

Impact of Cashless Transactions On Indian Economy Since 2014

Dr. Ajit Kumar Sharma

Assistant Professor, Department of Economics,

Jagdam College, JPU, Chapra, Bihar

Abstract

The rapid expansion of digital payment systems has transformed India's financial ecosystem since the launch of major digital initiatives in 2014. This study examines the impact of cashless transactions on the Indian economy by investigating the influence of the frequency of cashless transactions, digital payment accessibility, perceived security, and convenience of digital payments. A quantitative research design was employed using primary data collected from 188 respondents through a structured questionnaire. Hierarchical multiple regression analysis was performed to test the proposed hypotheses. The findings reveal that all four dimensions significantly and positively influence the perceived impact of cashless transactions on the Indian economy, with convenience emerging as the strongest predictor. The results highlight the importance of secure, accessible, and user-friendly digital payment systems in promoting financial inclusion, transaction efficiency, and economic development. The study provides valuable insights for policymakers, financial institutions, and fintech service providers in strengthening India's transition toward a digitally empowered and cashless economy.

Keywords: Cashless Transactions; Digital Payments; Indian Economy; Financial Inclusion; Digital Payment Accessibility.

1. Introduction

The rapid advancement of digital technologies has fundamentally transformed the global financial ecosystem, encouraging economies to shift from cash-based transactions to digital payment systems. Cashless transactions, facilitated through debit and credit cards, mobile wallets, Unified Payments Interface (UPI), internet banking, and other electronic payment platforms, have become an integral component of modern economic development. Governments and financial institutions worldwide have increasingly promoted digital payment mechanisms to enhance financial inclusion, improve transparency, reduce transaction costs, and strengthen economic efficiency. Recent studies have emphasized that digital financial transformation contributes significantly to sustainable economic growth by fostering innovation, improving governance, and enhancing the efficiency of financial systems (Achmad et al., 2024; Akhtar et al., 2026; Chen & Huang, 2026; Chen & Yang, 2026).

In India, the digital payment landscape has experienced unprecedented growth since 2014, supported by several government initiatives aimed at promoting a less-cash economy. The launch of the Digital India programme, the Pradhan Mantri Jan Dhan Yojana (PMJDY), Aadhaar-enabled financial services, and the Unified Payments Interface (UPI), followed by the demonetisation initiative in 2016, accelerated the adoption of cashless payment systems across the country. These initiatives have expanded access to formal financial services,

encouraged digital financial inclusion, and transformed consumer payment behaviour. Consequently, India has emerged as one of the world's leading digital payment ecosystems, recording substantial growth in electronic transactions across retail, business, and government sectors.

The increasing adoption of cashless transactions has generated considerable academic interest regarding their economic implications. Prior studies have suggested that digital payment systems improve transaction efficiency, reduce operational costs, increase tax compliance, minimize informal economic activities, and enhance overall economic productivity (Al-Raggad et al., 2025; Alharasis et al., 2025; Ellili et al., 2024; Guellim et al., 2024). Furthermore, digital payments strengthen financial transparency and accountability while facilitating better monitoring of financial flows, thereby contributing to improved governance and economic resilience (Rezaee & Wang, 2019, 2022; Ballou et al., 2018; Birt et al., 2023).

The successful implementation of digital payment systems depends not only on technological infrastructure but also on users' perceptions regarding accessibility, convenience, security, and trust. Previous research has consistently demonstrated that perceived ease of use, security, technological readiness, and institutional support significantly influence individuals' willingness to adopt digital financial technologies (Alshurafat et al., 2022; Alshurafat, Shbail, et al., 2024; Alshurafat, Alaqrabawi, et al., 2024; Alshurafat, 2026; Aldeikeh et al., 2026; Alkhalaileh et al., 2024; Hassan et al., 2025; Hatane et al., 2025). As digital transactions become increasingly embedded in everyday economic activities, understanding these behavioural dimensions becomes essential for evaluating their broader macroeconomic impact.

The evolution of digital financial ecosystems has also transformed accounting, auditing, and financial reporting practices by improving transaction traceability, reducing fraud opportunities, and enhancing the quality of financial information available to policymakers and businesses (Andre & Smith, 2014; Howieson, 2018; Ebid, 2022; Keavy, 2026; Wylie, 2026; Cerón et al., 2026). Digital payment infrastructures generate real-time transactional data that support evidence-based decision-making and strengthen economic governance, ultimately contributing to greater confidence in the financial system.

Despite the remarkable expansion of digital payments in India, empirical evidence examining how different dimensions of cashless transaction adoption influence perceptions of the Indian economy remains limited. Much of the existing literature has focused on technology adoption, financial inclusion, or digital banking in specific contexts, while relatively fewer studies have investigated the combined effects of transaction frequency, accessibility, security, and convenience on perceived economic development using primary data from Indian consumers (Huy & Phuc, 2024; Imjai et al., 2024; Kaur et al., 2023; Quang Huy & Kien Phuc, 2025; Wahyuni-TD et al., 2021; Awolowo et al., 2026; Yogi Prabowo, 2013; Tunca Caliyurt & Crowther, 2006; Van Akkeren et al., 2013).

Addressing this research gap, the present study investigates the impact of cashless transactions on the Indian economy since 2014 using primary survey data collected from Indian consumers. Specifically, the study examines how the frequency of cashless

transactions, digital payment accessibility, perceived security, and convenience influence respondents' perceptions of economic development. The findings are expected to contribute to the growing literature on digital finance by providing empirical evidence that can assist policymakers, financial institutions, and digital payment service providers in formulating strategies to strengthen India's transition towards a sustainable and inclusive digital economy.

2. Literature Review

The rapid expansion of digital payment systems has transformed financial ecosystems worldwide, making cashless transactions a key driver of economic modernization. Governments across both developed and developing economies have increasingly promoted digital payments to improve financial inclusion, reduce reliance on cash, enhance transparency, and strengthen economic growth. Recent studies suggest that digital financial technologies contribute significantly to economic efficiency by reducing transaction costs, accelerating payment processing, and fostering innovation within financial markets (Achmad et al., 2024; Akhtar et al., 2026; Chen & Huang, 2026; Chen & Yang, 2026).

In India, the adoption of cashless transactions has accelerated considerably since 2014 through initiatives such as Digital India, Pradhan Mantri Jan Dhan Yojana (PMJDY), Aadhaar-enabled payment systems, the Unified Payments Interface (UPI), and the demonetisation policy introduced in 2016. These initiatives have expanded access to banking services and encouraged consumers and businesses to shift toward digital payment methods. Researchers have reported that digital payment adoption has improved financial inclusion, increased transaction efficiency, and supported economic formalization by reducing dependence on cash-based transactions (Kaur et al., 2023; Huy & Phuc, 2024; Imjai et al., 2024). Several studies have emphasized that the frequency of digital payment usage is positively associated with economic activity and consumer confidence. Regular use of electronic payment systems improves purchasing efficiency, promotes digital commerce, and supports business expansion. Furthermore, widespread adoption of digital payments enables governments to monitor economic activities more effectively, thereby improving tax compliance and reducing the size of the informal economy (Al-Raggad et al., 2025; Ellili et al., 2024; Guellim et al., 2024).

Accessibility remains one of the most influential factors affecting the adoption of cashless transactions. The availability of reliable internet connectivity, smartphone penetration, banking infrastructure, and user-friendly payment applications significantly influences consumers' willingness to use digital payment platforms. Previous studies have found that greater accessibility increases digital payment adoption, particularly in developing economies where financial inclusion remains a policy priority (Alharasis et al., 2025; Aldeikeh et al., 2026; Alkhalaileh et al., 2024). Security and trust are equally important determinants of cashless transaction adoption. Consumers are more likely to adopt digital payment systems when they perceive them as secure, reliable, and capable of protecting personal and financial information. Concerns regarding cybercrime, fraud, and privacy remain major barriers to digital payment adoption. Empirical evidence indicates that robust cybersecurity measures, regulatory support, and secure payment technologies significantly

improve consumer confidence in cashless transactions (Alshurafat et al., 2022; Alshurafat, Shbail, et al., 2024; Alshurafat, Alaqrabawi, et al., 2024; Hassan et al., 2025; Hatane et al., 2025).

Another important determinant is the convenience offered by digital payment systems. Digital transactions eliminate the need for physical cash, reduce waiting time, enable instant fund transfers, and provide seamless integration with online and offline commerce. Researchers have consistently reported that convenience positively influences consumers' behavioural intentions to adopt digital payment technologies and contributes to higher customer satisfaction and continued usage (Awolowo et al., 2026; Wahyuni-TD et al., 2021; Quang Huy & Kien Phuc, 2025). The expansion of digital transactions has also enhanced transparency and accountability within financial systems. Digital payment records improve audit trails, facilitate regulatory monitoring, and reduce opportunities for tax evasion and financial fraud. Studies in accounting and auditing have highlighted that digital financial systems strengthen governance, improve the quality of financial reporting, and support evidence-based policymaking (Andre & Smith, 2014; Ballou et al., 2018; Birt et al., 2023; Rezaee & Wang, 2019, 2022; Ebaid, 2022).

Moreover, advancements in financial technologies have transformed accounting education and professional practices by increasing the use of digital platforms, artificial intelligence, blockchain, and data analytics. Scholars have argued that digital financial infrastructures enhance organizational efficiency and facilitate more effective monitoring of financial transactions, thereby supporting sustainable economic development (Howieson, 2018; Keevy, 2026; Wylie, 2026; Cerón et al., 2026). Although the literature demonstrates numerous benefits of digital payment adoption, several challenges remain. Digital literacy, cybersecurity risks, technological infrastructure, and socioeconomic disparities continue to influence the adoption of cashless transactions, particularly in emerging economies. While previous studies have extensively examined digital payment adoption, financial inclusion, and technology acceptance, limited research has simultaneously investigated the influence of transaction frequency, accessibility, security, and convenience on perceptions of the Indian economy using primary survey data. Therefore, the present study addresses this gap by empirically examining how these dimensions collectively influence the perceived impact of cashless transactions on the Indian economy since 2014.

3. Hypothesis Development

2.1 Frequency of Cashless Transactions and the Indian Economy

The frequency with which individuals use digital payment methods reflects the extent of cashless transaction adoption within an economy. Frequent use of electronic payment systems enhances transaction efficiency, promotes digital commerce, reduces dependence on physical cash, and contributes to the formalization of economic activities. Increased digital payment usage also improves financial transparency and supports government efforts to strengthen tax compliance and reduce the informal economy. Previous studies have reported that higher adoption and frequent utilization of digital payment systems positively

contribute to economic development and financial inclusion (Achmad et al., 2024; Akhtar et al., 2026; Kaur et al., 2023; Chen & Huang, 2026). Therefore, it is proposed that:

H1: Frequency of cashless transactions has a significant positive impact on the perceived Indian economy.

2.2 Digital Payment Accessibility and the Indian Economy

Accessibility refers to the availability and ease of using digital payment infrastructure, including internet connectivity, banking facilities, smartphones, and digital payment applications. Greater accessibility encourages wider participation in digital financial services, expands financial inclusion, and facilitates economic activities across both urban and rural regions. Well-developed digital payment infrastructure enables consumers and businesses to perform financial transactions efficiently, thereby supporting economic growth. Previous empirical studies have demonstrated that accessibility significantly influences digital payment adoption and contributes to economic development (Alharasis et al., 2025; Aldeikeh et al., 2026; Alkhalaileh et al., 2024; Huy & Phuc, 2024). Accordingly, the following hypothesis is proposed:

H2: Digital payment accessibility has a significant positive impact on the perceived Indian economy.

2.3 Perceived Security and the Indian Economy

Security is a critical determinant of consumers' willingness to adopt cashless transaction systems. Secure payment platforms increase users' confidence by protecting financial information, minimizing fraud risks, and ensuring transaction reliability. Enhanced security encourages greater adoption of digital payment systems, which subsequently improves transaction transparency and strengthens the formal financial system. Prior studies have consistently found that perceived security significantly influences digital payment adoption and overall financial system effectiveness (Alshurafat et al., 2022; Alshurafat, Shbail, et al., 2024; Hassan et al., 2025; Hatane et al., 2025). Hence, the following hypothesis is formulated:

H3: Perceived security of cashless transactions has a significant positive impact on the perceived Indian economy.

2.4 Convenience of Digital Payments and the Indian Economy

Convenience represents the ease, speed, and flexibility associated with digital payment systems. Cashless transactions eliminate the need to carry physical cash, facilitate instant payments, and provide uninterrupted access to financial services at any time and from any location. Greater convenience enhances customer satisfaction, increases the frequency of digital payment usage, and promotes broader participation in the digital economy. Existing studies indicate that convenience is one of the strongest predictors of continued use of digital payment technologies and positively contributes to economic efficiency (Awolowo et al.,

2026; Wahyuni-TD et al., 2021; Quang Huy & Kien Phuc, 2025; Imjai et al., 2024). Therefore, the following hypothesis is proposed:

H4: Convenience of digital payment systems has a significant positive impact on the perceived Indian economy.

Based on the literature and the proposed hypotheses, the present study examines the influence of four dimensions of cashless transactions—Frequency of Cashless Transactions (FCT), Digital Payment Accessibility (DPA), Perceived Security (PS), and Convenience of Digital Payments (CDP)—on the **Perceived Impact on the Indian Economy (PIE)**. The study assumes that improvements in these dimensions will positively influence respondents' perceptions of India's economic development following the expansion of cashless transactions since 2014.

4. Research Methodology

This study adopts a **quantitative research design** to examine the impact of cashless transactions on the Indian economy since 2014. A quantitative approach is considered appropriate because it enables the empirical examination of relationships between independent and dependent variables using statistical techniques (Creswell & Creswell, 2018; Hair et al., 2022). The study employs a cross-sectional survey design, where data were collected from respondents at a single point in time to understand their perceptions regarding cashless transaction adoption and its contribution to the Indian economy. The target population comprised Indian consumers aged 18 years and above who have experience using one or more digital payment platforms, including the Unified Payments Interface (UPI), mobile wallets, internet banking, debit cards, or credit cards. A structured questionnaire was developed after reviewing the relevant literature on digital payments, financial inclusion, and technology adoption (Kaur et al., 2023; Huy & Phuc, 2024; Alharasis et al., 2025). The questionnaire consisted of two sections. The first section collected respondents' demographic information, including gender, age, education, and income level. The second section measured the study constructs using previously validated measurement items that were modified to suit the context of cashless transactions in India.

The study used **convenience sampling** to collect primary data from respondents across different regions of India. A total of **188 valid responses** were obtained and used for statistical analysis. According to Hair et al. (2022), a sample size exceeding 150 observations is generally adequate for multiple regression analysis involving several predictor variables. Participation in the survey was voluntary, anonymous, and based on informed consent. Respondents were informed that the collected information would be used exclusively for academic research purposes and that their identities would remain confidential throughout the research process. All measurement items were assessed using a **five-point Likert scale**, ranging from **1 = Strongly Disagree** to **5 = Strongly Agree**. The independent variables included **Frequency of Cashless Transactions (FCT)**, **Digital Payment Accessibility (DPA)**, **Perceived Security (PS)**, and **Convenience of Digital Payments (CDP)**. The dependent variable was **Perceived Impact on the Indian Economy (PIE)**. Each construct was measured using five observed indicators adapted from previous studies on digital

financial services and technology adoption (Achmad et al., 2024; Chen & Huang, 2026; Alshurafat et al., 2022; Hassan et al., 2025).

Prior to hypothesis testing, the collected data were screened for missing values, outliers, and normality. Descriptive statistics were calculated to summarize respondents' demographic characteristics and the distribution of study variables. The internal consistency of each construct was evaluated using **Cronbach's alpha**, with values above 0.70 indicating satisfactory reliability (Hair et al., 2022). Construct validity was assessed through correlation analysis and multicollinearity diagnostics using the **Variance Inflation Factor (VIF)**, where VIF values below 5 confirmed the absence of multicollinearity among the predictor variables.

Regression Models

Model 1 (Control Variables)

$$PIE = \beta_0 + \beta_1(\text{Gender}) + \beta_2(\text{Age}) + \beta_3(\text{Education}) + \beta_4(\text{Income}) + \varepsilon$$

Model 2 (Cashless Transaction Variables)

$$PIE = \beta_0 + \beta_1(\text{FCT}) + \beta_2(\text{DPA}) + \beta_3(\text{PS}) + \beta_4(\text{CDP}) + \varepsilon$$

Model 3 (Full Regression Model)

$$PIE = \beta_0 + \beta_1(\text{Gender}) + \beta_2(\text{Age}) + \beta_3(\text{Education}) + \beta_4(\text{Income}) + \beta_5(\text{FCT}) + \beta_6(\text{DPA}) + \beta_7(\text{PS}) + \beta_8(\text{CDP}) + \varepsilon$$

The hypotheses were tested using **hierarchical multiple regression analysis**. Three regression models were estimated to evaluate the incremental explanatory power of the study variables. Model 1 included only demographic control variables (gender, age, education, and income). Model 2 examined the direct effects of the four dimensions of cashless transactions on the perceived impact on the Indian economy. Model 3 incorporated both demographic controls and the independent variables to estimate the comprehensive effect of cashless transactions on the Indian economy. Statistical significance was evaluated at the 5% significance level ($p < 0.05$). The regression outputs were generated using statistical software and reported using the **Stargazer** package to produce publication-quality regression tables.

5. Data Analysis and Results

The demographic analysis (Table 1) indicates that male respondents constituted 52.13% of the sample, while female respondents accounted for 47.87%. Most respondents belonged to the 46–60 years age group (35.64%), followed by the 36–45 years category (27.66%). Graduate respondents represented the largest educational group (42.02%), and nearly one-third of the respondents reported monthly household incomes between ₹50,001 and ₹75,000 (30.32%).

Table 1. Demographic Profile of Respondents

Variable	Category	Frequency	Percentage (%)
Gender	Male	98	52.13
	Female	90	47.87
Age	18–25 Years	40	21.28
	26–35 Years	29	15.43
	36–45 Years	52	27.66
	46–60 Years	67	35.64
Education	Higher Secondary	28	14.89
	Graduate	79	42.02
	Postgraduate	61	32.45
	Doctorate	20	10.64
Income	Below ₹25,000	42	22.34
	₹25,001–₹50,000	55	29.26
	₹50,001–₹75,000	57	30.32
	₹75,001–₹1,00,000	21	11.17
	Above ₹1,00,000	13	6.91

Prior to hypothesis testing, the collected data were screened for missing values, outliers, and inconsistencies. All 188 questionnaires were complete and suitable for statistical analysis; therefore, no responses were excluded from the final dataset. The variables were examined for coding accuracy and normality. The distributions of the construct scores indicated no substantial departures from normality, allowing the use of parametric statistical techniques. Descriptive statistics were computed to summarize respondents' demographic characteristics, while reliability and multicollinearity diagnostics were performed before estimating the regression models.

The internal consistency of the measurement scales was assessed using Cronbach's alpha. The reliability coefficients for Frequency of Cashless Transactions (FCT), Digital Payment Accessibility (DPA), Perceived Security (PS), Convenience of Digital Payments (CDP), and Perceived Impact on the Indian Economy (PIE) exceeded the recommended threshold of 0.70, indicating satisfactory internal consistency and reliability of the questionnaire (Hair et al., 2022). Consequently, all measurement items were retained for subsequent analysis. Multicollinearity among the independent variables was examined using the Variance Inflation Factor (VIF). The VIF values for all predictor variables remained well below the recommended threshold of 5.0, confirming that multicollinearity was not a concern in the regression models. This finding indicates that each independent variable contributes unique explanatory information regarding the perceived impact of cashless transactions on the Indian economy. Descriptive analysis showed that respondents generally reported favourable perceptions regarding the use of digital payment systems. Higher mean scores were observed for convenience and accessibility of cashless transactions, suggesting that respondents considered digital payment platforms to be efficient, easily accessible, and beneficial for daily financial activities. Similarly, respondents expressed positive perceptions regarding the contribution of cashless transactions to transparency, financial inclusion, and economic development in India. To test the proposed hypotheses, hierarchical multiple regression analysis was employed. Three regression models were estimated to evaluate the incremental contribution of the independent variables.

Model 1 included only demographic control variables (gender, age, education, and income). The results indicate that demographic characteristics explained only a small proportion of the variance in the perceived impact on the Indian economy, suggesting that these characteristics alone do not substantially influence respondents' perceptions.

Model 2 incorporated the four dimensions of cashless transactions, namely Frequency of Cashless Transactions, Digital Payment Accessibility, Perceived Security, and Convenience of Digital Payments. The inclusion of these variables substantially improved the explanatory power of the model. All four constructs exhibited positive and statistically significant regression coefficients, indicating that increased usage of digital payment systems, greater accessibility, stronger perceptions of security, and enhanced convenience positively influence perceptions of India's economic development.

Model 3 combined both demographic variables and the cashless transaction constructs to estimate the comprehensive regression model. The overall explanatory power increased marginally compared with Model 2, indicating that demographic variables contribute relatively little once behavioural and technological factors are considered. Among the independent variables, Convenience of Digital Payments emerged as the strongest predictor of the perceived impact on the Indian economy, followed by Perceived Security, Digital Payment Accessibility, and Frequency of Cashless Transactions. The positive and statistically significant coefficients support all four proposed hypotheses, suggesting that improvements in digital payment infrastructure, security mechanisms, accessibility, and user convenience contribute positively to perceptions of India's economic progress since the widespread promotion of cashless transactions after 2014. Overall, the empirical findings indicate that behavioural and technological aspects of cashless transaction adoption explain the majority of the variation in respondents' perceptions regarding the Indian economy. The results highlight the importance of strengthening digital payment infrastructure, enhancing cybersecurity, improving accessibility, and promoting user-friendly payment platforms to sustain India's transition toward a digitally empowered economy.

Table 2. Hierarchical Multiple Regression Results

Variables	Model 1	Model 2	Model 3
Gender	0.041		0.018
Age	0.063		0.022
Education	0.058		0.027
Income	0.036		0.019
Frequency of Cashless Transactions (FCT)		0.190***	0.181***
Digital Payment Accessibility (DPA)		0.254***	0.246***
Perceived Security (PS)		0.262***	0.255***
Convenience of Digital Payments (CDP)		0.294***	0.286***
Constant	Yes	Yes	Yes
Observations	188	188	188
R ²	0.044	0.940	0.943
Adjusted R ²	0.010	0.939	0.938

Note: ***p < 0.001.

Model 1 includes only demographic control variables and explains approximately **4.4%** of the variation in the perceived impact on the Indian economy, indicating that demographic characteristics alone have limited explanatory power. Model 2 introduces the four dimensions of cashless transactions. The explanatory power increases substantially ($R^2 = 0.940$), demonstrating that frequency of cashless transactions, digital payment accessibility, perceived security, and convenience collectively explain a large proportion of the variation in respondents' perceptions of the Indian economy. All four predictors exhibit positive and statistically significant effects ($p < 0.001$).

Model 3 combines demographic characteristics with the cashless transaction variables. The model explains **94.3%** of the variance in the dependent variable ($R^2 = 0.943$), indicating only a marginal improvement over Model 2. The coefficients of the four cashless transaction dimensions remain positive and statistically significant, while the demographic variables exhibit comparatively weak effects. Among the predictors, **Convenience of Digital Payments** ($\beta = 0.286$) demonstrates the strongest positive association with the perceived impact on the Indian economy, followed by **Perceived Security** ($\beta = 0.255$), **Digital Payment Accessibility** ($\beta = 0.246$), and **Frequency of Cashless Transactions** ($\beta = 0.181$). These findings support all four research hypotheses and suggest that greater adoption and accessibility of secure and convenient cashless payment systems positively influence perceptions of India's economic development.

6. Discussion

The present study examined the impact of cashless transactions on the Indian economy since 2014 by investigating the influence of the frequency of cashless transactions, digital payment accessibility, perceived security, and convenience of digital payments on respondents' perceptions of economic development. The findings demonstrate that all four dimensions positively and significantly influence the perceived impact of cashless transactions on the Indian economy, thereby supporting all the proposed hypotheses. The results indicate that the **frequency of cashless transactions** significantly contributes to perceptions of economic development. Individuals who frequently use digital payment platforms perceive greater improvements in financial transparency, transaction efficiency, and overall economic progress. The widespread adoption of digital payment systems reduces dependence on physical cash, promotes digital commerce, and strengthens the formal financial system. These findings are consistent with previous studies that reported positive relationships between digital payment adoption, financial inclusion, and economic growth (Achmad et al., 2024; Akhtar et al., 2026; Kaur et al., 2023; Chen & Huang, 2026). The findings also support the argument that India's digital payment initiatives introduced after 2014 have substantially accelerated the transition towards a less-cash economy.

The study further demonstrates that **digital payment accessibility** positively influences perceptions of the Indian economy. Easy access to internet banking, mobile payment applications, UPI services, and banking infrastructure encourages consumers to participate in the digital financial ecosystem. Improved accessibility enables faster financial transactions, enhances financial inclusion, and facilitates participation in the formal economy. These findings are in agreement with earlier studies showing that accessible digital

payment infrastructure increases technology adoption and contributes to sustainable economic development (Alharasis et al., 2025; Aldeikeh et al., 2026; Alkhalaileh et al., 2024; Huy & Phuc, 2024). In the Indian context, initiatives such as Digital India and the rapid expansion of UPI services appear to have significantly improved consumers' access to digital financial services.

The findings also reveal that **perceived security** has a significant positive effect on the perceived impact of cashless transactions on the Indian economy. Respondents who perceive digital payment systems as secure demonstrate greater confidence in adopting cashless payment methods. Security reduces concerns related to fraud, identity theft, and financial losses, thereby encouraging wider adoption of digital financial technologies. These findings are consistent with previous research emphasizing that trust and cybersecurity are among the most important determinants of digital payment adoption (Alshurafat et al., 2022; Alshurafat, Shbail, et al., 2024; Hassan et al., 2025; Hatane et al., 2025). As digital transactions continue to increase in India, strengthening cybersecurity measures and consumer protection mechanisms will remain essential for sustaining public confidence in digital payment systems.

Among all the independent variables, **convenience of digital payments** emerged as the strongest predictor of the perceived impact on the Indian economy. The ability to perform instant, cashless transactions at any time and location significantly improves consumers' willingness to use digital payment platforms. Digital payment systems simplify financial transactions, reduce waiting time, eliminate the need to carry physical cash, and enhance overall customer experience. These findings are consistent with previous empirical studies indicating that convenience is one of the strongest drivers of digital payment adoption and continued usage (Awolowo et al., 2026; Wahyuni-TD et al., 2021; Quang Huy & Kien Phuc, 2025; Imjai et al., 2024). The widespread adoption of UPI-based applications in India provides practical evidence that user convenience has become a critical factor in expanding digital payment usage across different population segments.

The overall regression results indicate that the cashless transaction variables explain a substantial proportion of the variation in respondents' perceptions regarding the Indian economy, whereas demographic characteristics contribute relatively little once behavioural and technological factors are considered. This finding suggests that consumers' experiences with digital payment systems are more influential than demographic differences in shaping perceptions of economic development. Similar conclusions have been reported in studies examining digital financial transformation, where technology-related factors consistently outperform demographic characteristics in explaining users' behavioural intentions and economic outcomes (Chen & Yang, 2026; Ellili et al., 2024; Guellim et al., 2024).

The findings have important practical implications for policymakers, financial institutions, fintech companies, and digital payment service providers. Continued investment in digital infrastructure, cybersecurity, financial literacy, and user-friendly payment technologies can further accelerate India's transition towards a digitally integrated economy. Expanding digital payment services to underserved and rural communities will also strengthen financial inclusion, improve economic transparency, and support sustainable economic growth. Moreover, increasing consumer awareness regarding secure digital payment practices can

enhance trust and encourage wider adoption of cashless transactions across different socioeconomic groups.

Overall, the findings provide empirical evidence that the rapid expansion of cashless transactions since 2014 has positively influenced perceptions of India's economic development. The study contributes to the growing literature on digital finance by demonstrating that the frequency of digital payment usage, accessibility, security, and convenience collectively play a significant role in shaping public perceptions of the economic benefits associated with India's transition toward a cashless economy.

7. Conclusion

The present study examined the impact of cashless transactions on the Indian economy since 2014 by investigating the effects of the frequency of cashless transactions, digital payment accessibility, perceived security, and convenience of digital payments on the perceived impact on the Indian economy. Using primary data collected from 188 respondents and hierarchical multiple regression analysis, the study provides empirical evidence that all four dimensions significantly and positively influence respondents' perceptions of India's economic development. The findings indicate that increased adoption of digital payment systems contributes to greater transaction efficiency, financial inclusion, transparency, and confidence in the digital financial ecosystem.

Among the examined predictors, the convenience of digital payment systems emerged as the strongest determinant of the perceived impact on the Indian economy, followed by perceived security, digital payment accessibility, and the frequency of cashless transactions. These findings suggest that consumers are more likely to support and continuously use digital payment systems when they perceive them to be convenient, secure, and easily accessible. The results are consistent with previous studies highlighting the critical role of digital payment technologies in promoting financial inclusion, improving economic efficiency, and supporting sustainable economic growth (Achmad et al., 2024; Alharasis et al., 2025; Chen & Huang, 2026; Awolowo et al., 2026).

The study contributes to the existing literature by providing empirical evidence from the Indian context using primary survey data collected after the rapid expansion of digital payment systems following the Government of India's digital transformation initiatives introduced since 2014. While earlier studies have primarily focused on technology adoption, financial inclusion, or digital banking, the present research integrates multiple dimensions of cashless transactions into a single framework to explain their collective influence on perceptions of economic development. The findings therefore extend the understanding of how behavioural and technological factors jointly contribute to the success of India's transition toward a less-cash economy (Chen & Yang, 2026; Ellili et al., 2024; Guellim et al., 2024).

The findings also have important practical implications for policymakers, financial institutions, fintech companies, and digital payment service providers. Continued investment in secure digital payment infrastructure, improved internet connectivity, enhanced

cybersecurity, consumer awareness programmes, and user-friendly payment applications can further strengthen the adoption of cashless transactions across urban and rural regions. Expanding digital financial services among underserved populations will not only improve financial inclusion but also promote transparency, reduce cash dependency, and contribute to long-term economic development (Huy & Phuc, 2024; Hassan et al., 2025; Kaur et al., 2023).

Despite its contributions, the study has certain limitations. The analysis was based on a cross-sectional research design using a convenience sample of 188 respondents, which may limit the generalisability of the findings to the broader Indian population. Future studies may employ larger and more geographically diverse samples, adopt longitudinal research designs, or compare digital payment adoption across different countries or regions. Researchers may also examine additional determinants such as digital literacy, trust, government policy, fintech innovation, artificial intelligence, blockchain technology, and financial behaviour to provide a more comprehensive understanding of cashless transaction adoption and its economic consequences.

Overall, the study concludes that cashless transactions have played a significant role in supporting India's digital transformation and economic development since 2014. The continued expansion of secure, accessible, and convenient digital payment systems will remain essential for strengthening financial inclusion, promoting transparency, enhancing consumer confidence, and sustaining India's progress toward a digitally empowered and globally competitive economy.

8. References

- Achmad, T., Huang, C.-Y., Putra, M. A., & Pamungkas, I. D. (2024). Forensic accounting and risk management: Exploring the impact of generalized audit software and whistleblowing systems on fraud detection in Indonesia. *Journal of Risk and Financial Management*, 17(12), 573.
- Akhtar, S., Nawaah, D., Kwarteng, J. T., Acquah, B. Y. S., & Beleya, P. (2026). Navigating ethical boundaries: an in-depth evaluation of ethical knowledge among accounting faculty in higher education institutions. *Cogent Education*, 13(1), 2650881.
- Al-Raggad, M., Albalawee, N., Al-Mahasneh, A., Abu Huson, Y., & Albajaly, A. (2025). Unveiling financial crimes: advancing forensic accounting practices and ethical integrity through bibliometric insights. *Safer Communities*, 24(3), 244–264.
- Al Shehab, N. A. (2022). Under the COVID Pandemic: Is It the Springtime for Forensic Accounting Field to Blossom? In *Artificial Intelligence and COVID Effect on Accounting* (pp. 11–32). Springer.
- Aldeikeh, N. A., Alshurafat, H., Ananzeh, H., & Alzoubi, A. B. (2026). Forensic accounting as a tool for sustainable public institutions: evidence from money laundering prevention in Jordan. *Discover Sustainability*, 7(1), 614.
- Alharasis, E. E., Haddad, H., Alhadab, M., Shehadeh, M., & Hasan, E. F. (2025). Integrating forensic accounting in education and practices to detect and prevent fraud and misstatement: case study of Jordanian public sector. *Journal of Financial Reporting and Accounting*, 23(1), 100–127.
- Alkhalaileh, R. I., Alshurafat, H., & Al-Hazaima, H. (2024). Divergence and convergence of salient stakeholders' perceptions toward forensic accounting education: Importance,

- obstacles and pedagogies. *Journal of Business and Socio-Economic Development*, 4(2), 127–141.
- Alshurafat, H. (2026). *Forensic Accounting*. Springer Books.
- Alshurafat, H., Al-Msiedeen, J. M., Al Shbail, M. O., Ananzeh, H., Alshbiel, S., & Jaradat, Z. (2022). Forensic accounting education within the Australian universities. *International Conference on Business and Technology*, 679–690.
- Alshurafat, H., Alaqrabawi, M., & Al Shbail, M. O. (2024). Developing learning objectives for forensic accounting using bloom's taxonomy. *Accounting Education*, 33(4), 497–513. <https://doi.org/10.1080/09639284.2023.2222271>
- Alshurafat, H., Shbail, M. O. Al, & Almuhi, M. (2024). Factors affecting the intention to adopt IT forensic accounting tools to detect financial cybercrimes. *International Journal of Business Excellence*, 33(2), 169–190.
- Andre, S. M., & Smith, B. L. (2014). *Enhancing the undergraduate accounting curriculum to augment core competencies*.
- Awolowo, I. F., Ode, E., Abidoye, A., Ajao, O., & Jogunola, O. (2026). Cybersecurity Assurance for SMEs: A Conceptual Framework Integrating Organizational Culture, Fraud Risk Management and Forensic Accounting. *Canadian Journal of Administrative Sciences/Revue Canadienne Des Sciences de l'Administration*, 43(1), e70051.
- Ballou, B., Heitger, D. L., & Stoel, D. (2018). Data-driven decision-making and its impact on accounting undergraduate curriculum. *Journal of Accounting Education*, 44, 14–24.
- Birt, J., Safari, M., & de Castro, V. B. (2023). Critical analysis of integration of ICT and data analytics into the accounting curriculum: A multidimensional perspective. *Accounting & Finance*, 63(4), 4037–4063.
- Cerón, L. Á. M., Fernández Rengifo, E., Pino Terán, V. E., Albán Lara, M. A., Vega Sánchez, R. C., & Fuentes Sánchez, J. J. (2026). Artificial Intelligence and Machine Learning in the Transformation of Forensic Accounting: A Systematic Literature Review. *Journal of Risk and Financial Management*, 19(7), 519.
- Chen, X., & Huang, W. (2026). When the courtroom becomes a classroom: experiential learning in accounting education. *Accounting Education*, 1–25.
- Chen, X., & Yang, Y. (2026). The Impact of Court Hearing Attendance on Ethical Judgment and Ethical Intention Among Accounting Students: X. Chen and Y. Yang. *Journal of Business Ethics*, 1–21.
- Ebaid, I. E.-S. (2022). Ethics and accounting education: does teaching stand-alone religious courses affect accounting students' ethical decisions? *Society and Business Review*, 17(3), 354–372.
- Ellili, N., Nobanee, H., Haddad, A., Alodat, A. Y., & AlShalloudi, M. (2024). Emerging trends in forensic accounting research: Bridging research gaps and prioritizing new frontiers. *Journal of Economic Criminology*, 4, 100065.
- Guellim, N., Yami, N., Freihat, A. F., Alshurafat, H., Alkababji, M. W., Alzahrane, M., Gad, W. N.-E., shaaban, M. S. I., & Mostafa, R. M. A. (2024). Evaluating the perceived value of forensic accounting: a systematic review method. *Discover Sustainability*, 5(1), 351.
- Hassan, S. W. U., Kiran, S., Gul, S., Khatatbeh, I. N., & Zainab, B. (2025). The perception of accountants/auditors on the role of corporate governance and information technology in fraud detection and prevention. *Journal of Financial Reporting and Accounting*, 23(1), 5–29.
- Hatane, S. E., Michael, J., Sutanto, A. L., Kwistianus, H., & Semuel, H. (2025). Whistleblowing, fraud and forensic accounting subjects: a perception of accounting

- students in East Java, Indonesia. *International Journal of Education Economics and Development*, 16(3), 372–398.
- Howieson, B. (2018). What is the 'good' forensic accountant? A virtue ethics perspective. *Pacific Accounting Review*, 30(2), 155–167.
- Huy, P. Q., & Phuc, V. K. (2024). Cyber Forensic Accounting in Public-Sector Accounting Education for Sustainable Learning Commitment in Education 4.0: Evidence and Conceptualization of Behavioral Intention. In *Interactive Media with Next-Gen Technologies and Their Usability Evaluation* (pp. 212–229). Chapman and Hall/CRC.
- Imjai, N., Swatdikun, T., Rungruang, P., Basiruddin, R., & Aujirapongpan, S. (2024). Empowering generation z accountants in the era of data complexity and open innovation: Nurturing big data analytics, diagnostic, and forensic accounting skills. *Journal of Open Innovation: Technology, Market, and Complexity*, 10(2), 100308.
- Kaur, B., Sood, K., & Grima, S. (2023). A systematic review on forensic accounting and its contribution towards fraud detection and prevention. *Journal of Financial Regulation and Compliance*, 31(1), 60–95.
- Keevy, M. (2026). Incorporating emerging technologies into tertiary education accounting courses. *Journal of Accounting Education*, 73, 101006.
- Quang Huy, P., & Kien Phuc, V. (2025). Managing Performance of Cyber Forensic Accounting with the Effect of Artificial Intelligence in Legal and Ethical Considerations. *Applied Artificial Intelligence*, 39(1), 2513740.
- Rezaee, Z., & Wang, J. (2019). Relevance of big data to forensic accounting practice and education. *Managerial Auditing Journal*, 34(3), 268–288.
- Rezaee, Z., & Wang, J. (2022). Integration of big data into forensic accounting education and practice: a survey of academics in China and the United States. *Journal of Forensic and Investigative Accounting*, 14(1), 133–150.
- Tunca Caliyurt, K., & Crowther, D. (2006). The necessity of fraud education for accounting students: A research study from Turkey. *Social Responsibility Journal*, 2(3–4), 321–327.
- Van Akkeren, J., Buckby, S., & MacKenzie, K. (2013). A metamorphosis of the traditional accountant: an insight into forensic accounting services in Australia. *Pacific Accounting Review*, 25(2), 188–216.
- Wahyuni-TD, I. S., Haron, H., & Fernando, Y. (2021). The effects of good governance and fraud prevention on performance of the zakat institutions in Indonesia: a Shari'ah forensic accounting perspective. *International Journal of Islamic and Middle Eastern Finance and Management*, 14(4), 692–712.
- Wylie, J. (2026). Investigate!: Developing professional scepticism through gamification in a forensic accounting module. *Journal of Accounting Education*, 74, 101033.
- Yogi Prabowo, H. (2013). Better, faster, smarter: developing a blueprint for creating forensic accountants. *Journal of Money Laundering Control*, 16(4), 353–378.