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A Study of Digital Financial Inclusion in India with Special Reference to Payments Bank and Small Finance Bank

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ABSTRACT

This research investigates the evolving landscape of digital financial inclusion in India, with special reference to Payments Banks and Small Finance Banks (SFBs). Financial inclusion has become a cornerstone of India's development agenda, aiming to provide equitable access to formal financial services across socio-economic segments. With the rise of digital infrastructure and government-led schemes such as Jan Dhan Yojana, Aadhaar-enabled services, and UPI, financial access has deepened significantly. Payments Banks and Small Finance Banks were created by the Reserve Bank of India (RBI) to expand outreach to low-income groups, rural households, migrant workers, and micro-entrepreneurs. This study adopts a mixed-methods approach, combining survey responses, interviews, and field observations to assess user experience, access, satisfaction, and the real-world impact of digital financial services provided by these institutions. The findings suggest that while digital penetration has improved, usage gaps persist due to literacy barriers, limited awareness, and socio-economic constraints. The study concludes with actionable suggestions to strengthen inclusive finance, enhance digital literacy, and promote technology-driven outreach.

1. INTRODUCTION

1.1 Financial Inclusion in India: A Digital Shift

Financial inclusion refers to providing access to useful and affordable financial services—such as savings, credit, insurance, and pensions—to all segments of society. In India, initiatives like PMJDY and Aadhaar have drastically expanded access to banking, especially among rural and low-income households. Digital innovation has played a transformative role, enabling citizens to access accounts, make payments, and receive subsidies using their mobile devices or biometric IDs.

However, despite significant improvements in account ownership, actual usage remains limited. Many users still rely on informal sources for credit and lack trust or knowledge to navigate digital banking tools effectively.

1.2 Rise of Digital Financial Inclusion

Digital financial inclusion involves using mobile phones, online platforms, and Aadhaar-enabled services to provide financial services to previously excluded individuals. The introduction of UPI, AePS, and digital wallets has enabled millions to transact easily and securely. According to NPCI data, over 172 billion UPI transactions were processed in 2024 alone, signaling massive adoption.

1.3 Evolution of Digital Financial Inclusion in India

- Phase I (2014–2016): PMJDY and Aadhaar were launched. Over 26 crore accounts were opened rapidly.
- Phase II (2016–2018): Demonetization led to a spike in digital payments. UPI and mobile wallets gained momentum.
- Phase III (2018–Present): Fintechs, UPI, and government-backed platforms accelerated financial inclusion through digital means.

1.4 Role of Payments Banks and Small Finance Banks

Payments Banks provide low-cost digital savings and remittance services, targeting migrant workers and the unbanked. Small Finance Banks, meanwhile, offer credit and savings to underserved micro-entrepreneurs and rural customers. Both institutions play a vital role in closing the last-mile gap in formal finance.

1.5 Government and Technology as Enablers

Key digital finance enablers include:

- PMJDY (53+ crore accounts)
- Aadhaar (1.3 billion enrollments)
- UPI (₹247 trillion in 2024)
- AePS, DBT, and e-RUPI
- Over 3,000 fintech startups supporting innovation

1.6 Problem Statement

While India has made massive progress in expanding digital access, usage remains inconsistent. Dormant accounts, lack of digital awareness, and infrastructure gaps hinder true financial inclusion. This study explores the on-ground realities of Payments Banks and SFBs in narrowing this gap.

2. OBJECTIVES

1. To investigate the extent to which Payment Banks and Small Finance Banks were promoting digital access to financial services among the underserved in India.
2. To Assess the level of users' experiences, satisfaction and challenges of adopting digital financial services via structured questionnaires and face-to-face interviews.
3. To Evaluate the impact of digital financial services by tracking both quantitative patterns and qualitative experiences across varied demographic profiles.

3. LITERATURE REVIEW

Demirgüç-Kunt et al. (2017) highlighted how digital financial services like mobile money, Aadhaar authentication, and digital payments have played a major role in boosting account ownership in developing nations. Their Global Findex database showed that such tools reduce traditional obstacles—like high costs, distance, and lack of documents—and help people engage more easily with formal financial systems.

The Reserve Bank of India (2014) introduced Payments Banks as a way to extend deposit and remittance services to low-income groups, migrant workers, and small businesses. These banks were designed to be low-cost and digital, although their inability to lend limits both profitability and long-term user engagement.

Srinivas (2017) explored how Payments Banks, supported by mobile banking and postal networks, are helping financial inclusion take root in India. His work focused on their integration with government programs like PMJDY and their potential to reach underbanked populations at the grassroots.

Chaturvedi (2022) presented an in-depth study of Small Finance Banks (SFBs), which are tasked with offering personalized savings, credit, and insurance products to financially excluded communities. His research emphasized how SFBs leverage strong local presence to fill the gap left by traditional banks.

Asif et al. (2023), in the Journal of Risk and Financial Management, used regression and correlation analysis to show that the expansion of digital services—like mobile wallets and online banking—has positively impacted financial inclusion for underserved groups.

Roy and Kumar (n.d.) studied the policy frameworks and business models that influence Payments Banks and Small Finance Banks in India. They focused on how regulatory systems and innovation strategies shape the way these banks contribute to the country's digital inclusion goals.

A study published in the International Journal of Novel Research and Development (2023) evaluated how Small Finance Banks act as agents of financial inclusion. It assessed both the range of services offered and the populations served, while also noting challenges like infrastructure gaps and regulatory pressures.

Pramani and Iyer (2022) pointed out that Payments Banks face low adoption rates due to lack of public awareness and restricted services. Their absence of credit facilities was seen as a barrier to deeper user involvement and customer retention.

Chaturvedi (2022) also emphasized how institutions like Ujjivan and AU Small Finance Bank transitioned from microfinance to formal banking, helping to expand credit access in rural and low-income areas through community-driven banking.

According to KPMG India (2018), Small Finance Banks are more sustainable than Payments Banks because their revenue sources are diversified through lending. However, the report acknowledged difficulties such as tight regulations and high risks in rural lending.

India's digital public infrastructure—particularly the India Stack, which includes Aadhaar, UPI, and e-KYC—has been critical in enabling both PBs and SFBs to scale operations more efficiently and securely.

Bansal (2021) highlighted how Aadhaar-linked services have lowered both the cost and time needed for customer onboarding. His study found that mobile-based Aadhaar verification makes it easier for people to join the formal financial system.

Mehrotra and Yetman (2015) cautioned that increased access doesn't always mean increased usage. They emphasized that mistrust and digital illiteracy are still major challenges in making financial inclusion meaningful.

Gupta and Singh (2020) observed that while digital access has improved, the benefits are not equally distributed. Vulnerable groups like the elderly, rural women, and people with low literacy often struggle with complex interfaces, privacy fears, and limited support.

Biswas (2021) applied an instrumental variable approach to study how mobile banking influences user behavior. The results showed that digital services encourage greater use of formal financial tools like investments and institutional loans.

Verma and Shome (2025) examined digital finance among microenterprises and found that perceived usefulness, ease of use, peer influence, and government incentives significantly shape adoption behavior. They concluded that resolving these issues can boost operational efficiency and financial access.

Bala et al. (2022) focused on women in rural areas and argued for gender-responsive product design. Their research showed that collecting gender-disaggregated data and offering tailored solutions can improve financial inclusion for women with limited mobility and digital skills.

Devi (2024) studied mobile banking and digital payment tools in rural India, noting their positive impact on financial access and productivity. The research called for policy reforms to expand digital infrastructure and reduce usage barriers.

Dheyvendhren and Radhika (2025) examined how digital payments affect financial inclusion in Scheduled Commercial Banks. Using RBI data and Sarma's Index, they found a strong link between digital payment adoption and financial access.

Sahoo and Dwibedi (2021) developed a framework for inclusive digital finance, describing it as technology-driven, low-cost service delivery for unbanked populations. They noted that cybersecurity risks and digital illiteracy are still pressing challenges.

Khera (2023) also applied an instrumental variable method and concluded that mobile banking improves use of formal financial services, particularly investments and institutional credit.

Serrao, Sequeira, and Varambally (2021) studied the socio-economic outcomes of financial inclusion in Karnataka. Their findings showed improvements in financial planning, savings, and access to credit, especially in rural areas, reinforcing its role in reducing poverty and promoting inclusive growth.

4. RESEARCH METHODOLOGY

This study is designed to assess the progress of digital financial inclusion in India, with special reference to the outreach and impact of Payments Banks and Small Finance Banks. The study focuses on capturing the real-world experiences of individuals across urban and semi-urban areas who actively or passively engage with digital financial services. The selected regions reflect a mixed socio-economic landscape and digital maturity, making them suitable for analyzing the inclusiveness and limitations of India's evolving digital finance ecosystem.

The research follows a descriptive and exploratory methodology and employs both qualitative and quantitative approaches. The sample size comprised 52 respondents, including students, professionals, homemakers, and micro-entrepreneurs, selected through convenience sampling. Data collection covered a diverse range of age groups, occupations, income brackets, education levels, and digital exposure, allowing the study to identify behavioral and experiential patterns across user profiles.

Primary data was collected using:

- Structured questionnaires shared via Google Forms to reach digitally active users.
- Personal interviews with digitally excluded or unbanked individuals to understand the barriers they face.
- Field observations conducted at local markets, banks, and customer service points to assess how digital financial services are accessed and understood in practice.

Secondary data was obtained from authentic institutional sources including RBI annual reports, NPCI statistics, Ministry of Finance portals, World Bank publications, and journal-based research. These sources were used to contextualize the findings and benchmark trends related to access, usage, trust, and service quality in India's digital financial inclusion drive.

This mixed-method approach offers both breadth and depth, helping the study to move beyond mere numerical analysis and uncover the practical, human, and infrastructural challenges that define how digital financial services are experienced on the ground. By aligning field observations with national-level data, the research presents a balanced view of progress and the gaps that remain.

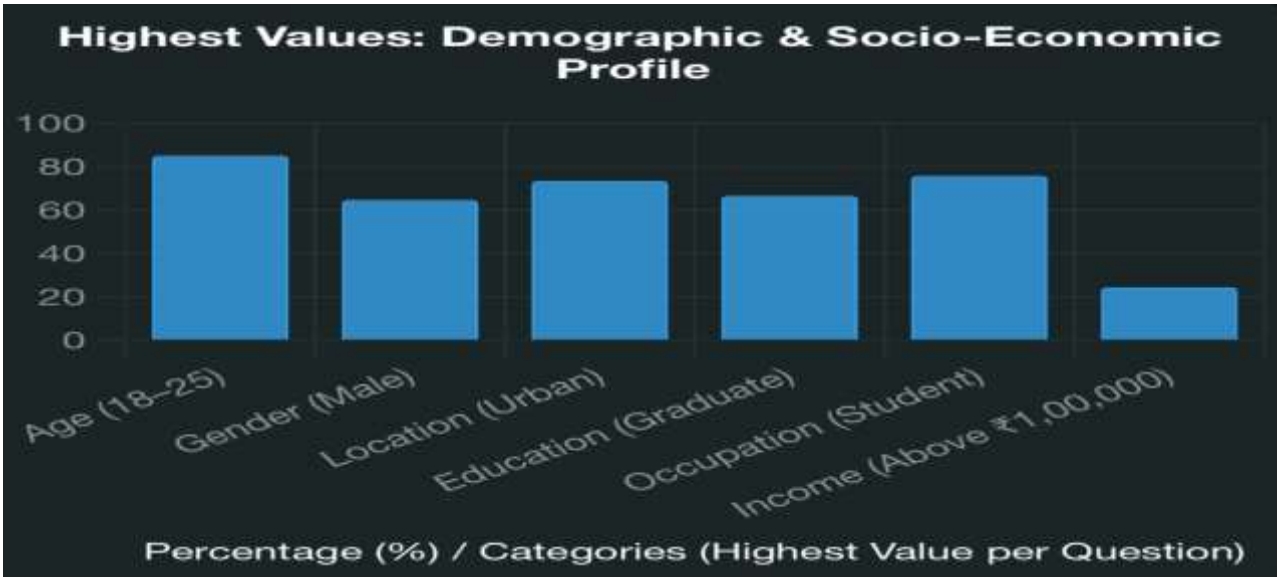
5. DATA INTERPRETATION

5.1 Introduction

This section presents a focused analysis of 54 responses gathered through structured Google Forms and oral interviews as part of the study titled "A Study of Digital Financial Inclusion in India with Special Reference to Payments Banks and Small Finance Banks." Respondents came from diverse socio-economic backgrounds, including both banked and unbanked individuals, offering insights into the reach, effectiveness, and perception of digital banking services. While urban areas remain dominant in terms of access and awareness, the findings point to persistent gaps in usage, confidence, and deep financial engagement. The analysis below uses visual evidence and interpretation to present a human-centered understanding of the current landscape.

5.2 Demographic Overview

The respondent pool is predominantly young, urban, and educated, shaping their digital banking engagement (Figure 1). Most (85.2%) are aged 18–25, with males comprising 64.8% and females 33.3%, indicating a gender gap. Urban residents dominate (73.6%), with only 15.1% from rural areas, reflecting better access to digital infrastructure. Education levels are high, with 66.7% graduates and 7.4% postgraduates, suggesting strong digital literacy. Students account for 75.9%, with employed and self-employed each at 11.1%, limiting representation of small businesses. Income varies, with 24.5% earning above ₹1,00,000 and 35.8% below ₹25,000, likely students reliant on family support. This youthful, urban, educated sample may not fully represent rural or less-educated groups targeted by payment and small finance banks.



***Graph 1**: Combined Demographic Profile – Age, Gender, Education, Occupation, Income*

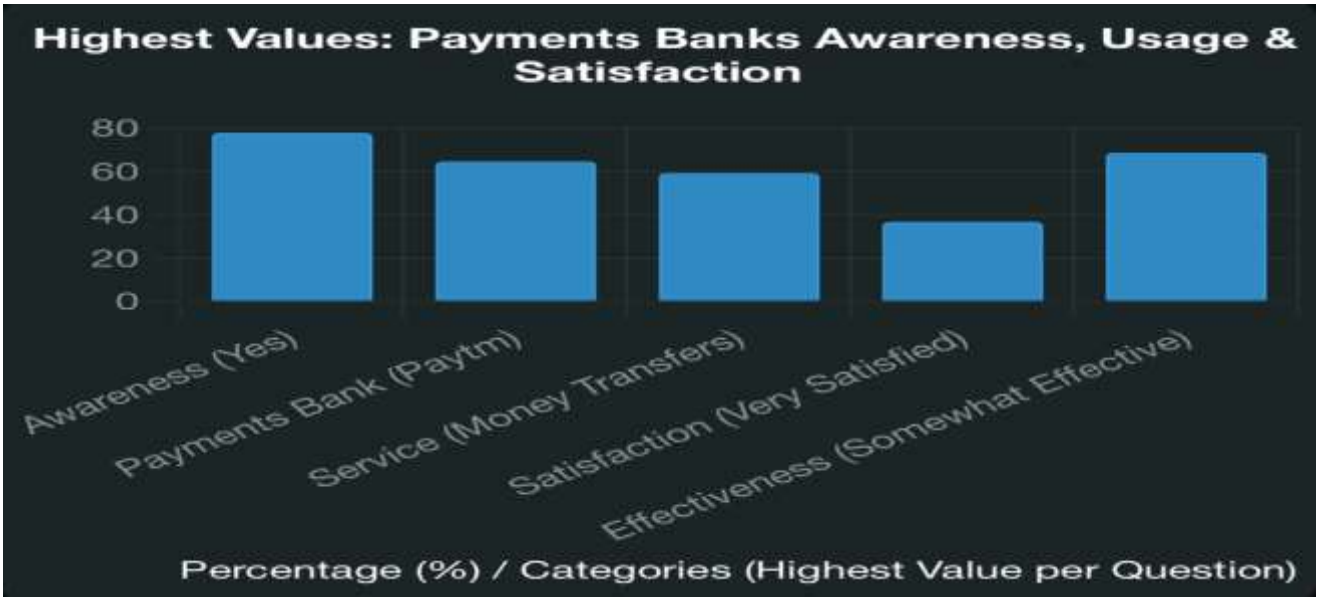
5.3 Banking Preferences

Respondents favor traditional and digital banking services, with a strong inclination toward mobile-first solutions (graph 2). Savings accounts are held by 79.6%, while payment (16.7%) and small finance bank (7.4%) accounts lag, indicating reliance on conventional banking. Only 3.7% are unbanked. UPI applications lead financial service usage at 72.2%, followed by ATM/debit cards (68.5%) and mobile banking (53.7%), reflecting trust in real-time digital payments. Internet banking (37%), credit cards (24.1%), and insurance (9.3%) show lower penetration, suggesting limited adoption of advanced products among this young demographic.

Graph 2: *Banking Preferences*

5.4 Payments Bank Usage

Payment banks enjoy high awareness (77.8%) but limited deep engagement (Figure 3). Paytm (64.6%) and Airtel (47.9%) are most recognized, far ahead of government-backed banks like India Post (14.6%). Money transfers (59.2%) and bill payments (49%) are primary uses, with deposits (51%) and withdrawals (49%) less common, indicating transaction-focused usage. Satisfaction is moderate, with 69.4% "satisfied" or "very satisfied," but 8.2% are "very dissatisfied," and 68.6% rate effectiveness as "somewhat effective." The 22.2% unawareness and 31.4% negative effectiveness ratings highlight gaps in outreach, product range, and perceived value compared to traditional banks or fintech.



Graph*:3 Usage and Barriers in Digital Payments: Preferences and Challenges*

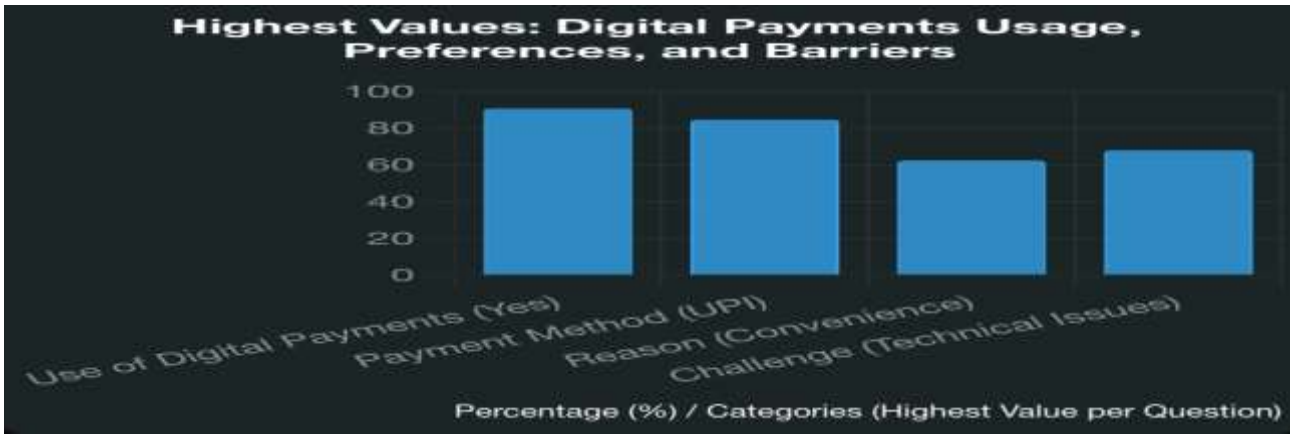
5.5 Small Finance Bank Engagement

Small finance banks (SFBs) face lower awareness (54.7%) and adoption compared to payment banks (Figure 4). AU (39.5%) and Equitas (34.2%) lead recognition, but smaller banks like Jana (7.9%) have low recall. Only 32.7% hold SFB accounts, despite 54.7% awareness, suggesting trust or accessibility barriers. Savings accounts (68.8%) dominate usage, with loans (18.8%) and microfinance (6.3%) minimal, indicating perception as traditional banks. Satisfaction is lukewarm, with 50% neutral and 42.1% satisfied, while 57.1% rate SFBs "effective" or "very effective" for inclusion, better than payment banks but hindered by low visibility.

Graph 4: Perception and Usage of Payments Banks: Awareness, Services, and Satisfaction

5.6 Digital Payment Trends

Digital payments are widely adopted (90.6%), driven by UPI (84.6%), followed by mobile wallets (42.3%) and internet banking (38.5%) (Figure 5). Convenience (62.3%) and speed (18.9%) are key motivators, with cashbacks (7.5%) less influential. Technical issues (72%) and limited internet access (34%) are major barriers, alongside trust concerns (18%) and digital literacy gaps (6%). Respondents suggest improving literacy, internet infrastructure, cybersecurity, biometric integration, and rural services to enhance inclusion. Some prefer cash, indicating resistance.



Graph 5*: Small Finance Banks: Awareness, Usage Patterns, and Public Feedback*

5.7 Overview of survey data interpretation

The survey of 54 mostly young and urban respondents (85.2% aged 18–25, 73.6% urban) shows strong familiarity with basic digital tools like UPI (72.2%) and mobile banking (53.7%), but limited engagement with deposit-oriented services like microfinance or pensions. While awareness of Payment Banks and Small Finance Banks was moderate to high, actual account ownership remained low (16.6% and 32.7% respectively). The results suggest that while digital payments have become common among educated youth, deeper financial services like credit and savings still lag behind, indicating partial progress toward full financial inclusion.

5.8 Unbanked Individuals (Oral Interviews and Observation)

Interviews and field visits revealed that unbanked individuals—mostly daily wage workers and the less literate—face challenges like lack of awareness, fear of fraud, and distrust in digital banking. Many avoid digital tools due to low digital literacy, fear of making mistakes, or dependence on family-led financial practices. Observations confirmed poor infrastructure in certain areas, such as lack of ATMs, POS devices, or internet access, and showed that even where digital services exist, cultural habits favor cash transactions, making it harder for these individuals to adopt formal banking.

5.9 Data Interpretation: Secondary Data:

Secondary data from RBI, NPCI, and NITI Aayog confirms a rise in digital transactions, especially in urban India, but also highlights ongoing exclusion in rural and marginalized communities due to digital illiteracy, poor infrastructure, and economic inequalities. While schemes like Jan Dhan Yojana and Aadhaar linking expanded access, they did not ensure continued usage or meaningful inclusion for the unbanked. Case studies from Delhi NCR showed banks offering digital products that failed to truly reach underserved populations, pointing to a need for more targeted, inclusive, and sustainable digital financial strategies.

6. LIMITATIONS

1. The small sample size of 70 respondents limits the ability to generalize the findings across the broader Indian population.
2. Since most responses came from urban and semi-urban areas, the results may not accurately reflect the experiences of rural or remote communities.
3. A majority of participants were young and digitally active, which may have skewed the data toward tech-savvy behavior patterns.
4. The study mainly focused on widely used digital tools, so it doesn't offer insights into other emerging financial technologies or informal banking practices.
5. The short duration of data collection may have missed gradual changes in user behavior or the delayed impact of new policies.
6. Only a few unbanked respondents were interviewed, which limits deeper understanding of exclusion-related challenges.
7. Since Google Forms were used for most of the data collection, individuals without smartphones or internet access were likely excluded.

7. CONCLUSION

This study highlights that digital financial inclusion has significantly reshaped the way financial services are delivered in India, especially to underserved and unbanked populations. Payments Banks and Small Finance Banks have played important roles in expanding access—PBs by enabling low-cost, digital-first savings and payment services, and SFBs by offering localized credit and deposit products for low-income and rural communities.

The use of technologies such as AePS, UPI, and biometric authentication has improved service reach and user experience. However, challenges like low active usage, poor infrastructure, trust deficits, and regulatory constraints continue to limit deeper inclusion. While initiatives like Jan Dhan Yojana and Digital India provide a strong starting point, long-term success depends on strengthening policy, infrastructure, digital literacy, and institutional capacity.

India's progress is notable, but bridging the usage gap and enabling long-term engagement—especially for vulnerable groups—remains a key goal in the digital financial inclusion journey.

8. SUGGESTIONS

1. Launch targeted digital literacy campaigns using local languages and trusted community networks.
2. Allow Payments Banks limited credit options or partnerships with NBFCs and SFBs to expand offerings.
3. Strengthen secure, low-bandwidth digital platforms through public–private tech collaborations.
4. Promote active usage through incentives like cashback, fee discounts, and subsidised rates.
5. Set up multilingual, accessible grievance redressal systems with regular monitoring and user feedback.

9. FUTURE RESEARCH DIRECTION

1. Future studies can explore long-term user engagement with PBs and SFBs across rural regions.
2. More research is needed to assess the role of gender, disability, and elderly inclusion in digital banking.
3. Comparative studies across Indian states could highlight regional disparities in digital financial access.
4. The impact of digital banking regulations on the growth of PBs and SFBs requires deeper policy analysis.
5. Future research could evaluate digital trust-building strategies and their effect on sustained usage.

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