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Comparative Study Between Traditional Cash Handling and Digital Wallet Management

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ABSTRACT

The rapid growth of digital technology has significantly transformed payment systems, creating a shift from traditional cash handling to digital wallet management. This paper presents a comparative study between these two payment methods, examining transaction efficiency, security risks, user preferences, financial inclusion, and behavioural patterns. A descriptive and analytical research design was adopted with a sample of 100 respondents from Coimbatore. Primary data was collected through structured questionnaires, and statistical tools including Percentage Analysis, Chi-Square Test, and One-Way ANOVA were applied. The study reveals that 71% of respondents use digital wallets daily, while cash remains preferred for local markets and emergencies. Results show no significant association between gender and payment preference, though age significantly influences digital wallet convenience perception. The findings suggest a hybrid payment model as the dominant paradigm, with digital wallets scoring higher on convenience and efficiency, while cash retains advantages of universal acceptance and spending control.

Keywords: Traditional Cash Handling, Digital Wallet Management, UPI, Transaction Efficiency, Financial Inclusion, Payment Behaviour, Digital Payments, Cybersecurity.

I. INTRODUCTION

Traditional cash handling involves managing physical currency—coins and notes—for transactions, including receiving, counting, and storing money securely. Digital wallets like Paytm, Google Pay, and PhonePe allow instant electronic payments through smartphones and internet connectivity. The growth of digital payments has increased due to rising internet usage, smartphone availability, and initiatives like Digital India and Demonetisation. The introduction of UPI has made peer-to-peer and merchant payments faster and more accessible. However, cash remains important, especially in rural and informal sectors. In Coimbatore, digital payments are common in supermarkets and restaurants,

while local markets still use cash. This study compares the advantages and challenges of both systems to identify the most suitable method today.

II. REVIEW OF LITERATURE

A substantial body of research has examined the adoption and performance of digital payment systems in India. Shree et al. (2021) found that positive perception of digital payments and trust in the ecosystem significantly increase the likelihood of digital payments, while prior fraud experience affects usage depending on transaction purpose. Baxi et al. (2024) established that Task–Technology Fit (TTF) is the strongest factor driving mobile wallet adoption, with effort expectancy, hedonic motivation, and cost also being significant predictors.

Sharma (2024) documented that COVID-19 spurred digital wallet usage, with UPI transactions rising approximately 24% post-pandemic while cash use fell correspondingly. Reddy et al. (2025) found that digital wallet users spend more frequently and impulsively than cash users, with frictionless digital payments weakening spending restraint. Trivedi & Chauhan (2022) reported that 95% of surveyed users employed UPI or digital wallets, with 88% preferring UPI over cash.

Gokula Priya & Shalini (2025) highlighted a significant urban–rural digital divide, with rural barriers including poor connectivity, lack of literacy, and trust issues. Ligon et al. (2022) observed that even among merchants who had adopted digital payments, the majority of transactions remained in cash, with lack of customer demand cited as the main deterrent. A noticeable gap exists in comparative studies that examine both systems side by side across dimensions of efficiency, security, and financial inclusion, which this study aims to address.

III. RESEARCH METHODOLOGY

A descriptive and analytical research design was adopted for this study to compare cash handling and digital wallet usage by examining user preferences, transaction efficiency, security perceptions, and financial inclusion aspects.

Parameter	Details
Area of Study	Coimbatore, Tamil Nadu
Sample Size	100 respondents
Sampling Technique	Convenience Sampling

Data Source	Primary (structured questionnaire) & Secondary (journals, RBI publications, government reports)
Statistical Tools	Percentage Analysis, Chi-Square Test, One-Way ANOVA
Software	SPSS and Microsoft Excel

The questionnaire was divided into five sections: demographic profile, traditional cash handling practices, digital wallet management practices, comparative perception, and overall satisfaction.

IV. RESULTS AND DISCUSSION

5.1 Demographic Profile

Variable	Dominant Category	Percentage
Age	Above 18 (young adults)	70%
Gender	Male	69%
Education	Undergraduate (UG)	79%
Occupation	Student	63%
Marital Status	Single	81%
Monthly Income	Below Rs.20,000	60.44%

Table 1: Demographic Profile of Respondents

The sample is predominantly composed of young, single, undergraduate students with lower income levels, which is consistent with the study's context in a college town. This demographic profile provides relevant insights into emerging consumer payment behaviour among digitally aware youth.

5.2 Payment Usage Patterns

Usage Indicator	Percentage
Use both cash and digital wallets	53%
Primarily use digital wallets	37%
Primarily use cash	10%
Use digital wallets daily	71%
Use cash daily	37%
Use digital wallets for all transaction types	65%

Prefer cash in local markets	34%
Increased digital wallet usage post-COVID-19	84%

Table 2: Payment Usage Patterns

The data reveals that a hybrid payment approach is most common, with 53% using both methods. Digital wallet adoption is particularly strong, with 71% daily users, reflecting deep integration of cashless payment into everyday life. The significant increase in digital wallet use post-COVID-19 (84%) underscores the pandemic's lasting impact on payment behaviour.

5.3 Perceptions on Cash and Digital Wallets

Perception Statement	Positive Response (%)
Cash transactions are easy to understand	83%
Cash provides better control over spending	82%
Cash transactions are safe and reliable	80%
Cash is accepted everywhere	83%
Cash handling involves risk of loss or theft	77%
Digital wallets are convenient to use	89%
Digital wallets save time during transactions	80%
Digital wallets are secure for payments	78%
Digital wallets help in tracking expenses	82%
Digital wallets are more convenient than cash	79%
Cash more trustworthy than digital wallets	73%
Overall satisfied with digital wallet services	79%

Table 3: Perception Analysis – Cash and Digital Wallets

A notable trust paradox emerges from the data: while 89% of respondents find digital wallets highly convenient, 73% still consider cash more trustworthy. This indicates that convenience and trust operate as separate dimensions of payment preference. Cash's tangibility, legal tender status, and independence from technical infrastructure continue to sustain its perceived reliability.

5.4 Chi-Square Analysis

Variables Tested	Chi-Square Value	p-value	Result
Gender vs Mode of Payment	0.423	0.809	Not Significant (H0 Accepted)
Age Group vs Digital Wallet Usage Frequency	12.073	0.440	Not Significant (H0 Accepted)

Table 4: Chi-Square Test Results

The Chi-Square analysis reveals no statistically significant association between gender and mode of payment ($p = 0.809 > 0.05$), nor between age group and frequency of digital wallet usage ($p = 0.440 > 0.05$). This indicates that digital wallet adoption has achieved broad demographic penetration, cutting across gender and age boundaries uniformly within this study population.

5.5 One-Way ANOVA Analysis

Variable Tested	F Value	p-value	Result
Age Group vs Digital Wallet Convenience Perception	3.353	0.013	Significant (H1 Accepted)
Monthly Income vs Cash Spending Control Perception	0.809	0.492	Not Significant (H0 Accepted)

Table 5: One-Way ANOVA Results

ANOVA results reveal that age group significantly influences the perception of digital wallet convenience ($F = 3.353$, $p = 0.013 < 0.05$). Respondents aged 45–54 recorded the highest perceived convenience (Mean = 5.00), followed by the 25–34 age group (Mean = 4.85), while those below 25 showed comparatively lower perception (Mean = 4.30). This suggests that working-age adults who manage real financial responsibilities appreciate the efficiency advantages of digital wallets more acutely. Monthly income, however, does not significantly influence perceptions about cash providing better spending control ($F = 0.809$, $p = 0.492 > 0.05$), indicating that this belief is broadly held across income levels.

V. MAJOR FINDINGS

The study yields the following major findings:

i. Digital wallets have achieved dominant adoption, with 71% of respondents using them daily, reflecting deep integration of cashless payments into everyday life.

ii. A hybrid payment model—combining both cash and digital wallets—is the most prevalent pattern, adopted by 53% of respondents.
iii. Cash remains contextually relevant, particularly in local markets (34%), for small purchases (24%), and during emergencies (20%).
iv. The COVID-19 pandemic significantly accelerated digital wallet adoption, with 84% of respondents reporting increased usage post-pandemic.
v. Gender and age group do not significantly influence the choice of payment method or digital wallet usage frequency, indicating broad demographic-neutral acceptance.
vi. Age group significantly determines digital wallet convenience perception, with working-age adults (25–54) valuing digital wallet convenience more than younger users below 25.
vii. A trust paradox exists: while digital wallets score higher on convenience (89%) and efficiency (80%), cash is still considered more trustworthy by 73% of respondents.

VI. SUGGESTIONS

Promote Digital Financial Literacy: Financial institutions and government agencies should conduct targeted digital literacy programs to familiarise all population segments with digital payment tools, focusing on ease of use, security features, and transaction tracking.

Strengthen Cybersecurity Awareness: Financial service providers should invest in user education campaigns on safe digital payment practices, including strong authentication, vigilance against phishing, and regular monitoring of transaction history.

Ensure Inclusive Digital Infrastructure: Policymakers and telecom providers should expand reliable digital connectivity to rural and underserved areas to bridge the urban-rural digital divide and ensure equitable access to cashless services.

Maintain Cash Access for Emergency Scenarios: Despite rapid digitalisation, a parallel cash infrastructure should be maintained alongside digital systems to ensure payment continuity in situations involving poor network connectivity or emergencies.

Build Consumer Trust in Digital Systems: Banks and fintech companies should invest in transparent communication regarding transaction security, dispute resolution mechanisms, and data privacy policies to overcome the persistent trust gap.

VII. CONCLUSION

This study compares traditional cash handling and digital wallet management and finds that neither system is completely superior. Digital wallets perform better in convenience, speed, transaction

tracking, and post-COVID usage, while cash remains strong in universal acceptance and reliability in low-connectivity areas. Gender does not significantly influence payment preference, showing broad adoption across demographics. However, age plays an important role, with working adults valuing digital convenience more. Overall, a hybrid model combining cash and digital payments best supports India's evolving financial system.

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