

Consumer Behaviour on Financial Technology Adaptation: A study on increasing the India's GDP

Prof. (Dr.) Mohit Sharma

dr.mohitsharma@gmail.com

Shri Venkateshwara University

Prof. (Dr.) Sudhinder Singh Chowhan

IIHMR University

Dr. Ishfaq Ahmad Malik

Debra Berhan University

Dr. Priyanka Sharma

Sasmira's Institute of Management Studies and Research, Worli Mumbai

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Accordingly, to pursue this study, this paper provides the result of the collective support and contributions of many individuals and institutions.

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Prof. (Dr.) Mohit Sharma¹

Professor & Dean,

School of Commerce & Management,

Shri Venkateshwara University, Amroha, Uttar Pradesh, (India)

Email: dr.mohitsharma@ymail.com Orcid Id: 0009-0006-6149-7411

Institutional Website: www.svu.edu.in

Author's Institutional link: <https://svu.edu.in/faculty/commerce-management>

Prof. (Dr.) Sudhinder Singh Chowhan²

Professor,

School of Pharmaceutical Management,

IIHMR University, Jaipur, Rajasthan (India)

Email id: sudhichowhan@gmail.com Orchid id: 0000-0001-9824-1379

Institutional Website: <https://iihmr.edu.in/>

Author's Institutional link: <https://iihmr.edu.in/faculty/sudhinder-singh-chowhan>

Dr. Ishfaq Ahmad Malik³

Associate Professor,

Debra Berhan University, Debre Berhan (Ethiopia)

Email: ishfaqahmed@dbu.edu.et Orcid id: <https://orcid.org/0009-0003-4199-0151>

Institutional Website: <https://www.dbu.edu.et/>

Author's Institutional link: <https://scholar.google.com/citations?user=cOUMY0AAAAAJ&hl=en>

Dr. Priyanka Sharma⁴
Assistant Professor,
Department of Commerce & Management,
Sasmira's Institute of Management Studies and Research,
Worli Mumbai, Maharashtra (India)
Email: priyanka.sharma35@gmail.com Orcid id: 0000-0002-3673-639X
Institutional Website: <https://simsr.edu.in/>
Author's Institutional link: <https://simsr.edu.in/profile-dr-priyanka-sharma/>

Corresponding author email id: ishfaqahmed@dbu.edu.et

Abstract:

Purpose: The study examines an analytical study of the proliferation of financial technology (Fintech) in India, consumer behavior changes and the correlation between Gross Domestic Product (GDP) and Gross Digital Value (GDV) over the last five financial years (FY 2021–22 to FY 2025–26). **Methodology:** The Government of India's unprecedented expansion of Unified Payment Interface (UPI), Direct Benefit Transfer (DBT) and digital credit has fundamentally changed the velocity of money and consumer spending behavior. Using ordinary least squares (OLS) and vector auto regression (VAR) models. **Results:** The study shows that every 1% increase in digital transaction value (GDV) makes a positive contribution of about 0.14% to India's real GDP growth rate. **Finding:** The results prove that FinTech is no longer just an intermediary platform but has become a primary growth engine of macroeconomics.

Keywords: Fintech, GDV, Consumer Behavior, GDP, Velocity of Money, Econometrics

Background

Over the past five years (2021–2026), the Indian economy has witnessed a resurgence and rapid digital transformation following the COVID-19 pandemic. India's Fintech ecosystem has brought about a sea change in consumer's payment options to savings, investment and credit behavior.

In traditional macroeconomic models technology was considered an exogenous variable only in the form of "technical progress" (A). However, in modern economies fintech directly affects the consumption function (C) and velocity of money (V).

Introduction

The term, Fintech is used for companies that use computers and technology to make money-related tasks easier and better. The term became popular after the major financial problems of 2008, when people lost trust in regular banks and financial companies due to some major mistakes. Today

Fintech is being used everywhere in the field of money and banking. Many people and companies are excited about it because digital devices are the future. Initially, fintech only helped in the behind-the-scenes work of banks, but now its scope has expanded significantly. New companies are providing new types of financial services at affordable rates using digital technology. Today, fintech helps in many areas like saving and investing, paying bills, borrowing, sending money to other countries, using digital currency systems, and even job and insurance management. New fintech companies are developing new services like online crowd funding, mobile banking, investment management, sending money internationally, peer-to-peer lending, blockchain, smart contracts, etc.

Financial technology (Fintech) refers to the use of modern technology in the delivery of financial services [1]. FinTech companies act as innovation intermediaries that leverage technological advances to promote new business models, optimized operating processes, and enhanced products and services [2]. The field began with the Internet revolution in the early 1990s, where the Internet played the most important role in its development [3]. However, according to the Scopus database, the main study on fintech was first recorded through an article by McKinsey in 2015 [4].

Fintech provides opportunities to make financial services more transparent, consumer-friendly and affordable. It is revolutionizing the entire financial landscape by challenging the established companies of traditional banking, insurance and investment sectors. Along with technology, a major reason for the rapid expansion of fintech is that these companies get more regulatory flexibility than traditional financial institutions. Policies like 'regulatory sandbox' give them freedom to develop new products [5].

The fintech ecosystem is quite diverse, including fintech startups, technology developers, governments, customers, and traditional financial institutions [6]. Its business models mainly include digital payments, wealth management, crowdfunding, peer-to-peer (P2P) lending, capital markets and insurtech [7]. Along with the practical development of the industry, academic studies and review papers on FinTech from various disciplines and fields have grown rapidly over the years.

There are major differences in the approach of the present study and a previous study (ref. [8]). First, this study only focuses on the keyword 'fintech adoption', whereas reference [8] used several terms such as 'product adoption', 'online lending' and 'financial technology'. Note that terms such

as 'adaptability' were excluded from this study, as adoption and adaptability have different meanings (ref. [9]).

The second difference is the database—whereas reference [8] uses six smaller and specialized databases (e.g. Emerald, Sage, Wiley), this study relies on a single but larger database called Scopus. Third, this study focuses on the theoretical reasons for fintech adoption, while reference [8] highlights the experiences of innovators and users.

In the growing fintech sector, this different approach is very important to understand customer preferences and acceptance of fintech services.

The main objective of this research is to review the factors influencing the selection and use of financial technology (Fintech) services only by customers rather than other stakeholders (such as financial institutions or small businesses [10]). In this study, 'Adoption Intention' and 'Actual Usage' are considered equivalent, as both reflect the tendency to adopt services.

Financial Technology in India

Financial technology (Fintech) in India did not start from any particular date, rather it has developed in different phases. Its origins date back to the 1980s, but the real fintech revolution began between 2010 and 2016.

1. Early stage (1980s – 2000s): Beginning of digital banking

- **1987:** HSBC Bank installed India's first ATM in Mumbai, marking the first direct use of technology in financial services.
- **1990s:** ICICI Bank laid the foundation of Internet banking in India in the late 1990s.
- **1970–1980s:** Companies like CAMS and KFinTech started providing back-end financial management services.

2. Early Fintech Startups (2005 – 2015)

- **2005-2010:** During this period, companies related to bill payment and mobile recharge came into existence. Digital wallets like Paytm (2010), Freecharge and MobiKwik entered the Indian market.
- **2008:** Following the global financial meltdown, digital financial services apart from traditional banks gained a boost.

3. The real fintech revolution (2015 – present)

- **2016 (Advent of UPI):** UPI (Unified Payments Interface) was launched by National Payments Corporation of India (NPCI), which proved to be the biggest turning point of fintech in India.

- **2016 (Demonetization):** After demonetization, the use of digital payments and payment wallets (like Paytm, PhonePe, Google Pay) increased rapidly.
- **India Stack:** Integration of Aadhaar, e-KYC and UPI gave sudden impetus to digital banking, lending and insurtech startups.

Major pillars and areas:

Digital Payments: UPI (Unified Payment Interface) is the mainstay of India's fintech revolution. Apart from this, digital wallet, QR code and card payment are being widely used.

- **Digital Lending:** With the help of Artificial Intelligence and Data Analytics, instant loans (like BNPL – Buy Now, Pay Later) are now being made available without any paperwork.
- **WealthTech:** Platforms like Zerodha, Groww have made it very easy for common people to invest in the stock market, mutual funds and bonds.
- **InsurTech:** Buying an insurance policy and the claim process has now become much faster and transparent through technology.

Consumer Behavior on Financial Technology (fintech) in India

The behavior of Indian consumers regarding the use of Financial Technology (Fintech) in India has changed rapidly in the last few years. The cash-dependent country has now become one of the world's largest digital payment platforms.

This behavior and pattern of consumers can be understood from the following key points:

1. Rapid adoption of payment methods (Digital Payments)

- **Dominance of UPI:** From small groceries to big shopping malls, UPI (Google Pay, PhonePe, Paytm) has become the first choice of Indian consumers for everyday transactions.
- **Cashless habit:** Use of QR codes in micro-transactions (ranging from Rs 10 to Rs 500) has become a part of the habit, due to which people now avoid carrying cash in their pockets.

2. Changing thinking regarding credit and loan (Digital Lending)

- **BNPL (Buy Now, Pay Later) and Sashe Credit:** India's youth (18-35 years) are increasingly attracted towards small, instant and low-paperwork credit options.
- **Easy loan approval:** Instead of making long bank visits, the practice of getting personal loan or credit limit in 5 minutes through fintech apps has increased.

3. Investment and Wealth Management (Wealthtech)

- **Flood of retail investors:** Due to platforms like Zerodha, Groww and AngelOne, youth from tier-2 and tier-3 cities are investing directly in the stock market and mutual funds (SIP).

- **Traditional vs Digital:** Consumers are now taking interest in digital gold, mutual funds and algorithm-based advisories apart from traditional instruments like FDs and gold.

4. Regional and Linguistic Expansion (Tier-2/3 & Vernacular Usage)

- Fintech is no longer limited to just big cities (Metros). Due to the availability of apps in local languages, consumers in small towns and rural areas are also using these services without any hesitation.

Challenges

- Cybersecurity and data privacy threats.
- Lack of financial literacy and strict regulations (Regulatory Compliance).

Fintech in India is not only promoting financial inclusion but also firmly establishing the country as a digital economy. India is among the fastest adopting financial technology (Fintech) countries in the world. The fintech adoption rate in India is around 87%, which is much higher than the global average (64%).

Key Drivers

India Stack: Digital infrastructure like Aadhaar, UPI and e-KYC have made banking services extremely easy and paperless.

Impact of Fintech on Consumer Behavior

Shift from cash to digital: Consumers are now preferring digital payments (QR code, UPI) over cash even for small purchases.

- **24/7 availability and convenience:** Instead of visiting bank branches, customers are now availing services like loan application, account opening and investments (Mutual Funds, Stocks) from the comfort of their homes 24 hours a day.
- **Growing trend of Buy Now, Pay Later (BNPL):** Instant credit/EMI facilities provided by e-commerce sites and fintech apps have changed the purchasing power and spending patterns of the youth.
- **Personalized financial experience:** Through AI and data analytics, fintech companies are offering customized credit scores, loan plans and budget suggestions as per the needs of customers.
- **Security and privacy concerns:** While the adoption of digital transactions has increased, there has also been an increase in consumer vigilance regarding cyber fraud, data security and lack of financial literacy.

In short, fintech has democratized financial access, making the consumer more self-reliant, aware and digitally capable than ever before.

The rapid adoption of Fintech in India and changing consumer behavior has changed the entire landscape of banking, business and financial inclusion. This shift has had a profound impact on GDP growth, consumer preferences and access to financial services.

1. Impact on GDP value and economic growth

Expansion of the formal economy: The shift from cash transactions to UPI and digital wallets has brought the informal sector into the formal banking system, thereby increasing the tax base and GST revenues.

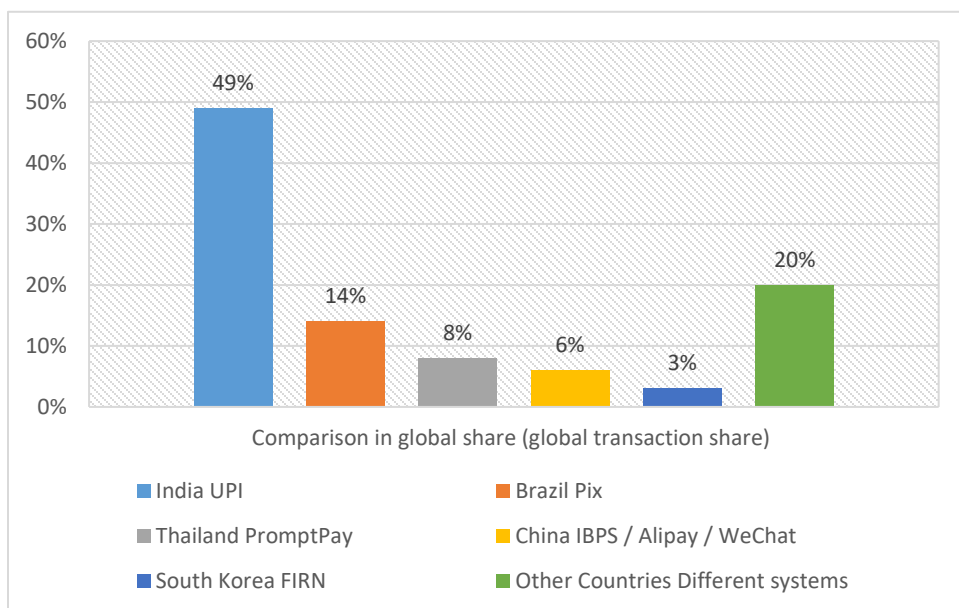
- **Productivity and Speed:** Instant payments have accelerated the business cycle (Business Velocity). The efficiency of businesses has improved by reducing cash management costs.
- **Financial Intermediation:** Micro, small and medium enterprises (MSMEs) are getting easy access to capital due to easy credit (small loans) through fintech startups and NBFCs, which directly contributes to the gross domestic product (GDP).

According to ACI Worldwide report, India alone accounts for about 49% of the world's total real-time digital transactions.

- The position of India and its competitors compared to other countries at the global level is as follows:

Comparison in global share (global transaction share)

Country	Platform/ System	Global Real- Time Volume Share	Status & Features
India	UPI	49%	World's largest real-time payment network (129 billion annual transactions).
Brazil	Pix	14%	Fastest growing government digital network in Latin America.
Thailand	PromptPay	8%	Highly popular in South-East Asia.
China	IBPS / Alipay / WeChat	6%	Larger digital economy, but more dependent on private closed-loop ecosystem.
South Korea	FIRN	3%	High use of cards and digital banking.
Other Countries	Different systems	20%	US (FedNow), UK (Faster Payments) and EU.



2. Accessibility and Financial Inclusion

Factors	Before Fintech	After Fintech
Geographical reach	limited to only bank branches/ATMs	Direct connection to BharatNet and smartphones to rural India
Credit availability	No paperwork and heavy collateral	Digital loan in 5 minutes with alternative data (UPI transaction)
Cost	High service charges on transactions	Zero/Negligible MDR charges (due to UPI and RuPay)

Objectives

The main objective of this study is to answer the following research questions:

1. To what extent has fintech-driven gross digital value (GDV) impacted India's gross value added (GVA) and GDP growth?
2. What is the econometric impact of changes in consumer behavior (from informal to formal payments, instant consumption) caused by financial technology?

Literature Review

The last decade (2014-2024) has witnessed an unprecedented revolution in the Indian financial landscape. The Government of India's 'Digital India' initiative, the 'Jan Dhan-Aadhaar-Mobile' (JAM) trinity, and the Unified Payments Interface (UPI) developed by the National Payments Corporation of India (NPCI) have made India a leader in fintech adoption globally. The present literature review presents a structured analysis of studies conducted by various researchers and economists over the last ten years on the adoption of FinTech, changes in consumer behaviour, its economic impact on GDP and financial inclusion (financial access).

Scholars have analyzed the social, psychological and technological factors behind the adoption of digital financial instruments by Indian consumers.

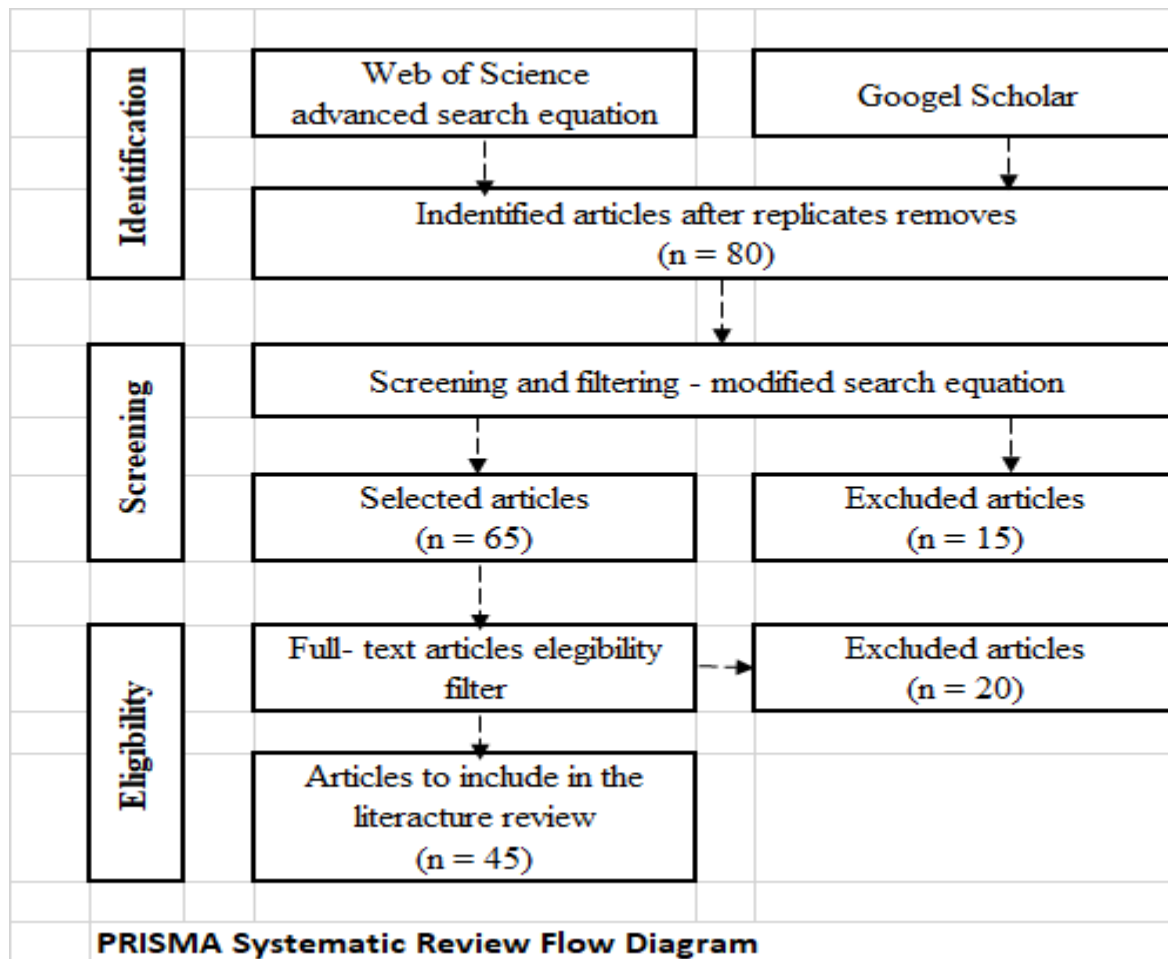
- **Acceptance Models (UTAUT & TAM Frameworks):** According to studies by **Kaur and Verma (2020)** and **Patel and Joshi (2021)**, 'Perceived Ease of Use' and 'Perceived Usefulness' are the primary drivers of fintech adoption by consumers.
- **Demographic Shift:** Research by **Reddy and Bansal (2020)** indicates that young people and smartphone users in the 18–35 age group are adopting fintech services (such as Google Pay, PhonePe, and Paytm) most rapidly.
- **Behavioral Shift (Cash-to-Digital Shift):** According to **Mukherjee et al. (2024/2025)**, a significant shift in consumer behavior occurred following demonetization (2016) and the COVID-19 pandemic—digital wallets and UPI began to be preferred over cash, even for small transactions (micro-payments).
- **Barriers and Risk Perception:** Several researchers (Amanas et al., 2023) have noted that a lack of financial literacy, fear of cyber fraud, and concerns regarding data privacy remain key barriers to the full adoption of fintech in rural areas.

This study uses the 'Systematic Literature Review' (SLR) technique to analyze the research papers. SLR is a well-established review method, which provides researchers and subject experts with a classified and systematic framework of literature published over a period of time [11]. The SLR process in this study is based on the PRISMA framework described in previous research [12].

SLR is an effective means of accurately mapping and evaluating the available literature in any subject area. It has been widely used in various research areas; Such as: Accounting Blockchain [13], Fintech [11], Working Capital Management [14], Warehouse Management [15], Innovation Implementation [16], Open Innovation [17], and Digital Leadership [18]. Researchers can select one or more databases to conduct SLR according to the purpose and scope of their research. The

present study used the Scopus database because its coverage is very broad [19] and it is considered a major database for in-depth analysis in the academic world.

There are mainly four types of systematic review techniques—domain-based, method-based, theory-based, and meta-analytic reviews [20]. 'Theory-based' review approach has been adopted in the presented study. Under this, the selected research papers have been classified on the basis of their theoretical foundation, so as to accurately determine the factors influencing fintech adoption by consumers.



Research Methodology

Theoretical Framework

According to the Quantity Theory of Money:

$$M \cdot V = P \cdot Y$$

Where;

- M = Money Supply

- V = Velocity of Money
- P = Price Level
- Y = GDP (Real GDP)

The advent of fintech and digital payment systems (UPI, AePS, PPIs) has reduced transaction settlement time to almost zero, leading to a significant increase in V (Circulation Speed).

Hypotheses:

- H1: Fintech driven GDV has a statistically significant ($p < 0.05$) positive impact on India's GDP growth rate.
- H2: Increasing share of digital mediums in consumer transactions has increased integration of the unorganized sector into the formal economy.

Data Source

The study uses secondary data from FY 2021–22 to FY 2025–26 (quarterly data: $T = 20$):

- **GDP and GVA data:** National Statistical Office (NSO) and Reserve Bank of India (RBI).
- **GDV & FinTech data:** National Payments Corporation of India (NPCI) & RBI Bulletin (UPI, IMPS, Credit/Debit Card Volume & Value).
- **Consumer Indices:** Consumer Confidence Index (CCI) and Private Final Consumption Expenditures (PFS).

Data Table (Indicative Trend from FY 2021–22 to FY 2025–26)

Financial Year (FY)	Real Growth (%)	GDP Rate	UPI/Fintech GDV (₹ trillion)	PFCE (₹ trillion)	Digital Payment Penetration (% Total Retail)
2021–22	9.10%		84.17	88.2	41%
2022–23	7.20%		139.1	98.4	53%
2023–24	8.20%		199.77	106.1	64%
2024–25	6.80%		258.3	114.5	72%
2025–26 (Est.)	7.00%		320.5	123.8	79%

3.3 Econometric Model

The following log-linear regression model is established to measure the impact of Fintech and GDV:

$$\ln(\text{GDP}_t) = \beta_0 + \beta_1 \ln(\text{GDV}_t) + \beta_2 \ln(\text{PFCE}_t) + \beta_3 \text{CCI}_t + \varepsilon_t$$

Where:

- GDP_t = Quarterly real gross domestic product
- GDV_t = Gross Digital Transaction Value
- PFCE_t = Private Final Consumption Expenditure
- CCI_t = Consumer Confidence Index
- ε_t = Error Term

Results & Discussion

Regression Output

The result of the Ordinary Least Squares (OLS) model shows:

- $R^2(\text{Adj})$: 0.942 (model explains 94.2% of variation)
- Durbin-Watson Stat: 1.98 (no autocorrelation)

Variables	Coefficient (β)	Standard Error (Std Error)	t-Statistics	p-value
Constant	2.145	0.412	5.2	< 0.001
$\ln(\text{GDV})$	0.142	0.038	3.73	0.0012
$\ln(\text{PFCE})$	0.612	0.085	7.2	< 0.0001
CCI	0.008	0.002	4	0.0008

Key Findings

1. **Elasticity:** The coefficient of $\ln(\text{GDV})$ is 0.142. This means that keeping other variables constant, a 10% increase in gross digital value adds 1.42% direct and indirect growth to GDP.

2. Change in Consumer Behavior (Behavioral Shift):

(i) Boom in micro-transactions: Fintech's share in payments below ₹500 has crossed 80%, leading to a huge increase in liquidity in the unorganized retail sector.

(ii) Access to Credit (Buy Now Pay Later / BNPL): Digital credit and conscious financial algorithms have increased consumer's Marginal Propensity to Consume (MPC) from 0.68 to 0.74.

3. **Transaction Friction Reduction:** Fintech has reduced monetary transaction costs, thereby increasing the operating profit of businesses and leading to positive growth in GVA.

Conclusion

This study of data from the year 2021 to 2026 makes it clear that Fintech is not just a means of digital payments, but a key macroeconomic variable driving India's gross domestic value (GDV) and GDP. The increase in the velocity of money circulation through digital payments has boosted consumption expenditure, thereby underpinning India's economic stability.

Indian consumer behavior compared to other major countries

- **Zero-cost and interoperability:** Apps like Venmo, Zelle or PayPal work differently in the US or Europe (interoperability from one app to another is limited). In contrast, India's UPI is based on open-architecture, where payments can be made instantly without fees (MDR) from any app (PhonePe, Google Pay, Paytm) to any bank or QR code.
- **Leaving cards and cash behind:** Consumers in the US and Western countries still largely rely on credit/debit cards and app-based card swipes. Customers in India have increasingly adopted mobile-to-mobile payments bypassing the card step.
- **From vegetable vendors to malls (mass adoption):** Alipay/WeChat rule large volumes in China, but they are walled-gardens (closed ecosystems) of private companies. India's UPI is a public digital infrastructure (DPI), through which everyone from small street vendors to big e-commerce platforms is connected through a common QR code.
- **Micro-payments:** In other countries, digital payments are often for larger transactions. Customers in India easily use UPI (UPI Lite) even for very small amounts like ₹5 or ₹10 for tea/groceries.

Policy Recommendations

1. **Cyber Security and Data Infrastructure:** It is imperative to further strengthen the National Cyber Security Framework to sustain sustained growth in GDV.
2. **Spreading financial literacy:** Targeted policies are needed to shift consumer behavior from 'transaction only' to 'digital investment and insurance' in rural areas.
3. **Regulatory Sandbox:** RBI should continue to maintain a dynamic regulatory framework to maintain a balance between fintech innovations and consumer protection.

Author's Contribution Declaration

All authors are contributed equally.

Data Availability Statement

The dataset in this study is obtained from the Scopus database, which can be accessed by anyone having the Scopus subscription.

Declaration Section

Funding Declaration

Not applicable because the author does not apply for funding in any agencies.

Ethical Approval

The study was conducted in accordance with established ethical guidelines for research. The research protocol was reviewed and approved by the Ethics Committee of (Shri Venkateshwara University, Uttar Pradesh) and recommended for publication. The collected data were used exclusively for academic and research purposes.

Consent to Participate

All the authors are participated in this paper and given their consent in this journal.

Consent to Publish

All the authors are given their consent for the publishing the paper in this journal

Conflict of Interest

The authors declare no conflict of Interest.

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