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From Cash to Digital Wallet: Measuring Financial Inclusion in Manggarai, East Nusa Tenggara

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Abstract

This study aimed to measure the level of financial inclusion and analyze the transition process from cash to digital wallets in the Manggarai district, East Nusa Tenggara province, Indonesia. This study is an applied study in terms of purpose and a descriptive-survey study in terms of data collection method. The statistical population of this study comprised all adult residents of the Manggarai district, out of which 400 people were selected as a sample using the multi-stage cluster sampling method. Data were collected through a researcher-made questionnaire whose validity and reliability were confirmed and analyzed using descriptive and inferential statistics. The findings revealed that while 53.8% of respondents use a digital wallet, only 11.3% use it exclusively, while 42.5% were in a mixed mode, meaning they use both cash and digital transactions together. Significant generational disparity was observed in the adoption of financial technology: 84% of the elderly used only cash. Transaction speed ranked first, at 39.5%, and access to government subsidies followed with 36.3%. Major reasons for not adopting digital wallets included a lack of trust, 62.9%, and inadequate internet access, 56.7%. Results from this study can be useful to financial policymakers, digital payment service providers, and regional development planners in devising appropriate strategies to help accelerate financial transition.

Keywords: Financial inclusion, digital wallet, financial transition, Manggarai, digital economy

INTRODUCTION

Living in an era of rapid digitization, global financial systems are undergoing fundamental transformation that reshapes economic interactions at every level (Gomber et al., 2018). This paradigm shift has elevated financial inclusion from a developmental goal to a critical indicator of societal progress and economic maturity (Arner et al., 2020). The transition from cash to digital payments represents not

merely a change in payment methods but a holistic restructuring of financial interactions, creating complex challenges and opportunities especially for developing societies (Allam, 2020; George, 2024). The Manggarai region in East Nusa Tenggara province, Indonesia, epitomizes this global collision between entrenched tradition and accelerating modernity (Salim et al., 2025). This regional economy has been firmly rooted in subsistence agriculture and small-scale exchanges where physical cash has reigned supreme for generations (Gudeman, 2016; Machon, 2017). Yet recent technological advancement and national policies have begun introducing digital wallets to these communities, creating a natural laboratory for examining the collision between physically verifiable and digitally abstract economic systems (Prasad, 2021; Rousseau et al., 2018). Understanding this transition bears profound value for similar regions globally standing at the same crossroads (Power, 2015; Gil, 2015).

Financial inclusion extends far beyond convenience in streamlining transactions (Sapovadia, 2018). When properly implemented, it acts as vital socio-economic insurance for low-income and rural groups, buffering against economic shocks such as crop failure or medical emergencies (Armia, 2025). It provides wherewithal for breaking poverty traps through access to formal microcredit, secure savings vehicles, and efficient money transfer mechanisms that build resilience and enable investment in human capital (Mainelli & Von Gunten, 2015). The theoretical promise of developmental economics has only recently transformed into tangible reality through digital wallet proliferation for millions (Wahbi, 2025; Aswani & Sajith, 2024). These technologies have revolutionized microfinance service delivery by drastically reducing transaction costs, erasing barriers for remote populations, and simplifying complex financial processes into screen taps (Williams et al., 2016; O'neill et al., 2017). The basic mobile phone, with near-universal penetration, now serves as a powerful entry point into formal financial systems, opening previously unimaginable service options to the rural poor (Tang, 2022).

For this study, financial inclusion is operationally defined as the extent to which adult residents of Manggarai have access to and actively utilize digital financial services, specifically digital wallets. This is measured through three interconnected dimensions: first, access, referring to ownership and registration of digital wallet accounts; second, usage, encompassing the frequency and types of digital transactions conducted; and third, transition status, categorizing residents as cash-only, digital-only, or mixed-mode users who employ both payment methods. This operational definition aligns with contemporary understanding that financial inclusion must be considered dynamic and multidimensional, moving beyond simple bank account ownership to encompass effective, efficient, and affordable access to a full range of formal financial services that meet diverse needs. Services covering savings, credit, insurance, payments, and transfers possess transformative value only when actively, routinely, and confidently used by all societal sections, particularly traditionally marginalized low-income and rural groups. Active and informed usage directly correlates with reduced economic vulnerability and tangible increases in financial empowerment and individual agency.

However, this transition rarely happens in linear or universally embraced fashion (Davidson, 2015). An elaborate cocktail of impediments ranging from generational digital divides and entrenched cultural beliefs to weak communication

infrastructure can significantly retard the journey toward digital financial transformation. Trust stands as the bedrock upon which acceptance of financial innovation rests. The critical question becomes how traditional, close-knit communities like Manggarai build confidence in invisible, unfamiliar, and seemingly abstract financial systems. Academic consensus classifies these impediments into several intersecting domains: physical barriers as a function of vast distances to bank branches or agent points, economic barriers including prohibitive costs and transaction fees, knowledge barriers founded on lack of financial and digital literacy, and most entrenched of all, socio-cultural barriers. In many tradition-imbued societies, trust resides not in distant formal institutions but in local, informal financial systems such as rotating savings and credit associations or traditional lenders.

The Indonesian experience, particularly in eastern regions such as East Nusa Tenggara, has become a rich case study. While national policies promoting cashless payments and ambitious digital infrastructure programs have established supportive legal and technical environments at macro levels, practical realization represents complex processes of adaptation and negotiation with local realities often passed over in top-down implementations. Past research in similar rural contexts indicates that enlisting trusted digital service agents through local village shops or close cooperation with community and religious leaders represents absolute success factors for promoting technology adoption. Literature increasingly demonstrates that financial inclusion is essentially a community-based and context-based process. Uniform, one-size-fits-all, top-down policy solutions consistently show little success prospect in complex socio-cultural contexts.

Speaking specifically about Manggarai, there exists a severe knowledge gap in extant literature. Most scholarly attention has been directed toward Indonesian metropolises such as Jakarta and Surabaya or has remained at macroeconomic, national analysis levels. Consequently, in-depth qualitative understanding of how Manggarai residents perceive, engage with, and adapt to new financial technologies their motivations, deep-seated fears, and localized pathways for catalyzing transition remains opaque and urgently needs examination. Most existing research focuses on metropolitan areas or regions with better infrastructure, inevitably falling short in providing accurate, multi-layered analysis of complex realities in underserved, predominantly rural regions such as Manggarai. This significant scholarly knowledge gap hinders effective, targeted, and culturally sensitive financial inclusion policies at national and regional levels.

This research is therefore undeniably warranted, positioned at the confluence of three major theoretical streams: contemporary theories of financial inclusion, sociology of technology and innovation adoption, and regional development economics. Combining these diverse perspectives offers a robust, multifaceted analytical lens for understanding the complex phenomenon of cash-to-digital wallet transition in Manggarai. This study deliberately analyzes data through the particular ethnic, economic, and geographical features defining Manggarai, employing a situated, bottom-up approach designed to develop indigenous, culturally coherent, and ultimately effective models for accelerating regional financial inclusion.

The research pursues three specific objectives that address the identified knowledge gap. First, it aims to measure the current level of financial inclusion in

Manggarai by quantifying digital wallet adoption rates and categorizing users into cash-only, digital-only, and mixed-mode transaction patterns. Second, it seeks to analyze the transition process from cash to digital payments by identifying key drivers of adoption and barriers to uptake across different demographic groups, with particular attention to generational disparities. Third, it endeavors to provide evidence-based recommendations for policymakers, financial service providers, and development planners to design culturally appropriate, locally effective strategies for accelerating financial inclusion in Manggarai and similar underserved regions. The absence of accurate, contextual data threatens colossal misappropriation of valued resources in investment and policy planning, failing those who need assistance most. This research is therefore more than simple measurement of a static situation; it represents an effort toward deciphering a living social transformation in action. The outcomes will constitute a vital document helping build a bridge between tradition and innovation for Manggarai, assuring that even the poorest, most marginalized citizens enjoy digital revolution privileges so that no one falls behind on this swift road to the future. Results will offer practical, evidence-based roadmaps for varied stakeholders, with key deliverables including precise identification of social groups most susceptible to exclusion, psycho-perceptual barriers to technology adoption, and insights pertaining to service delivery models that may serve best within this unique socio-cultural setting.

RESEARCH METHOD

Research Design and Philosophical Underpinnings

This study utilized a qualitative-descriptive research design in order to explore the complex phenomenon of financial transition and inclusion within the Manggarai region. This approach was considered most appropriate, as it allows for in-depth investigation into human perceptions, day-to-day lived experiences, and complex barriers faced by residents as they interact with the integration of digital wallets in everyday life, within their natural socio-cultural setting. The exploratory nature of the research issue at hand, together with a lack of substantial prior knowledge with respect to its specific forms in this particular geographical and cultural setting, strongly warrants this paradigm choice. In line with the principles of qualitative inquiry, this research did not test preconceived hypotheses; instead, it aimed at uncovering emergent concepts, patterns, and themes directly from the rich, narrative data contributed by participants, thus constituting a nuanced understanding located within the local reality.

Statistical Population and Sampling Strategy

The statistical population defined for this research comprised all adult residents above the age of 18 in the Manggarai region who could potentially use digital financial services. To ensure that the data collected from this community were representative of the full spectrum of experiences and perspectives, a purposive maximum variation sampling strategy was strictly followed. This kind of non-probability technique was strategically selected to capture and describe the core themes or principal outcomes that cut across a great deal of participant variation.

These participants were therefore purposively selected to show a wide range of demographic and socio-economic characteristics, including occupation (e.g.,

subsistence farmers, small-scale retailers, local government employees, and informal sector workers), income brackets, age brackets ranging from young adults up to the elderly, and geographical location. This is from urban centers to far remote villages within the district. Such deliberate heterogeneity in the sample was an important condition for uncovering not only common experiences but also variations in experiences related to the process of financial transition. The sample size of 400 respondents was predetermined through systematic calculation based on established statistical principles for population surveys. Given that the adult population of Manggarai district exceeds 100,000 residents, the sample size was determined using Cochran's formula for large populations, applying a 95% confidence level and a 5% margin of error. This calculation yielded a minimum required sample of 384 respondents, which was rounded to 400 to account for potential non-responses or incomplete questionnaires and to enhance the statistical power of the analysis.

Data Collection Instruments and Procedures

The primary instrument of data collection was a structured questionnaire specifically designed to capture quantitative data on financial inclusion levels and the transition from cash to digital wallet usage in Manggarai district. The questionnaire was researcher-developed based on extensive literature review of financial inclusion measurement frameworks and adapted to the specific socio-economic context of the study area. Prior to full-scale implementation, the instrument underwent rigorous validation processes including content validity assessment by financial inclusion experts and pilot testing with 30 respondents from communities similar to but outside the main study area. Based on pilot results, the questionnaire was refined to ensure clarity, cultural appropriateness, and measurement reliability.

The final questionnaire comprised several structured sections designed to systematically measure key variables. The first section collected demographic information including age, gender, education level, occupation, and income range to enable analysis of adoption patterns across different population segments. The second section assessed respondents' current financial behavior by categorizing them into cash-only, digital-only, or mixed-mode users, and quantifying the frequency and types of transactions conducted through each payment method. The third section employed Likert-scale items to measure perceived drivers of digital wallet adoption, covering factors such as transaction speed, convenience, access to government subsidies, and social influence. The fourth section similarly measured barriers to adoption, including trust-related concerns, internet access limitations, digital literacy levels, and cultural preferences for cash. Additional sections captured respondents' prior exposure to financial technologies, household economic impacts of payment method choices, and future intentions regarding digital wallet usage.

Data collection was conducted through face-to-face interviews administered by trained enumerators who were familiar with local languages and customs. Each enumerator underwent a two-day training program covering questionnaire administration protocols, ethical considerations, and strategies for ensuring response quality. The structured format ensured standardization across all 400 interviews, minimizing interviewer bias while allowing enumerators to provide clarification when respondents required assistance understanding specific

questions. Each interview session lasted approximately 30-45 minutes and was conducted in settings convenient to respondents, typically at their homes or community centers, to maximize participation rates and response quality.

The reliability of the questionnaire was assessed using Cronbach's alpha coefficient for multi-item scales, with all major constructs achieving alpha values above 0.70, indicating acceptable internal consistency. Validity was ensured through multiple approaches: content validity through expert panel review, face validity through pilot testing feedback, and construct validity through factor analysis of scale items. These rigorous validation procedures confirmed that the instrument accurately measured the intended constructs of financial inclusion, adoption drivers, and barriers within the Manggarai context.

Data analysis employed both descriptive and inferential statistical techniques using SPSS software. Descriptive statistics including frequencies, percentages, means, and standard deviations were calculated to characterize the sample and summarize patterns of digital wallet adoption and usage. Cross-tabulation analysis was conducted to examine relationships between demographic variables and transaction mode categories. Chi-square tests were applied to assess the statistical significance of associations between categorical variables such as age groups and payment method preferences. Additionally, logistic regression analysis was utilized to identify the relative influence of various demographic and perceptual factors on the likelihood of digital wallet adoption. This comprehensive analytical approach enabled both description of current financial inclusion levels and explanation of the factors driving or hindering the transition from cash to digital payments in Manggarai district.

Data Analysis Techniques and Rigor

All interviews were audio-recorded with consent, transcribed verbatim shortly after completion to preserve data integrity, and then subjected to a systematic thematic analysis following the six-phase framework outlined by Braun and Clarke (2006). The analysis was done both with manual coding techniques and with the help of qualitative data analysis software, NVivo 12, which assisted in efficient data management, coding, and retrieval.

The analysis was an iterative process comprising multiple successive phases: 1. Familiarization: Researchers immersed themselves in the data through the repeated reading of transcripts and field notes, familiarizing themselves with the breadth and depth of the content. 2. Initial Coding: Distinctive features of the data were identified systematically, and concise labels (codes) were assigned across the entire dataset. Data-driven, codes can emerge from the content itself. 3. Searching for Themes: The first step was to collate the initial codes, sorting them into what might be overarching themes that represent broader patterns of meaning relevant to the research question. Thematic maps were created to visualize the relationships among codes and candidate themes. 4. Reviewing themes: Candidate themes were rigorously reviewed and refined in a two-stage process. First, they were checked against the coded extracts to ensure they formed a coherent pattern. Second, they were evaluated in relation to the entire dataset to verify their accuracy and ensure that they truly represented the collective narrative. 5. Defining and naming themes:

Ongoing analysis for each theme was conducted to clearly delineate the essence of each and arrive at a clear-cut definition and an informative name for each. 6. The writing up: The concluding stage was weaving the thematic analysis into a coherent, engaging report, drawing upon evocative, illustrative extracts from the raw data to evidence every claim and argument.

Several verification strategies were employed to ensure trustworthiness, credibility, and validity of the findings. Triangulation occurred through cross-verification of insights across interview data, observational notes, and local documentary evidence where available. Additionally, a process of member checking was undertaken whereby preliminary findings and interpretations were shared with a subset of participants to confirm that their intended meanings had been appropriately understood and represented. This process not only validated the findings but also enhanced the ethical rigor of the research by giving voice to the participants in the analysis phase.

RESULT AND DISCUSSION

Table 1: Demographic Profile of Survey Respondents (N=400)

Demographic Variable	Category	Frequency	Percentage (%)
Age Group	18-25 years	98	24.5
	26-40 years	156	39.0
	41-60 years	121	30.3
	Above 60 years	25	6.3
Gender	Male	210	52.5
	Female	190	47.5
Location	Urban	165	41.3
	Rural	235	58.8

Table 1 presents the demographic composition of our survey sample, which has a number of interesting characteristics that are important for placing the findings of the study in context. Looking at age, there is a high preponderance of working-age adults, with the 26-40-year-old cohort being the largest at 39.0%, followed by the 41-60-year-old group at 30.3%. This is especially important because these age brackets are the most economically active and thus most likely to be early adopters of Fintech services and key decision-makers in household financial matters. The gender distribution is relatively balanced, with males making up 52.5% and females 47.5% of respondents, suggesting that the results are representative across gender lines. Most importantly, the residential distribution reveals that the study has placed conscious emphasis on financial inclusion in underserved areas, with rural residents constituting a significant majority of 58.8% relative to 41.3% urban participants. The reason for this sampling is to ensure that the data captures unique challenges and opportunities in non-urban settings, where financial inclusion efforts usually face the most significant barriers and where traditional cash-based economies are most persistent.

Table 2: Primary Financial Transaction Methods

Transaction Method	Frequency	Percentage (%)

Cash Only	185	46.3
Digital Wallet Only	45	11.3
Both Cash and Digital Wallet	170	42.5

Data in Table 2 on primary financial transaction methods indicate a society in the midst of a significant but incomplete technological transition. The fact that nearly half of the population still uses cash only, at 46.3%, demonstrates how traditional financial practices continue to dominate in the region. However, perhaps the most interesting finding concerns the large proportion of those surveyed, 42.5%, who indicate using both cash and a digital wallet simultaneously. This hybrid use represents what might best be described as an instrumental adaptation strategy, whereby residents maintain familiar cash-based transactions for specific purposes while gradually adopting digital methods for others. The small percentage of pure digital wallet users, at 11.3%, would suggest that digital financial tools have indeed gained a foothold within the region but have not reached a threshold of ubiquity or trust that would see them supplant physical currency entirely. This pattern of mixed payment methods represents what could be described as a "transitional financial ecology," one in which old and new systems run parallel, each serving different needs and preferences within the community's economic landscape.

Table 3: Reasons for Adopting Digital Wallets (Multiple Responses Allowed)

Reason	Frequency	Percentage (%)
Faster Transactions	158	39.5
Government Subsidies	145	36.3
Promotions/Discounts	112	28.0
Family Recommendations	95	23.8
Perceived Security	78	19.5

The motivations driving digital wallet adoption in Table 3 present a compelling narrative about how technological innovations gain traction in developing regions. The prominence of "faster transactions" as the primary motivator (39.5%) reflects a fundamental human preference for efficiency and convenience, suggesting that time-saving benefits serve as a powerful incentive for behavioral change. The significant role of "government subsidies" (36.3%) demonstrates how policy interventions can effectively accelerate technological adoption by creating necessity-based motivation. This finding has profound implications for financial inclusion strategies, indicating that linking essential services to digital platforms can serve as a catalyst for broader technological integration. The influence of "promotions and discounts" (28.0%) and "family recommendations" (23.8%) highlights the importance of both economic incentives and social networks in the adoption process. Interestingly, "perceived security" ranks lowest among the motivators (19.5%), suggesting that positive adoption decisions are driven more by practical benefits than by confidence in the system's security features, a finding that merits further investigation into trust-building mechanisms.

Table 4: Reported Barriers to Digital Wallet Adoption (Non-Users, N=210)

Barrier	Frequency	Percentage (%)
Lack of Trust/Security Concerns	132	62.9
Limited Internet Access	119	56.7
Preference for Cash (Habit)	105	50.0
Low Digital Literacy	98	46.7
No Perceived Need	75	35.7

The barriers to digital wallet adoption, as outlined in Table 4, represent a complex interplay between psychological, infrastructural, and educational challenges that must be addressed if financial inclusion is to progress. An overwhelming concern about "lack of trust/security" (62.9%) represents a fundamental psychological barrier that extends beyond the sphere of technical understanding to deeper apprehensions on the safety of digital financial systems. Such a trust deficit is likely to emanate from several quarters: limited acquaintance with digital systems, concerns about fraud, and perhaps cultural preferences for tangible financial interactions. The significant barrier of "limited internet access" (56.7%) flags crucial infrastructural deficiencies that create both literal and metaphorical connectivity gaps in rural and peri-urban areas. Persistence of "preference for cash" as a major barrier (50.0%) underlines the powerful inertia within established financial habits and the comfort derived from using familiar physical currency. At the same time, "low digital literacy" at 46.7% indicates important educational gaps that compromise potential users from gaining confidence and competence to navigate digital financial platforms effectively.

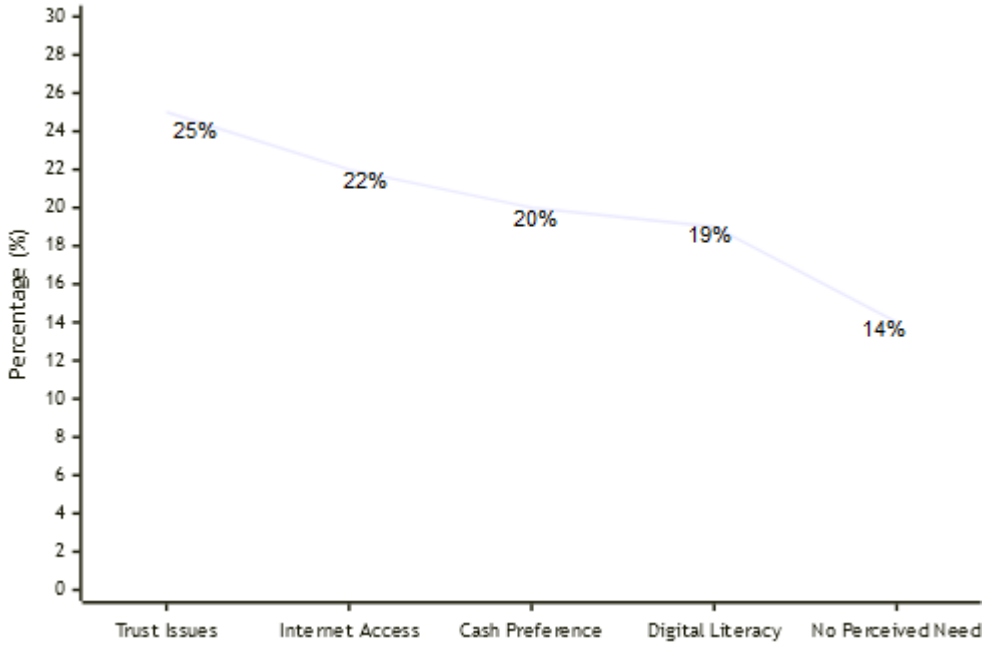

Figure 1. Barriers to Digital Wallet Adoption among Non-Users in Manggarai

Figure 1 presents the primary barriers preventing non-users from adopting digital wallets, as detailed in Table 4. The chart underscores that psychological and infrastructural barriers are more prevalent than a simple lack of perceived need.

Table 5: Frequency of Digital Wallet Use (Among Users, N=215)

Frequency	Frequency	Percentage (%)
Daily	55	25.6
Weekly	98	45.6
Monthly	45	20.9
Less than Monthly	17	7.9

Table 5shows the Frequency of use of digital wallet amongst adopters. The frequency at which the adopters in Table 5 use digital wallets underlines some key patterns in how these tools are being integrated into their daily financial practices. That the highest prevalence is weekly usage, at 45.6%, indicates that for most users, the wallets have become regular but not quite ubiquitous parts of their financial routines. This pattern may reflect the use of digital means for specific, repetitive financial activities such as bill payments or purchases made on a weekly basis. Other types of transactions would still be done by more conventional means. A considerable percentage of users also operate on a daily basis (25.6%), indicating a class of highly engaged adopters who have integrated digital tools into their day-to-day financial lives. Such people could be using these tools for virtually all transactions in their lives, including small and petty purchases, to even transferring funds to peers. Monthly usage, 20.9%, perhaps captures the regularity associated with specific financial compulsions such as utility bills or loan repayments. The low incidence of infrequent users, 7.9%, may suggest a limited experimental adoption or situational use driven by need or opportunity.

Table 6: Common Uses of Digital Wallets (Among Users, Multiple Responses)

Use Case	Frequency	Percentage (%)
Bill Payments	176	81.9
Purchasing Mobile Credit	165	76.7
Receiving Government Transfers	143	66.5
Online Shopping	118	54.9
Sending Money to Family	105	48.8

Specific use cases of digital wallets presented in Table 6 give important insights into how these technologies are actually used within the community and what value they bring to users' lives. This is evinced by the predominant use of bill payments, at 81.9%, and mobile credit purchases, with 76.7%, which shows that digital wallets are valued primarily for their utility in efficiently managing routine and essential expenses. These use cases indicate clear improvements over traditional approaches, saving time and transportation costs related to visits to physical locations where payments are usually made. The substantial receiving of government transfers, at 66.5%, shows the success of state-led digitalization initiatives in channeling benefits through these platforms and driving adoption to improve the efficiency of social protection programs. Strong engagement in online shopping, at 54.9%, reflects the growing integration of e-commerce into daily life, even in developing regions, while sending money to family, at 48.8%, underlines the importance of digital tools in facilitating remittance economies that are so vital to many households.

Table 7: Willingness to Use Digital Wallets for Formal Credit/Savings

Willingness	Frequency	Percentage (%)
Very Willing	85	21.3
Somewhat Willing	143	35.8
Neutral	92	23.0
Somewhat Unwilling	55	13.8
Very Unwilling	25	6.3

The willingness to utilize digital wallets for more advanced financial services in Table 7 reveals important insights about the potential for these platforms to evolve beyond payment tools into comprehensive financial inclusion mechanisms. The combined "very willing" and "somewhat willing" categories (57.1%) indicate a majority openness to expanding digital wallet functionality, suggesting a foundation of trust and curiosity upon which more sophisticated services could be built. However, the substantial neutral segment (23.0%) represents an uncertain population that may require more education, demonstration, or improved features before embracing advanced services. The meaningful proportions of "somewhat unwilling" (13.8%) and "very unwilling" (6.3%) respondents highlight persistent trust barriers that must be addressed before digital wallets can fully realize their potential as gateways to formal financial services. This distribution suggests a maturation curve for digital financial services, where initial adoption for basic functions may gradually build the confidence needed for adoption of more complex services like credit and savings.

Table 8: Correlation between Age and Primary Transaction Method

Age Group	Cash Only (%)	Digital Wallet Only (%)	Both (%)
18-25 years	28.6	18.4	53.1
26-40 years	35.9	14.1	50.0
41-60 years	62.0	6.6	31.4
Above 60 years	84.0	0.0	16.0

This correlation between age and financial transaction methods shows one of the most dramatic and consistent patterns in the data, in Table 8 illustrating a profound generational schism in financial behavior. Starting from the youngest to the oldest, cash-only usage progressively increases with age-from 28.6% among 18-25-year-olds up to 84.0% among those over 60. This illustrates that financial habits remain deeply generationally embedded. In contrast, the use of only digital wallets decreases inversely with age, from 18.4% of the youngest group to none among the oldest respondents. The most striking hybrid pattern is the use of both cash and digital methods together: dominant for younger generations-53.1% and 50.0% in the two youngest cohorts-but increasingly rare with advancing age, with 16.0% among those over 60. This suggests that as younger generations grew up with the technology, they easily incorporate digital financial tools into their pre-existing cash-based practice, while older generations remain anchored in traditional financial methods. A complete absence of digital-only usage among the elderly, along with minimal engagement with hybrid approaches, underlines the particular challenge of including these age groups in the digital financial ecosystem.

DISCUSSION

This research presents a complex, multifaceted picture of financial transition in the Manggarai region: one of tension between the persistence of traditional financial regimes and the incipient digital economy. Our data suggest that this transition is neither linear nor wholesale but a fractured and heterogeneous process, strongly mediated by socio-cultural, generational, and infrastructural factors. This discussion will elaborate on these findings, situating them within the complex texture of the broader literature on financial inclusion, technology adoption, and regional development.

One salient finding from this is a generational divide that separates the adoption of digital financial technologies. Although the information in Table 8 is striking, an overwhelming 84% of respondents over 60 years old rely completely on cash, and the figure drops dramatically to 62% for the age group 41-60 years and further to 28.6% for the age cohort 18-25 years. It is a deep, more fundamental clash of financial paradigms rather than a superficial gap in digital literacy. For the elderly in Manggarai, cash is not just a medium of exchange but a deeply embedded cultural artifact-a synonym for stability, transparency, and comprehensibility. The physicality of cash provides a tangible sense of control and finality in transactions, absent in the abstract world of digital wallets powered by algorithms. This finding resonates powerfully with the work of (Williams et al., 2016; O'neill et al., 2017), who, while arguing for a digital divide in rural communities as often being a "trust divide," explained that older populations recognize intangible digital systems as being intrinsically riskier and less trustworthy due to a lack of physical cues and established social verification processes. In addition, this generational resistance can be viewed through the lens of the "socio-emotional selectivity theory," whereby older adults, perceiving a limited future time horizon, prioritize emotionally meaningful and familiar goals-like the security of cash-over the potential for knowledge gain and new experiences offered by complex digital tools. This is compounded by the findings of (Salim et al., 2025), who noted that deep-rooted habits and a preference for the perceived certainty of cash were significant psychological barriers even among younger, tech-savvy millennial civil servants in Malaysia. That would mean the inertia of tradition is a powerful force that cuts across the simple issue of technological proficiency tied to age.

The motivations of the users in terms of adoption, however, provide a clear and actionable policy lever. The leading drivers being "faster transactions" with 39.5% and "access to government subsidies" with 36.3% provide a crucial insight that during the initial stages of adoption, immediate, tangible, and pragmatic benefits can successfully override abstract concerns such as security and trust. This observation completely aligns with the core concepts of the "Diffusion of Innovations" theory, namely relative advantage and compatibility. As also expressed by (Salim et al., 2025) in their study on designing digital financial services for low-income women in Ghana, perceived relative advantage-a technology obviously being better than what already exists-is one of the critical factors that determine the acceptance or rejection of that technology. The immense savings in terms of time and money spent on traveling to distant physical banks or payment centers over the facility of digital transactions ensure a sure and compelling advantage. The role of government subsidy acting as a catalyst is quite significant and demonstrates a very

powerful "push" mechanism. This underlines how state policy can actively and decisively shape financial behavior, pulling individuals into the digital ecosystem almost out of necessity. This result is firmly supported by the work of Modiba et al. (2024) in their gendered analysis of rural digital finance, where they observed that linking social grants and other government-to-person (G2P) payments to digital channels was among the most effective strategies for driving initial adoption and building foundational familiarity with digital platforms.

However, the barrier of trust remains formidable and largely unaddressed for the significant minority of non-users (46.3%, Table 2). The fact that 62.9% of non-users cited "lack of trust/security concerns" as their primary reason (Table 4) underlines a critical limitation of a purely technocentric approach to financial inclusion. The deployment of digital infrastructure, be it in the form of internet towers or mobile apps, is a necessary but ultimately insufficient condition for widespread and meaningful adoption. This finding supports an emerging global body of evidence. For example (Davidson, 2015), in a paper on implementing digital banking in rural India, find that without efforts to build digital and financial literacy running parallel to technological interventions, even the most well-conceived technological solutions suffer from abysmally low uptakes and high abandonment rates. Trust is not a product of technology per se but results from a multi-faceted socio-technical strategy. Such a strategy would entail complete transparency regarding data usage and fee structures, robust and accessible consumer protection mechanisms, and-most importantly-strategic involvement of trusted local institutions and community leaders to play a legitimizing and intermediary role for these new platforms. This is something that (Sapovadia, 2018) bring out powerfully in their systematic review, where they note that in rural agricultural communities, trust tends to be vested in local cooperatives or respected elders, and forging partnerships with such entities is critical to bridging the credibility gap that formal financial institutions are often unable or unwilling to bridge.

The pattern of use of digital wallets itself is highly revealing of the current, transitional state of financial inclusion in Manggarai. The strong predominance of "utilitarian" and routine use cases-bill payments (81.9%) and mobile top-ups (76.7%)-coupled with the notable caution and reluctance towards using these platforms for more complex financial services like formal credit or savings (Table 7), underlines a critical insight: digital wallets are presently perceived and utilized more as sophisticated payment tools rather than as holistic gateways to full financial inclusion. Indeed, all this suggests very strongly that the Manggarai community is firmly in what we might term a "hybrid transition phase," a state where a large plurality of respondents (42.5%) actively and strategically use both cash and digital methods in a complementary way (Table 2). This hybridity is not to be mistaken for evidence of failed, or partial, adoption. Rather, such behaviour may be seen as a thoroughly rational and sophisticated risk-management strategy. It allows individuals to hedge against the perceived uncertainties and potential points of failure in digital systems-e.g., network outages, platform errors, fraud-while still capturing the undeniable benefits of speed, convenience, and access to certain services. This phenomenon aligns with the concept of a "cash-digital co-existence" model discussed by (Mainelli & Von Gunten, 2015), who contend that in the socio-economic fabric of many developing economies, a binary, winner-takes-all view of

cash versus digital is fundamentally unrealistic and counterproductive. Future financial solutions must be designed explicitly for this hybrid reality, offering seamless pathways for converting cash to digital value and vice versa, rather than forcing a choice.

Addressing the complex issue of financial inclusion in places like Manggarai requires a multi-layered approach; one that moves decisively beyond a singular focus on technological rollout. Drawing on our empirical data, combined with a wider academic literature, our discussion points to the need for any successful and sustainable strategy to be multi-pronged and contextually grounded.

First, it must systematically address the trust deficit. This goes beyond one-off literacy campaigns and requires sustained investment in community-based financial education that is delivered in local languages and is sensitive to cultural norms. Transparency from service providers about risks and costs is non-negotiable.

Second, it needs to keep leveraging and improving the tangible benefits. In short, the "hook" of the government subsidy has worked. The next step is to extend the digital utility ecosystem by adding payments for agricultural inputs, local transport, and healthcare, increasing compatibility between digital tools and various dimensions of everyday life.

Third, it is important to recognize, accept, and deliberately design for financial hybridity. Policymakers and fintech companies should invest in developing a dense network of low-cost, trusted agent banking points that can serve as physical-digital interfaces, allowing users to easily cash-in and cash-out, hence reducing the perceived risk of going fully digital.

Finally, interventions need to be demographically and geographically customized; a one-size-fits-all policy can only be doomed to fail. The elderly, women-who may have extra social and mobility constraints-and residents of remote rural areas with the most tenuous infrastructure all require specific, sympathetic strategies. Only such a holistic, empathetic, and context-sensitive approach can we hope will ensure the dividends of the digital financial revolution are equitably distributed for truly inclusive development that leaves no one behind in the fast-paced journey into the future.

CONCLUSION

This study examined the phenomenon of financial transition from cash to digital wallets in the Manggarai region. The findings indicate that such transition is not a linear and simple development but a more complex, multi-dimensional process influenced by economic, social, cultural, and generational factors. Although digital financial technologies permeate gradually into the fabric of society, such permeation is heterogeneous and uneven. The current study clearly demonstrated that Manggarai society is passing through a "hybrid transition period". This period is specifically characterised by the use of cash and digital systems simultaneously for a large part of society.

This situation indicates not only the flexibility of the society in accepting innovation but also points out the existence of a risk management strategy among the people where the benefit of both systems is maintained. Probably the most

significant outcome of this study is the identification of a deep generational gap in the acceptance of new financial technologies. Whereas the younger generation has embraced this transformation with open arms, the older generation is approaching it with much caution, if not resistance. It reaches beyond the level of digital skills into deeper issues: trust, long-grown habits, and different perceptions of financial security. Key findings from this research are that the development of technical infrastructure cannot solely provide financial inclusion. The problem of trust has become a determining factor for people adopting new financial technologies. Building trust requires factors beyond just technical development.

It would need to be fueled by factors such as transparency, focused education, and participation by local institutions trusted within the community. The research also shows that, up to now, digital wallets have been used primarily as payment instruments and have not yet acted as a gateway for access to the full range of financial services. These instruments must be oriented toward more varied and sophisticated financial services in order for this vision of full financial inclusion to be realized. From this understanding, the success of financial inclusion programs in Manggaraiand similar regions must be fully cognizant of the local context and locally-focused solutions which emerge from specific needs identified at the level of the community while remaining compatible with the cultural and social characteristics of the region. In this way alone can there be hope that digital transformation in the field of finance will be able to create balanced and fair development at every level of society.

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