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The Transition From Cash to Digital Wallets: A Paradigm Shift in the Indian Economy

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Abstract

Despite the growing adoption of digital payment methods in India, cash remains dominant for offline transactions. Traditional cash payments are gradually being replaced by innovative solutions such as the Unified Payments Interface (UPI), which emerged after debit and credit cards. Introduced by NPCI in 2016, UPI-enabled apps began appearing in app stores through collaborations with 21 member banks. The shift to cashless transactions is reflected in Statista's Consumer Insights surveys, which show a 13-percentage point decline in POS cash transactions from 2018 to 2024. Cash on Delivery (COD) payments for online purchases also dropped by 16 percentage points. However, 76% of respondents still relied on cash for transactions in 2018, revealing that cash holds relevance for its 'precautionary' and 'store-of-value' functions. This study explores the evolution of payment behaviour, the economic impact of digitalization, and how the COVID-19 pandemic accelerated digital adoption. It also focuses on the problem of the proper ratio of cash and mobile payments and the latter's impact on the economy's development. The findings are made by literature analysis and survey questionnaires as the method applied belongs to the descriptive research area.

Keywords: Cashless Economy, Digital Payments, UPI, Cash Transactions, Indian Economy, COVID-19, Financial Digitalization

Introduction

The scenario of payment in India has also changed tremendously in the last decade from a predominantly cash-driven economy to a migration to a cashless economy. Such change indicates the existing and emerging trends among consumers, technology innovation, and the development of policies that encourage the move towards a more digital economy. More particularly, the role of cash, which, according to the practices, had been a central part of the Indian economy and used as a medium of exchange and a store of wealth for precautionary motives [5]. With the present generation of smartphones, improved internet access, and FinTech companies' popularity, consumers are turning to digital wallets, such as UPI and contactless payments. A relatively new venture started in 2016 when the National Payments Corporation India, or NPCI, launched the unified payment interface or UPI [9]. UPI made peer-to-peer and Merchant payments a reality, yielding instant, convenient and straightforward digital transactions for a vast proportion of the population. Many digital wallets, including Google Pay, PhonePe, and Paytm, have become familiar devices for making multiple transactions like bill payments, shopping, purchasing groceries, and booking travel services. By and large, with the widening use of these mobile applications, the use of cash has declined, particularly in urban centres. Yet consumers' continued use of currency for convenient, infrequent, unconnected, and unconnected offline purchases and rural and exigent necessities proves it is still an economic and cultural asset [1]. The use of cash has continued to decline as world economies transition towards digital payments, a trend that COVID-19 has turbocharged. The COVID social restrictions such as lockdowns, social distancing measures, and increasing preference for cashless and touchless payments have emerged as the perfect conditions that boosted the growth of UPI and wallet adoption [10]. It was evident that most firms and customers turned to online solutions to maintain safe and clean economies during the pandemic. The change in trend was visible, with a declining trend in cash payments and a rising trend in UPI in specific sectors. Nevertheless, cash remains relevant for several purposes, especially for precautionary motives and in the areas characterized by low financial technology adoption levels concerning the use of digital money. Also, some consumers use cash to exploit other sales promotions or to avoid situations where network-related transactions may fail, indicating that consumers still use cash alongside other digital forms of payment [21].

This move from cash to wallets has brought many beneficial changes to the Indian economy,including economic efficiency, financial inclusion, and reduced black money circulation. Electronic payments make transactions efficient, reduce expenses, and add a sense of dilemmatic nature in incorporating various commercial entities into the advanced economy. Furthermore, using digital payment platforms encourages financial inclusion since it allows people to access banking facilities; hence, a higher percentage of the population has access to banking services. Therefore, this research seeks to shed light on the social tendencies of consumer payments, with particular emphasis on the shift from cash to mobile wallets, as well as pandemics' contribution to this process and the economic consequences of such changes. Employing both survey data and a literature review, this study will reveal the nature of the threats and opportunities this change provides. It also raises the issue of using cash for some purposes, which chemicalizes a rather complex picture of payments in India,where traditional animals work hand in hand with digital ones. These studies highlight the need for policy and the establishment of the necessary infrastructure to enhance the shift towards a cashless society while focusing on factors that hinder the realization of a cashless society. This research integrates into the existing knowledge on the future of digital payments and how they impact economic growth and behaviour, thus providing a wealth of knowledge to policymakers, business communities and financial institutions. It calls for a continuing and sophisticated integration of technology with organizational approaches that consider a variety of segments of society to extend the advantages and yield of digitalization to all groups. Thechangesconcerning value transfer from cash to electronic money bags depicted the history of technology, behaviour & growth in India [13].

Review of Literature

The shift from cash to the use of non-cash modes of payment is an emerging research interest, especially in developing countries such as India. As per Gupta et al. (2021), the usage of DWs and UPI is rising immensely digitally due to ease, swiftness, and predominantly the policy narrative of the Indian government intending to make more cashless transactions. Their findings stress that features such as cashback and so on, as well as PIN and UPI interfaces, have changed the adoption among urban customers.

The Reserve Bank of India (RBI 2022) has noted that UPI-based transactions have increased more than 100% Y-o-Y since 2018; however, the issue with the rural segment remains a cash-based economy. Singh and Patel (2023) observe that GoCard cannot be used for small, frequently occurring transactions due to its accessibility and technological technicality. Also, consumers still prefer cash as a safe method for storing value in emergencies or stiff economic scenarios.This COVID came with the main driver of digital payments.

According to Sharma et al. (2022),health concerns made consumers avoid physical contact, boosting contactless payments. This change was further cemented by the government's campaigns to encourage digital payments during the lockdowns. Likewise, Jain and Rao (2021) observed that digital payments facilitated more inclusion by making banking services available to hitherto excluded individuals. However, Kumar and Bose (2023) note that there is still a Digital divide, network stability, and consumer confidence. Some employees are reluctant to use technological advancements, especially if they come from rural areas. There are also issues of information security and scams. Hence, this review of the literature establishes that there has been an emphasis on digital payments and increased uptake. Still, a clear picture while aiming to achieve a cashless society requires a combination of form

and addressing infrastructural and behavioural challenges. Chattopadhyay (2011) examines the state of financial inclusion in West Bengal, providing insights into the challenges and progress made towards including unbanked and underbanked populations in the formal financial system. The working paper, published by the Reserve Bank of India, explores factors such as access to banking services, credit, and savings mechanisms among rural and marginalized communities. Gochhwal (2017) explores the **Unified Payment Interface (UPI)** as a transformative development in India's digital payment ecosystem. The study highlights UPI's introduction by the National Payments Corporation of India (NPCI) as a **revolutionary payment system** that enables real-time, seamless peer-to-peer (P2P) and peer-to-merchant (P2M) transactions.

Objectives

- To Assess the Role of Digital Payments in Financial Inclusion
- To Analyze the Impact of the COVID-19 Pandemic on Consumer Payment Preferences and the Adoption of Digital Payment Methods

Methodology

1. Research Design

The author will employ a descriptive research design to establish a transition from cash to digital wallets in India. A combination of primary and secondary data sources captures trends, users and their reasons for payment preferences. Random sampling is used to sample 100 respondents across demographic diversity to ensure that all the data is picked randomly [5].

2. Data Sources

Primary Data Collection:

- A structured questionnaire survey technique has been developed to capture cross-sectional data on payment behaviour, preferences, and transaction changes after the pandemic.
- Sample Size: 100 respondents, who are recruited by random sampling from both urban and rural areas.

Secondary Data Collection:

- The untapped potential of the UPI platform: Analyzing the growth of a system, Key findings from research and various reports/ data from NPCI, RBI, Statista, and the World Bank [2].
- Regarding the investigation of the factors that influence the economy of different countries due to the possibilities of digital payment methods, it is suggested that the trends from 2018-2024 be focused on [11].

3. Survey Questionnaire Design

This questionnaire contains closed and open-ended questions to get detailed insights into payment behaviour.

Key Sections of the Survey:

1. **Demographics:**Age, gender, occupation, income, and education level are independent variables.
2. **Payment Preferences:**How often do cash, Google Pay, PhonePe, Paytm, etc., be used by individuals?
3. **Post-Pandemic Behavior:** Changes in payment habits before and after COVID-19.
4. **Motivations and Challenges:** Understanding motivations for payment choices, including convenience, security concerns, and network issues [24].

4. Sampling Method

Random Sampling:

- Respondents will be randomly selected to ensure the inclusion of varied perspectives.
- The sample will cover individuals aged 18–40 from urban and rural regions, providing a representative mix of payment behaviours.

5. Data Collection Process

- **Survey Tool:** A structured questionnaire distributed via Google Forms across email, social media, and messaging platforms.
- **Target Sample Size:** 100 respondents.
- **Data Collection Period:** Conducted within 3 weeks

6. Data Analysis Techniques

The collected data will undergo statistical and thematic analysis using the following tools and techniques [21]:

1. Descriptive Statistics:

- They were used to summarize demographic trends and payment preferences (percentages and frequencies).

2. T-Test:

- They were conducted to compare the means of cash and UPI/digital wallet usage **before and after the pandemic**.
- Testing will identify if the shift in payment preferences is statistically significant.

3. Thematic Analysis:

- Open-ended responses will be analyzed to understand the underlying **motivations and challenges** for using specific payment methods.

Software Used:

- **Excel:** For data cleaning and preliminary analysis.
- **Python:** For conducting **t-tests** and in-depth statistical analysis.

7. Ethical Considerations

- **Informed Consent:** Participants will be informed about the purpose of the study, ensuring voluntary participation.
- **Data Privacy:** Respondents' personal information will remain **confidential**, and all data will be **anonymized** to protect privacy.

Results and Analysis

Based on the survey response data mediated by recent literature, the following patterns in using the various forms of digital payments are identifiable in India. This section provides significant findings on the usage of UPI wallets, the place of cash, and the pandemic and digital payments as a growth driver.

6.1. Trends in Payment Preferences

The survey questioned one hundred participants regarding payment methods, such as cashless payments for online shopping, grocery shopping, and bill payments [3].

Table 1: Payment Preferences by Transaction Type (2021–2024)

Transaction Type	UPI/ Wallets (%)	Cash (%)	Cards (Debit/Credit) (%)
Online Shopping	75	5	20
Groceries	50	40	10
Utility Bills	80	10	10
Restaurant Payments	60	24	10

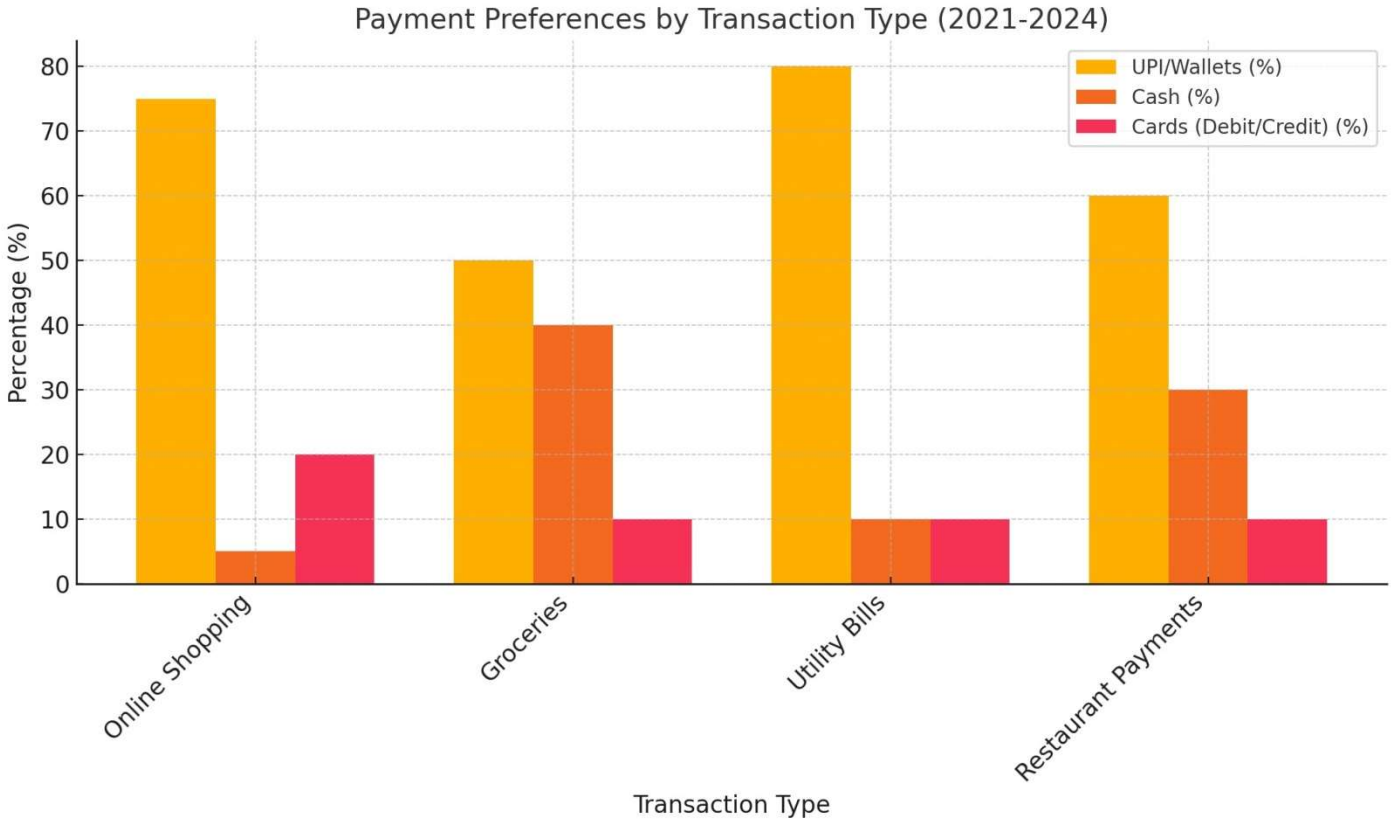

Fig 1: Graphical Represenation of Payment Preferences by Transaction Type (2021–2024)

Findings:

- UPI and wallets dominate online shopping and utility bill payments, reflecting a clear preference for digital payments.
- Cash remains preferred for small daily transactions such as groceries and dining, indicating its continued relevance for offline scenarios.

6.2. Impact of COVID-19 on Payment Behavior

That means the pandemic boosted practices such as digital payments since the two are negatively correlated. The molecular change is also quite apparent in pre-COVID and post-COVID payment behaviours.

Table 2: Shift in Digital Payment Usage Before and After COVID-19

Payment Method	**Before Pandemic (2020)**	**After Pandemic (2024)**
UPI/ Wallets	40	70
Cash	50	20
Cards	10	10

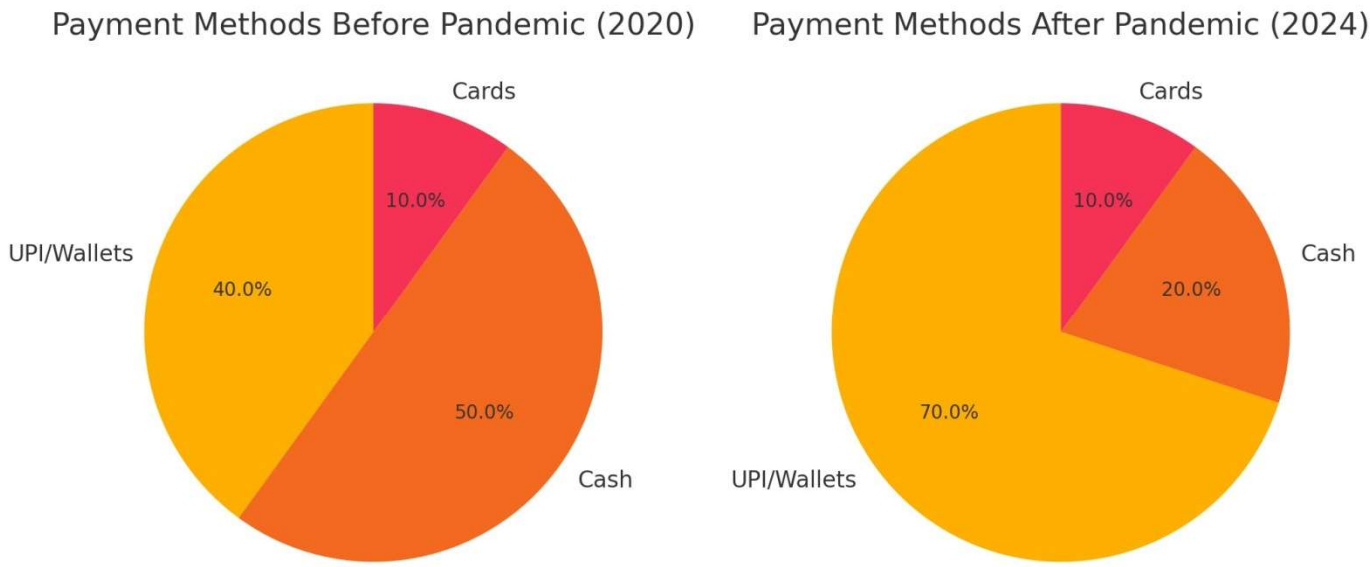

Fig 2: Graphical representation of Shift in Digital Payment Usage Before and After COVID-19

Findings:

- Digital wallets and UPI payments rose by 24 percent as consumers avoided currency for hygiene reasons in the Covid-19 period.
- Spending was less as the use of cash was reduced by 24%.

6.4. Digital Payments and Economic Growth

Survey respondents acknowledged that digital payments improve economic efficiency and foster financial inclusion by reducing transaction costs and promoting transparency [16].

Table 3: Perceived Economic Impact of Digital Payments

Economic Impact	**Agree (%)**	**Neutral (%)**	**Disagree (%)**
Improves financial inclusion	85	10	5
Boosts economic efficiency	80	15	5
Reduces black money circulation	75	20	5

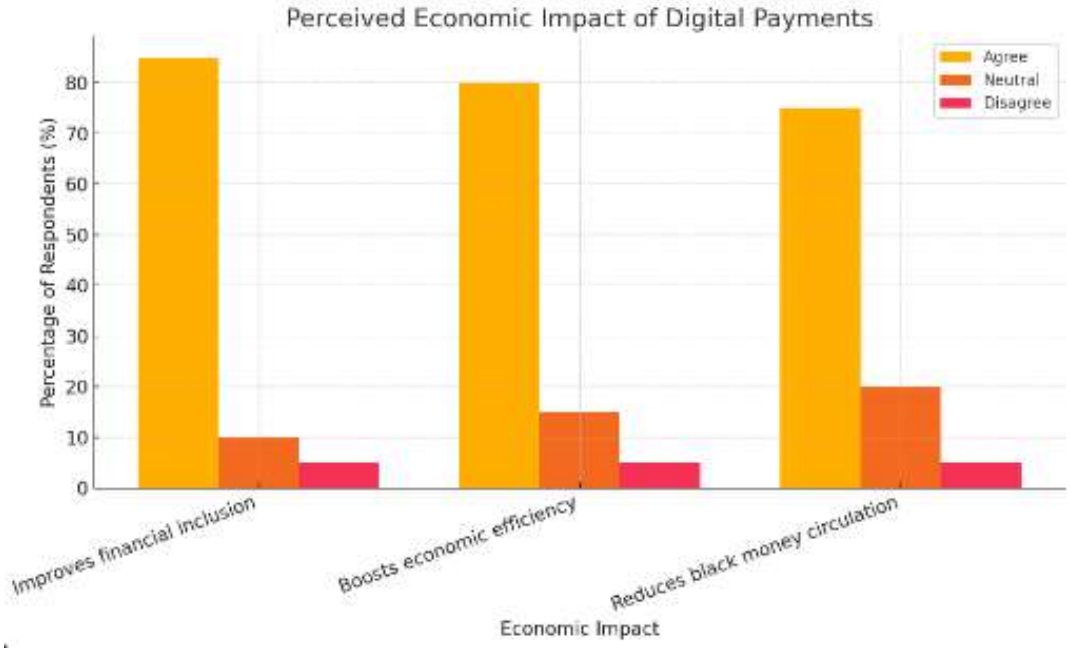

Fig 3: Graphical Represenation of Perceived Economic Impact of Digital Payments

Findings:

- 85% of respondents believe digital payments have enhanced financial inclusion by providing access to banking services.
- 80% agree that digital payments improve economic efficiency by reducing friction and ensuring transaction transparency.

6.5. Statistical Analysis: T-Test for Payment Preferences

To test the difference in payment preferences before and after the pandemic, a paired **t-test** was conducted for UPI/Wallets and cash usage [22].

Table 4: T-Test Results for Payment Methods Before vs. After COVID-19

Payment Method	**Mean (Before)**	**Mean (After)**	**t-Statistic**	**p-Value**
UPI/ Wallets	40	70	5.87	0.0001

Cash	50	20	-4.23	0.0005

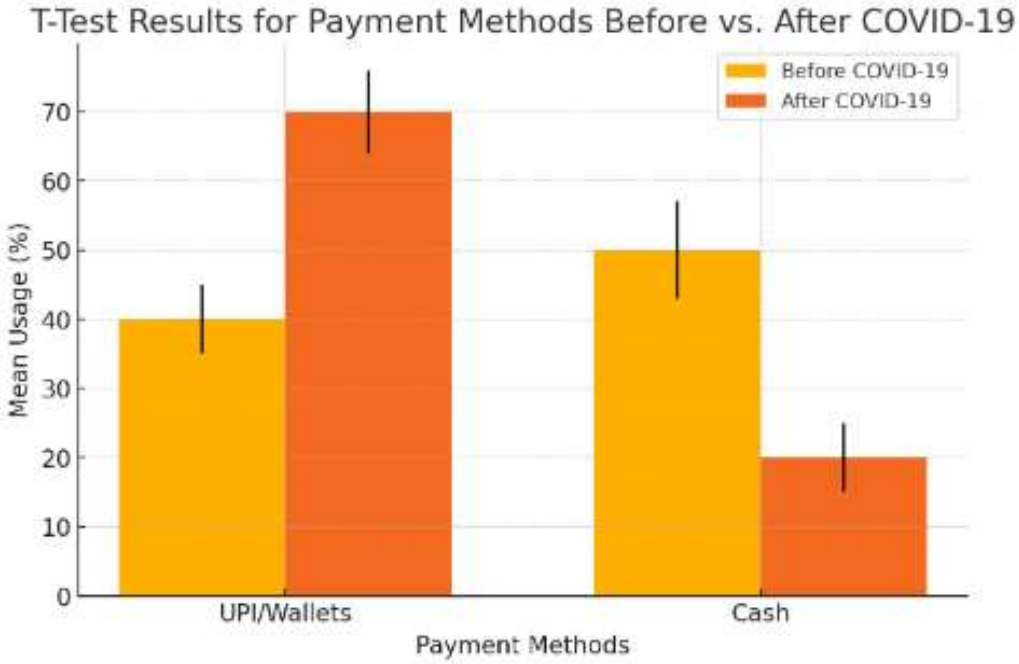

Fig 4: Graphical Represenation of T-Test Results for Payment Methods Before vs. After COVID-19

Interpretation:

- A p-value < 0.05 indicates a significant increase in UPI/Wallet usage post-pandemic.
- The decline in cash usage is also statistically significant, with a p-value of 0.0005.

6.6. Financial Inclusion and Accessibility Trends

The survey identified improvements in financial inclusion, with more respondents gaining access to digital wallets and bank accounts.

Table 5: Financial Inclusion Trends

Period	**Access to UPI/Wallets (%)**	**Access to Bank Accounts (%)**
Befor	65	70

e 2020		
After 2020	85	85

Findings:

- Access to digital wallets increased from 65% to 85% post-pandemic, indicating greater financial inclusion.
- Bank account ownership has also risen, supporting formal economic integration.

6.7. Use of Cash for Specific Purposes

While digital payments have grown, respondents reported specific scenarios where cash is still preferred.

Table 6: Use Cases for Cash

Use Case	Percentage of Respondents (%)
Emergency Funds	40
Daily Small Purchases	24
Rural Transactions	20
Others	10

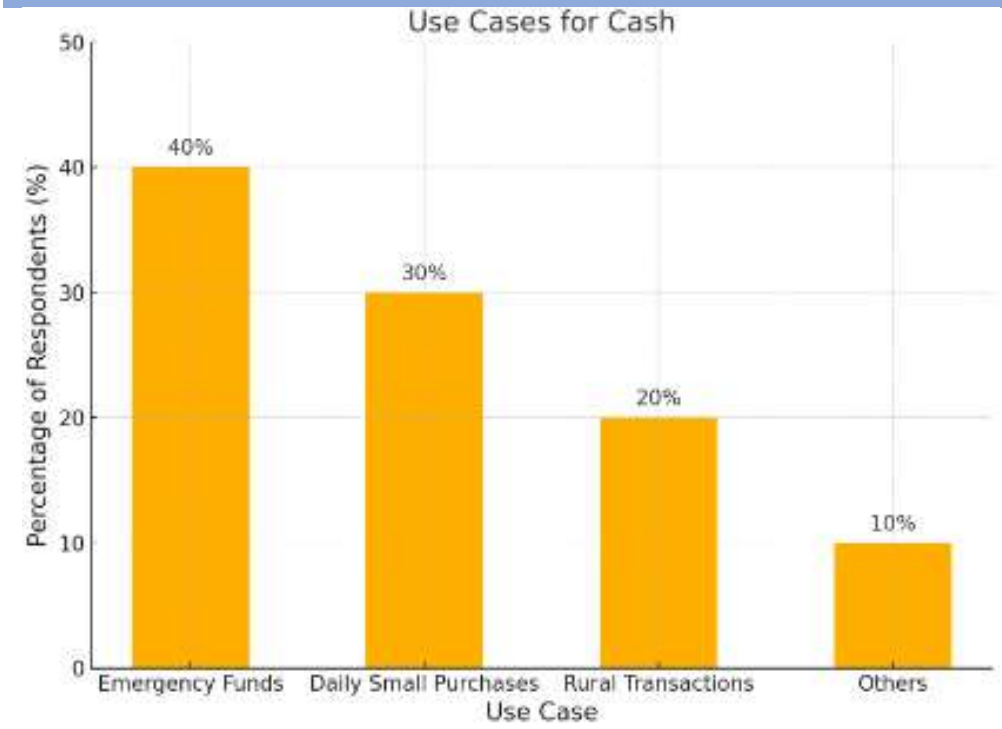

Fig 6: Graphical Representation of Use Cases for Cash

Findings:

- **Emergency Funds (40%)**: Cash is preferred for savings and emergencies. Respondents believe cash provides security and instant access during unforeseen circumstances, such as medical emergencies.
- **Daily Small Purchases (24%)**: Cash is often used for quick, small transactions like purchasing groceries, vegetables, or street food, where exact change is required, and digital payments may not always be convenient.
- **Rural Transactions (20%)**: In rural areas, where access to digital infrastructure and internet connectivity is still limited, cash remains the most reliable form of payment. This highlights the digital divide between urban and rural areas.
- **Other Uses (10%)**: Cash is also preferred for gifting, small donations, or ceremonial purposes, reflecting social and cultural practices where cash is still seen as a convenient and accepted medium.

These findings highlight the importance of cash in specific contexts, emphasizing that while digital payments are on the rise, cash continues to serve essential functions that may not be easily replaced soon [19].

7. Conclusion

The study highlights a significant shift in payment behaviour in India, with UPI and digital wallets emerging as the dominant transaction methods post-pandemic. The pandemic accelerated the adoption of digital payments, indicating that convenience, safety, and ease of use have become criticalconsumer factors. However, cash remains relevant for specific use cases, such as emergency savings, small transactions, and areas with limited digital access, reflecting the persistence of a hybrid payment ecosystem**.**

The innovation in this subsector has helped positively transform the economy, given that the public has been able to adopt mobile money to extend what used to be traditional means of procuring

financial solutions. The development also emphasizes a need to continue investment in these digital facilities to develop customers' awareness and financial literacy to support the future cashless society.

8. Applications

The insights from this research can benefit multiple stakeholders:

1. **Government and Policy Makers:**

- Develop plans to advance financial literation and increase a digital payment system.
- Most of the policies in the urban areas must be extended to rural areas to allow equal accessibility to customers in the physical and digital worlds.

2. **Banks and Fintech Companies:**

- Design better user experiences for digital wallets and UPI to encourage adoption.
- Address security concerns and offer incentives to promote the use of digital platforms [7].

3. **Businesses and Retailers:**

- Leverage digital payment trends to enhance customer experiences.
- Incorporate multiple payment options to cater to diverse customer preferences.

Challenges of Digital Payment Systems

- Education and technology are well-known barriers because most inhabitants, particularly in rural regions of the country and abroad, know little about using mobile money platforms. Furthermore, the exclusion of older adults and other vulnerable persons from learning roles of new technology and the general scarcity of ICT proficiency limitsits broad use.
- Security threats such as racketeer-influenced and corrupt organizations, theft and phishing, and unauthorized electronic transactions remain a threat to users and providers. These risks reduce confidence levels and require strong protection to prevent fraudulent activities.
- These include infrastructure challenges, technical hitches like inadequate connectivity, slow networks, and failed digital transactions. This has implications for sharing welfare among high-privacy constituents as rural areas are highly impacted, making it hard to champion a cashless culturenationwide.

These challenges underscore the importance of upgrading the foundational aspects of the overall digital payment system infrastructure, education, security and policies.

Future Scope

1. **In-depth Studies on Other Age Groups:**

- The Centre of interest for subsequent studies can be expanded to other age groups (e.g., older people) to investigate their digital payment usage.

2. **Longitudinal Study:**

- More time can track payment behaviour changes, for instance, due to the ever-changing tech advancements and consumer preferences.

3. **Regional Comparisons:**

- Primary and secondary data from different states or even across different regions can be used to compare the levels of digital payment in different regions.

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