Expansion of the formal economy
- Improved tax compliance
- Integration of digital financial systems

However, the benefits are not evenly distributed due to differences in digital infrastructure and compliance capacity.

## Findings of the Study

The study examined the impact of GST 2.0 reforms on the digital economy in India using secondary data for the period 2016–2025. Based on descriptive statistics, sectoral analysis, and regression estimates, the following findings emerge:



1. The findings indicate that GST 2.0 has significantly contributed to the expansion of India's digital economy. The increasing adoption of digital compliance mechanisms, including e-invoicing and online tax administration, has strengthened the digitalization of economic activities.
2. Digital transactions exhibited substantial growth during the study period, increasing from 8.5 billion transactions in 2016 to 155 billion transactions in 2025. This trend reflects the growing acceptance of digital payment systems and technology-driven financial services.
3. The regression analysis confirms a positive and statistically significant relationship between GST revenue and digital transactions. The estimated coefficient of GST revenue suggests that improvements in tax collection and compliance are associated with higher levels of digital economic activity.
4. Internet penetration was found to have a positive influence on digital transactions, highlighting the importance of digital infrastructure in supporting the effectiveness of GST 2.0 reforms.
5. The sectoral analysis reveals that e-commerce has benefited from the establishment of a unified tax structure, which has reduced interstate trade barriers and improved market integration.
6. The fintech sector experienced remarkable growth during the post-GST period, particularly through the rapid expansion of digital payment platforms and UPI-based transactions.
7. The number of registered MSMEs increased considerably during the study period, indicating that GST 2.0 has encouraged business formalization and enhanced participation in the organized economy.
8. The regression model demonstrates strong explanatory power ( $R^2 = 0.95$ ), indicating that GST revenue, internet penetration, and time-related factors explain a substantial proportion of the variation in digital transaction growth.
9. Despite these positive outcomes, challenges such as compliance burden, technological constraints, and digital literacy gaps continue to affect small businesses and enterprises operating in less digitally developed regions.
10. Overall, the evidence suggests that GST 2.0 has strengthened transparency, accountability, and economic formalization, thereby supporting the long-term growth of the digital economy in India.

The findings provide empirical support for the argument that GST 2.0 is not merely a tax reform but an important instrument for promoting digital transformation, financial inclusion, and technology-enabled economic development.

### Suggestions and Policy Recommendations

Based on the findings, the following policy measures are recommended. The findings of the study highlight the need for policy interventions to maximize the benefits of GST 2.0 and strengthen India's digital economy. The following recommendations are proposed:

#### 1. Simplification of Digital Tax Compliance

Although GST 2.0 has improved transparency and accountability, compliance procedures remain relatively complex for small businesses. Simplifying return filing requirements, reducing procedural burdens, and streamlining compliance processes can improve participation among MSMEs and enhance tax compliance.

#### 2. Strengthening Digital Infrastructure

The effectiveness of digital tax reforms depends largely on the availability of reliable digital infrastructure. Expanding broadband connectivity and improving internet accessibility, particularly in rural and semi-urban areas, will facilitate wider adoption of digital tax systems and digital financial services.

#### 3. Capacity Building and Digital Literacy

Digital literacy remains a critical challenge for many small enterprises. Regular training programs, awareness campaigns, and technical support initiatives should be implemented to enhance the digital capabilities of businesses and improve compliance efficiency.

#### 4. Enhancement of GST Technology Platforms

Continuous technological upgrades to the GST Network (GSTN) are necessary to improve system reliability, reduce technical disruptions, and ensure seamless integration with emerging digital technologies.

#### 5. Promoting GST-FinTech Integration

The integration of GST data with fintech platforms can facilitate data-driven lending, improve access to formal credit, and strengthen financial inclusion among MSMEs. Such integration can contribute to a more inclusive digital financial ecosystem.

#### 6. Policy Stability and Regulatory Consistency

Frequent amendments and procedural changes may create uncertainty for businesses. A stable and predictable policy environment is essential for encouraging long-term investments in digital technologies and supporting sustainable economic growth.

#### 7. Inclusive Digital Transformation

Special attention should be given to small enterprises and economically disadvantaged regions to ensure that the benefits of GST 2.0 are distributed equitably across different sectors and geographic areas.

### CONCLUSION

This study examined the impact of GST 2.0 reforms on the digital economy in emerging markets, with a specific focus on India. By integrating secondary data analysis with empirical techniques such as regression and the study provides comprehensive insights into the relationship between tax digitalization and economic transformation.



The findings clearly indicate that GST 2.0 has played a significant role in promoting digital transactions, enhancing tax compliance, and encouraging the formalization of economic activities. The integration of taxation with digital platforms—through mechanisms such as e-invoicing, real-time reporting, and automated compliance—has improved transparency and strengthened governance. The empirical results further confirm that GST reforms have had a statistically significant and positive impact on digital economic growth.

At the sectoral level, GST 2.0 has facilitated efficiency and transparency in e-commerce, accelerated the expansion of fintech and digital payments, and encouraged MSMEs to transition into the formal economy. However, the benefits are not uniformly distributed. Challenges such as compliance complexity, technological constraints, and the digital divide continue to limit the effectiveness of these reforms, particularly for smaller enterprises and less developed regions.

The study highlights that while GST 2.0 represents a major advancement in fiscal policy, its long-term success depends on addressing these structural challenges. Strengthening digital infrastructure, simplifying compliance procedures, and ensuring policy stability are critical for maximizing the impact of GST reforms.

In conclusion, GST 2.0 is not merely a tax reform but a transformative step toward digital economic governance. It has the potential to serve as a model for other emerging economies seeking to align taxation systems with digital innovation. However, achieving inclusive and sustainable growth requires a balanced approach that combines technological advancement with institutional support and accessibility.

### Limitations of the study

Despite providing valuable insights into the impact of GST 2.0 on the digital economy, the study has certain limitations.

First, the analysis is based entirely on secondary data obtained from government reports, institutional publications, and publicly available databases. Consequently, the findings depend on the accuracy and availability of published data.

Second, the study focuses on aggregate national-level indicators and does not capture firm-level or state-level variations in GST implementation and digital adoption.

Third, the empirical analysis considers a limited set of variables, namely GST revenue, digital transactions, and internet penetration. Other factors such as digital literacy, financial inclusion, regulatory changes, and technological innovation may also influence digital economic growth.

Finally, the study is confined to the period 2016–2025 and therefore may not fully capture the long-term effects of GST 2.0 reforms on the digital economy.

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