INTERNATIONAL JOURNAL OF ADVANCE RESEARCH, IDEAS AND INNOVATIONS IN TECHNOLOGY
IJARIIT
ISSN: 2454-132X
Impact Factor: 6.078
*(Volume 12, Issue 1 - V12I1-1142)*
Available online at: https://www.ijariit.com

# How Do Upcoming Digital Payment System Innovations Affect Consumer Spending and Saving Behavior, and How Does It Affect Overall Economic Growth?

*Rayhan Taneja*
*mypublishedpaper@gmail.com*
*Shiv Nadar School, Haryana*

**ABSTRACT**

***By introducing tools that change saving behaviors and providing convenience that changes spending, the global transition to digital payment systems causes conflict. According to research, the "pain of paying" is lessened in digital transactions, which increases consumer spending by 40–48% and promotes impulsive purchases. On the other hand, automated digital budgeting tools successfully encourage financial resilience and savings. Macroeconomic research demonstrates that market formalization and GDP growth are positively correlated with digital adoption. According to this paper, new behaviorally-designed savings tools offer a necessary counterbalance to the convenience of payments, which drives consumption, but only if they are backed by robust financial literacy and regulatory oversight. Using case studies such as India's UPI and M-Pesa, this paper examines the relationship between payment convenience and spending, the dual impact of digital budgeting tools on saving, and the macroeconomic effects on growth. Innovations in digital payments will speed up formalities and economic activity, but their ability to serve as a strategic pillar for national development depends on how well they strike a balance between transactional convenience and instruments that encourage responsible consumer savings.***

**Keywords**: *Digital Payment Systems, Consumer Spending Behaviour, Payment Convenience, Digital Budgeting Tools, Cashless Economy.*

## INTRODUCTION

Over the last decade, digital payment systems have transformed how consumers interact with money. Traditional cash transactions are being replaced by mobile wallets, UPI and contactless cards. These systems offer speed, convenience, and greater financial tracking—enhancing daily life for consumers. With 24/7 accessibility, financial transactions have become faster and easier, driving a cultural shift in how money is spent and managed.

Emerging innovations in this space such as biometric authentication, AI-powered personal finance tools, and Central Bank Digital Currencies amongst others are expected to make payment platforms more personalized, inclusive and convenient. These technologies are being developed to simplify transactions, promote financial literacy and provide better inclusivity for under-provided populations.

However, as payments become more convenient and people become more familiar with these technologies, they also influence consumer spending and saving patterns. Easy access to funds can lead to increased spending, sometimes impulsively, potentially lowering savings. At the same time, new digital budgeting tools help users track expenses, analyse habits, and receive personalized recommendations offering a solution to overspending. This makes it critical for consumers and producers to understand how digital payment systems are reshaping both spending and saving behavior.

Looking at it from a macroeconomic view, digital payment innovations contribute significantly to economic growth. By increasing market activity and organizing a highly unorganised sector, they raise tax revenues and improve financial system efficiency and transparency. During crises such as the COVID-19 pandemic, these systems played a key role in providing a platform for continued economic activity.

The aspects mentioned can be summarised into one question: How do upcoming digital payment system innovations affect consumer spending and saving behavior, and how does this impact overall economic growth? This paper will be broken down into three main sections—(1) increased convenience leads to increased spending, (2) digital tools reshaping saving habits, and (3) digital payment systems affecting macroeconomic growth and aims.

## CONVENIENCE IN DIGITAL PAYMENT SYSTEMS AND CONSUMER SPENDING BEHAVIOUR

In recent years, digital payment systems have transformed the way consumers interact with financial transactions, driven by rapid technological advancements, proactive government initiatives, and widespread collaboration among stakeholders. India's digital payment ecosystem provides a great example of this transformation. The total volume of digital payment transactions rose from 2,071 crores in FY 2017–18 to 18,592 crores in FY 2023–24, representing an extraordinary compound annual growth rate (CAGR) of 44%.

This surge reflects growing consumer trust in digital platforms, wider internet penetration into the general population, and the ease of use offered by real-time payment systems. Digital payments have also enabled small businesses, street vendors, and individuals in semi-urban and rural areas to participate more actively in the formal economy. The rapid expansion of digital payments in India showcases how technology, when supported by policy and collaboration, can transform everyday economic behavior and accelerate the transition toward a more efficient, transparent, and inclusive financial system.

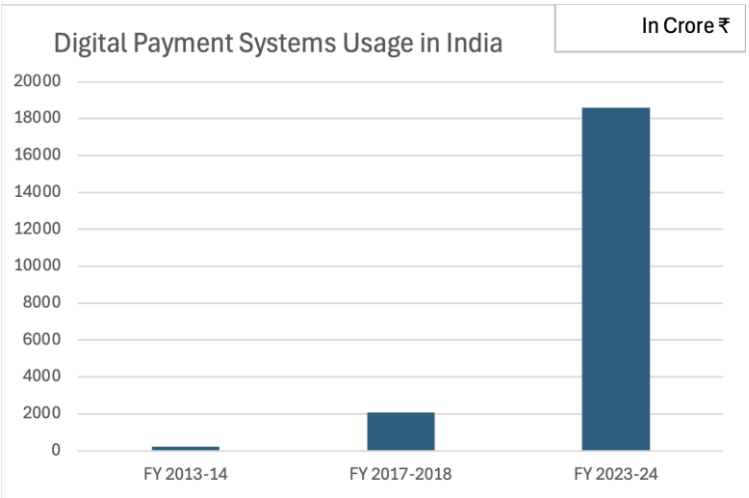


**Image 1:** Growth of Digital Payment Systems in India

Looking at the bigger picture, the growth is even more dramatic, rising from just 220 crore transactions in FY 2013–14 to 18,592 crores in FY 2023–24. In monetary terms, this expansion is equally impressive, with transaction values increasing from ₹952 lakh crore to ₹3,658 lakh crore over the same period (Department of Financial Services, Government of India). Projections indicate that Unified Payments Interface (UPI) transactions alone are set to exceed 20,000 crores in FY 2024–25, marking UPI's role as the backbone of India's new economic model. This reflects not just the availability of technology, but also a cultural shift towards convenience, speed, and reliability in financial interactions.

Globally, the digital payments market is projected to generate revenues of $14.79 trillion by 2027, with two-thirds of the world's adults now regularly using digital payments (Brandt, Ecommerce Tips). This global momentum has been underpinned by the convenience factor, digital payments remove the need to carry cash, allowing instantaneous transactions, and integration with online platforms. From a consumer behavior perspective, these features have a profound effect. Research (by Wordline) highlights that digital payment users tend to spend 40–48% more than cash users. This spending lift is partly due to the reduced "pain of paying"—the psychological friction consumers feel when paying with physical cash. When transactions are processed with a tap or a scan, the act feels less tangible, encouraging more spending. This psychological shift is significant because it lowers consumers' natural spending barriers, making them more likely to spend freely or indulge in discretionary purchases. For consumers, however, it can encourage more impulsive buying and reduced awareness of budgeting, as the immediacy of digital transactions often diminishes the perceived financial impact. While this psychological shift benefits businesses by increasing the number of transactions and average spending, it presents a major downside for the consumers. The immediacy and ease of digital payments reduces the awareness of budget limitations an individual may have, making it harder for them to track expenses or realize when they are overspending. As a result, consumers may experience greater financial strain, increased reliance on credit, and difficulty in maintaining savings. Thus, although digital payments enhance efficiency and convenience, they also reshape consumer behavior in ways that subtly encourage impulsive spending and weaken their capability to regulate themselves financially.

Looking at it from a retailer point of view, the implications for retailers are significant too. Digital payment systems not only enable faster and more secure transactions but also directly enhance sales by reducing friction at checkout. Instead of being forced to wait in lines for long periods of time, or having to pay for deliveries in cash and looking for the exact change, it enables them to make easy, fast, and secure payments. Optimized and efficient payment processes have been shown to reduce cart abandonment rates by approximately 35% (Lee), a crucial parameter in e-commerce and retail platforms. The logic is simple; the easier, faster and more convenient it is for customers to complete a purchase, the less likely they are to abandon it midway. For businesses, the efficiency gains from digital payment systems extend beyond sales. With fewer transaction disputes, reduced handling costs, and better data for customer insights, businesses are able to take advantage of operational productivity.

A practical implementation of these benefits can be seen in Walmart's experience with QR-code-based payments through Walmart Pay. By rolling out the system across its 4,700+ U.S. stores, Walmart achieved an 80% reduction in transaction disputes, a 45% faster checkout time for Walmart Pay users, and a 38% increase in customer satisfaction related to the checkout experience. Notably, Walmart's success was not only due to the technology itself, but also to the strategic investment in employee training. Stores with comprehensive staff training programs achieved customer adoption rates 3.2 times faster than locations with basic training, outlining the importance of human resources and factors in the implementation of digital payment solutions. This shows that bringing digital payments into retail is not just about installing the right technology, it also depends on people. Customers feel more comfortable trying new systems when employees guide them through the process and answer their questions. Well-trained staff not only make the experience smoother but also build trust by showing that these systems are safe and easy to use. This lesson goes beyond retail: banks, fintech companies, and even governments need to focus on people as much as on technology when rolling out new digital payment innovations.

Beyond operational efficiency, digital payment systems have reshaped broader consumer behavior patterns. The seamless nature of digital payments encourages more frequent, spontaneous purchases, which can boost economic activity but also raises concerns about over-spending.

Studies such as those published in the (Lamichhane, 51-52) have documented that the ease of e-wallet transactions can encourage excessive or impulsive spending, particularly among younger consumers. This suggests that while the convenience of digital payments drives growth, it also introduces behavioral shifts that require careful consideration from both policymakers and financial educators. Digital payment systems have begun to fundamentally influence how people think about and use money. When payments are made through online wallets and UPI apps, the act of spending becomes almost invisible. Unlike cash, where spending physical currency creates a clear psychological "loss," digital payments reduce this sense of financial outflow. As a result, consumers are more likely to make frequent, low-value, and unplanned purchases, often without fully registering the toll it takes on their finances. Consumers start spending more depending on the aspect of convenience rather than consciously making decisions about their budget. This can eventually lead to financial burden, growing debt, and reduced savings, especially in those consumers with limited levels of financial knowledge and literacy.

## THE ROLE OF DIGITAL BUDGETING TOOLS IN CONSUMER SAVING BEHAVIOUR AND CONSUMER PROTECTION

Digital budgeting tools have become an increasingly important element in reshaping consumer saving habits and financial behaviors. Unlike traditional budgeting methods that rely on manual tracking or self-discipline, modern digital platforms offer automated savings features, real-time spending alerts, and behavioral updates that encourage individuals to set aside money more consistently. These tools have transformed savings from a conscious effort into an almost invisible habit, thereby reducing the psychological barriers that often prevent consumers from building financial cushions. For instance, evidence from the Consumer Financial Protection Bureau's evaluation of the Qapital app demonstrates that users who adopted saving methods such as automatically saving a small amount on payday, or rounding up purchases to the nearest dollar and saving the difference were substantially more likely to achieve milestones like accumulating $200, $500, or even $1,000 within a year (Ratcliffe et al.). The automated nature of these tools turns saving into a background process, one that requires little active decision-making but delivers measurable results.

The behavioral logic providing foundation for this is simple: when savings are automated, consumers avoid the constant trade-off decisions that normally oppose spending against saving. In traditional settings, saving often feels like a sacrifice, reducing immediate consumption. Digital budgeting apps remove this choice reducing opportunity cost for a consumer, which means individuals are less likely to opt out of saving for instant satisfaction. Over time, these small, automated increments collect into substantial amounts of saved funds, changing not only financial outcomes but also consumer confidence. Having even smaller emergency funds allows individuals to navigate unexpected expenses without relying on debt, which further strengthens long-term financial stability removing the short term trade-off.

However, while these digital tools encourage saving, they also interact in complex ways with consumer spending patterns. Research in behavioral economics has shown that too much precision in budgeting apps can backfire. When consumers see exact amounts remaining in their monthly budgets, they may actually feel obligated to spend more aggressively toward the end of the budget cycle. This phenomenon, known as the "budgeting app trap" suggests that precise financial data can create a false sense of security, leading individuals to use up whatever discretionary funds are available simply because they know the number for short term pleasures sacrificing long term stability (Ghosh and Huang). To counter this, some app designers have experimented with features like vague ranges instead of exact amounts, rollover balances, or weekly budgeting cycles rather than monthly ones. These design updates maintain consumer caution while still providing the benefits of tracking. In effect, the way information is presented within digital budgeting tools can determine whether they encourage disciplined saving or inadvertently stimulate additional spending.

Another aspect to this is the role of digital financial literacy. Digital financial literacy is not only about understanding personal finance concepts, but also about knowing how to use digital platforms securely and effectively. The research highlights that literacy in the digital age requires a combination of knowledge, behavior, and access, making it more complex than traditional financial literacy. The authors argue for updated financial education curricula that integrate digital tools, as well as public–private partnerships that can create accessible resources for a wide range of consumers (Koskelainen et al. 507-528). Without these skills, consumers risk misusing budgeting apps, failing to safeguard their data, or not taking advantage of the most effective features. This gap suggests that while digital budgeting tools hold promise, their actual impact depends heavily on whether users understand how to apply them in ways that align with long-term savings goals.

The legal and ethical dimensions of digital banking fraud are just as complex as the technical ones. A key issue currently, as highlighted by legal scholars, is the lack of clear liability regulations. This ambiguity creates a contentious environment where the burden of proof often falls on the customer to demonstrate they were not negligent, which can be an incredibly difficult and stressful process. Given the complexity of digital systems, proving non-negligence is not only difficult but also intimidating for users, especially those with limited legal or technological knowledge. This legal uncertainty, coupled with the systemic risks of a digital financial ecosystem, can lead to a breakdown of trust between customers and financial institutions. When trust erodes, customers may revert to less efficient, non-digital methods, which can hinder the overall progress of financial inclusion.

Legally, the Digital Personal Data Protection Act, 2023 (DPDP Act) is the cornerstone, mandating that apps must obtain free, specific, and informed user consent for data processing, while also adhering to principles of data minimization and purpose limitation. This is complemented by the Reserve Bank of India's (RBI) Account Aggregator Framework, which provides a secure, consent-based mechanism for users to share their financial data, and its Digital Lending Guidelines, which impose strict rules on apps that offer lending features, emphasizing transparency and consumer protection to curb predatory practices. Ethically, a significant concern is the security of sensitive financial data, given the apps' access to bank and transaction information, which necessitates robust encryption and security protocols. Furthermore, there is a strong ethical imperative for transparency and informed consent, particularly for users with limited digital or financial literacy. Apps must clearly communicate their data policies and be honest about how user data is used, whether for internal analytics or for targeted advertising, to build and maintain consumer trust. The use of AI and algorithms also raises ethical questions about potential biases in financial advice or recommendations, highlighting the need for fairness and accountability in a sector that is increasingly central to personal finance management. (Reserve Bank of India) (Harmeling) (Laxman et al. 205-206).

Cross-country evidence reinforces the connection between financial literacy and the effective use of digital budgeting tools. A study by the Asian Development Bank Institute focusing on Thailand found that individuals with higher financial literacy were significantly more likely to be aware of fintech products, including budgeting and savings apps. Specifically, a one-standard-deviation increase in financial literacy was associated with an 8.3% rise in fintech awareness (Moenjak et al.). This highlights that digital tools alone are insufficient; they must be paired with educational initiatives that empower users to engage with them meaningfully. In societies where financial literacy is lower, digital budgeting tools may remain underutilized or misapplied, limiting their potential to improve savings patterns. Conversely, in populations that combine literacy with access, these tools can greatly alter consumer behavior by inculcating saving into everyday life. The evidence suggests that digital budgeting tools reach their full potential only when combined with broader educational initiatives that equip individuals to engage with these technologies consciously, keeping in mind various other factors, and taking informed decisions, ultimately leading to more sustainable improvements in savings of an individual.

The broader effects of these changes are visible at both individual and macroeconomic levels. According to reports by CareEdge Ratings, India's gross domestic savings fell to 30.7% of GDP in FY24, down from 32.2% in FY15. On an individual level, the availability of emergency savings and clearer budgeting frameworks reduces financial stress, increases resilience against shocks, and fosters a sense of control over money (Kundu). This psychological security can, in turn, affect spending behavior: people with stronger savings habits may feel freer to spend on discretionary items because they know their basic financial needs are covered. At a macroeconomic level, widespread adoption of digital budgeting and savings tools can increase overall household savings rates, reduces reliance on short-term credit, and contribute to financial stability in the banking system. However, the risk remains that these tools can unintentionally encourage short-term spending if poorly designed, undermining their intended purpose.

In conclusion, digital budgeting tools represent both a technological and behavioral innovation in the way consumers manage money. They simplify saving through automation, reduce the cognitive burden of financial decision-making, and can significantly improve financial outcomes for disciplined users. Yet, their effects are not uniformly positive. Poorly designed apps or low levels of financial literacy can lead to overspending or ineffective use, limiting their benefits. Studies from the U.S., Thailand, and global financial research point to the same core insight which is that the success of digital budgeting tools depends not only on their availability but also on the financial literacy and behavioral design that underpin them. Moving forward, the challenge lies in ensuring that these tools balance encouragement to save with safeguards against overconfidence and overspending, while also making financial literacy a central component of their adoption. By doing so, digital budgeting tools can become powerful factors of healthier consumer saving patterns, contributing to both personal financial security and broader economic resilience.

## DIGITAL PAYMENT SYSTEMS SHAPING THE ECONOMY

The increasing adoption of digital payment systems has effects that are observed beyond just consumer convenience. They are directly shaping macroeconomic growth and development forecasts across nations. Fundamentally, by increasing efficiency, attracting new users to the formal economy, and simplifying commerce, the extensive use of digital transaction systems promotes increased economic activity. Even a seemingly small 1% increase in the use of digital payments is associated with a 0.10% increase in GDP per capita growth over a two-year period, according to research from the Bank for International Settlements (BIS). Additionally, this increase results in a 0.06% decrease in employment in the informal sector, highlighting the critical role that digital financial tools play in moving labor and business activity into formal, taxable, and regulated structures (Aguilar et al. 4). increasing fiscal capacity and fortifying institutional frameworks. By examining economic data over a five-year period, research conducted by Moody's Analytics in partnership with Visa further quantifies this worldwide impact. According to the study, rising electronic payment usage increased GDP by 0.8% in emerging markets and 0.3% in developed economies, adding approximately 1.9 million jobs and $983 billion to the global GDP overall. The expansion of the labor market and the adoption of digital payments are positively correlated, demonstrating how payment technologies can boost economic growth by encouraging greater consumption, encouraging entrepreneurship, and facilitating more effective capital circulation. (Zandi et al. 3-4)

Equally important, however, is the transformative role that digital payments play in expanding financial inclusion and cutting transaction costs, both of which serve as vital contributors to national economic performance. When more citizens are able to access digital financial tools, particularly in developing economies where traditional banking infrastructure is underdeveloped, the result is often an immediate and measurable expansion of the consumer and entrepreneurial base. The BIS emphasizes that digital payments improve access to credit and formal financial services, giving small businesses and households the opportunity to build credit histories, qualify for loans, and participate more fully in economic activity (D'Silva et al. 5, 24). In practice, this translates into stronger and more resilient financial ecosystems, where economic participants are no longer confined to informal cash-based exchanges that often limit growth potential and carry higher risks.

Another important factor to consider is the Covid-19 Pandemic's influence on the rise and changing role of digital payment systems in India. Post demonetization, India saw its first large-scale acceptance of digital payments systems. During the pandemic came the second major defining milestone for Digital payments. The Central Government of India had attempted to raise usage of digital payments in India for a long duration of time, where every three out of four consumer purchases were made with physical currency. In November of 2016, The Central Government unexpectedly invalidated much of the country's high-value currency notes which helped to promote a shift towards digital transactions. (Maisuria and Department of Business and Industrial Management, Veer Narmad South Gujarat University). This shift was largely facilitated by the Unified Payments Interface (UPI), a fast payment system launched by the Reserve Bank of India (RBI) in 2016, which is now often referred to by authorities as a 'digital public good'. The strong growth of UPI is attributed to factors like its open architecture, user-friendly interfaces, and zero transaction costs for end-users. The COVID-19 pandemic marked a significant boost, with the use of big tech payment apps leveraging UPI accelerating, growing from about 60 million to almost 90 million daily active users. Due to its widespread adoption for everyday transactions, UPI accounted for a staggering 81.8% of the volume of total digital payments in India as of March 2024 (Cornelli et al. 1, 2, 7). This rapid adoption reflects UPI's user-friendly design, like simple interfaces, real-time transactions, and zero transaction cost, which lowers the barriers for those using digital payment methods for the first time. We can also observe that the pandemic did not merely increase the use of digital payments, but instead, it fundamentally reshaped people's payment habits, and cemented digital platforms as a main pillar of India's economic infrastructure.

Systemic efficiency brought about by less fraud and better subsidy targeting not only improves budgetary discipline but also boosts public confidence in government agencies, which in turn stimulates long-term macroeconomic expansion. Furthermore, according to a joint McKinsey and Bill & Melinda Gates Foundation study, digital financial services could help 1.6 billion people who aren't currently banked enter the formal economy, add 95 million new jobs, and boost GDP by up to $3.7 trillion by 2025. These forecasts demonstrate how digital platforms facilitate financial inclusion, which multiplies aggregate demand, boosts productivity, and increases national competitiveness (Manyika et al.).

Concrete case studies provide perhaps the strongest proof of the macroeconomic potential of digital payments; Kenya's M-Pesa platform is frequently mentioned as a historic achievement. M-Pesa, which was introduced in 2007, eliminated the need for traditional banking infrastructure by enabling users to access financial services, pay bills, and transfer money using simple mobile phones. According to a study by Suri and Jack, M-Pesa helped about 2% of Kenyan households escape poverty by increasing household per capita consumption and facilitating better financial access. Because mobile payments made it easier for women to participate in the labor market and start small businesses, they had a profoundly positive impact on local economic growth (Matheson). Although some critics raise concerns about the study's methodology, it is generally agreed that the introduction of M-Pesa drastically changed Kenya's economic landscape by giving millions of people the means to engage in and profit from the formal economy. In addition to Kenya, M-Pesa has spread to other African markets and impacted global development models, providing financial institutions and policymakers with a practical illustration of how digital payments can promote inclusivity and economic welfare on a large scale. When combined, these results and case studies show that the advantages of digital payment systems go well beyond consumer convenience and efficiency. Digital payment platforms are essential to modernizing economies and setting them up for sustainable development because they increase GDP, open up labor markets, promote financial inclusion, lower transaction costs, and combat corruption.

The consistent pattern across studies from the BIS, Visa, Moody's, McKinsey, and real-world deployments like M-Pesa demonstrates that the macroeconomic impact of digital payments is not incidental but systemic. Countries that successfully expand digital transaction infrastructures and couple them with strong human-centered adoption strategies are more likely to achieve higher growth trajectories, greater fiscal stability, and stronger pathways to economic resilience. As such, increasing digital payment traffic should not be viewed as a narrow technological upgrade, rather a strategic pillar of economic policy, one capable of transforming markets, reshaping labor dynamics, and ultimately boosting national growth.

## CONCLUSION

The findings of this research paper show that digital payment systems have fundamentally reshaped consumer behavior by altering the psychological and structural conditions under which economic decisions are made. Increased payment convenience has reduced the sense of loss that comes with spending physical currency, and has made transactions faster, less tangible, and less psychologically taxing. This behavioral shift encourages a higher number of transactions and increased discretionary spending, a trend consistently observed in markets after widespread adoption of digital payment methods. However, digital financial tools with features such as real-time expenditure tracking, automated transfers to savings accounts, spending alerts, and goal-based financial planning have shown potential to rebuild financial discipline as well. This highlights that saving outcomes depend on not just payment digitization, but on whether it integrates informed financial management tools. The revolution in digital payments produces a complex economic dynamic: while frictionless systems' ease of use temporarily increases consumer spending, the emergence of automated digital budgeting tools provides a crucial counterbalance by bolstering household savings. Macroeconomically speaking, this change is advantageous since it formalizes economies around the world and speeds up GDP growth. In the end, managing this shift successfully necessitates striking a balance between the effectiveness that drives business and efficient financial education and consumer protection through regulation. This raises an important query for further study: In order to guarantee that underserved populations benefit from digital payments, how can governments and fintech's get past obstacles like poor digital literacy or a lack of internet access?

## REFERENCES

[1] Aguilar, Ana, et al. "Can digital payments boost growth and reduce informality?" *SUERF Policy Brief*, no. 990, 2024, pp. 1-6, https://www.suerf.org/wp-content/uploads/2024/09/SUERF-Policy-Brief-990_-Aguilar-et-al.pdf.

[2] Brandt, Noah. "Digital Payments Statistics in 2025 (Latest U.S. & Global Data)." *Ecommerce Tips*, Ecommerce Tips, 11 March 2025, https://ecommercetips.org/digital-payments/. Accessed 12 August 2025.

[3] Cornelli, Giulio, et al. "The organisation of digital payments in India – lessons from the Unified Payments Interface (UPI)." *BIS Papers*, no. 152, 2024, pp. 1-13, https://www.bis.org/publ/bppdf/bispap152_e_rh.pdf.

[4] Department of Financial Services, Government of India. "Digital Payments | Department of Financial Services | Ministry of Finance | Government of India." *Department Of Financial Services*, 31 July 2024, https://financialservices.gov.in/beta/en/page/digital-payments. Accessed 10 August 2025.

[5] D'Silva, Derryl, et al. "The design of digital financial infrastructure: lessons from India." *BIS Papers*, no. 106, 2019, pp. 1-39, https://www.bis.org/publ/bppdf/bispap106.pdf.

[6] Ghosh, Anastasiya Pocheptsova, and Liang Huang. "The Budgeting App Trap: When Spending Information Backfires." *BehavioralEconomics.com*, 10 March 2021, https://www.behavioraleconomics.com/the-budgeting-app-trap-when-spending-information-backfires/. Accessed 13 August 2025.

[7] Harmeling, Tilman. "India Digital Personal Data Protection Act (DPDP Act) Overview." *Usercentrics*, 21 February 2024, https://usercentrics.com/knowledge-hub/india-digital-personal-data-protection-act-dpdpa/. Accessed 2025.

[8] Koskelainen, Tiina, et al. "Financial literacy in the digital age—A research agenda." *The Journal of Consumer Affairs*, vol. 57, no. 1, 2023, pp. 507-528, https://onlinelibrary.wiley.com/doi/10.1111/joca.12510.

[9] Kundu, Rhik. "India's household savings show a sustained fall; liabilities rise: CareEdge." *Mint* [New Delhi], 15 June 2025, https://www.livemint.com/economy/india-household-savings-fall-liabilities-rise-careedge-gdp-economy-consumption-investment-11749996697229.html.

[10] Lamichhane, Koshish Jung. "Spending Behaviour of Gen Z Consumers in the Use of Digital Payment Systems Authors." *Journal of Business and Social Sciences Research (JBSSR)*, vol. 10, no. 1, 2025, 51, 52.

[11] Laxman, Vishnu, et al. "Emerging threats in digital payment and financial crime: A bibliometric review Author links open overlay panel." *Journal of Digital Economy*, vol. 3, 2024, pp. 205-206. *ScienceDirect*, https://www.sciencedirect.com/science/article/pii/S2773067025000093#sec1.

[12] Lee, Sarah. "7 Key Statistics on Digital Payment Solutions Transforming Retail Trends." *Number Analytics*, 25 March 2025, https://www.numberanalytics.com/blog/digital-payment-statistics-retail-transformation?utm_source=chatgpt.com. Accessed 11 August 2025.

[13] Maisuria, Aniket Ashokbhai, and DEPARTMENT OF BUSINESS AND INDUSTRIAL MANAGEMENT, VEER NARMAD SOUTH GUJARAT UNIVERSITY. *A study of Impact of Covid-19 on digital payments in India*. DEPARTMENT OF BUSINESS AND INDUSTRIAL MANAGEMENT, VEER NARMAD SOUTH GUJARAT UNIVERSITY, September 2021, https://www.vnsgu.ac.in/iqac/naac/c1/c13/c134/files/1EdW6X0CFvxwl4UbjOFeaiSY3XNKwTD0-.pdf.

[14] Manyika, James, et al. "How digital finance could boost growth in emerging economies." *McKinsey and Company*, McKinsey Global Institure, 21 September 2016, https://www.mckinsey.com/featured-insights/employment-and-growth/how-digital-finance-could-boost-growth-in-emerging-economies.

[15] Matheson, Rob. "Study: Mobile-money services lift Kenyans out of poverty." *MIT News*, 8 December 2016, https://news.mit.edu/2016/mobile-money-kenyans-out-poverty-1208.

[16] Moenjak, Thammarak, et al. "FINTECH, FINANCIAL LITERACY, AND CONSUMER SAVING AND BORROWING: THE CASE OF THAILAND." *ADBI Working Paper Series*, vol. 1100, 2020, https://www.econstor.eu/bitstream/10419/238457/1/adbi-wp1100.pdf.

[17] Olipane, Helen Grace E., and Mariah Djazhrine Inocencio. "DIGITAL PAYMENT AND ITS INFLUENCE TO CUSTOMER CONVENIENCE." *American Journal of Humanities and Social Sciences Research (AJHSSR)*, vol. 07, no. 09, 2023, pp. 56-67.

[18] Ratcliffe, Caroline, et al. "Consumer Savings App Strategies and Savings Outcomes." *files.consumerfinance.gov.*, December 2022, https://files.consumerfinance.gov/f/documents/cfpb_qapital-savings-app-outcomes_report_2022.pdf. Accessed 13 August 2025.

[19] Reserve Bank of India. "Reserve Bank of India." *Reserve Bank of India*, 14 February 2023, https://www.rbi.org.in/commonman/english/scripts/FAQs.aspx?Id=3413. Accessed 2025.

[20] Wordline. "The Psychology of Digital Payments - How Digital Payments Influence Consumer Behaviour." *Wordline*, 06 03 2025, he Psychology of Digital Payments - How Digital Payments Influence Consumer Behaviour.

[21] Zandi, Mark, et al. *The Impact of Electronic Payments on Economic Growth*. Moody's Analytics, February 2013, https://usa.visa.com/dam/VCOM/download/corporate/media/moodys-economy-white-paper-feb-2013.pdf.