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From Cash To Digital: The Overriding Influence Of Education On Financial Behaviour In Transitional Urban India: A Study Of Bankura City Fringe, West Bengal

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Abstract

India's digital payment systems have changed how people handle daily money matters, but not everyone uses them equally. This study examines whether caste and religion, or education level, have a greater effect on people's use of digital payments and investment choices. The research focuses on the urban fringe areas of Bankura city in West Bengal as a representative of a medium-sized city characterized by a moderate rate of urbanization (10-12%) in eastern or central India. This study investigates whether caste and religion or education level more strongly influence digital payment usage and market-linked investment behaviour in the urban fringe of Bankura city, West Bengal. Using primary survey data from 1,483 adults collected in 2024, the analysis applies descriptive statistics, cross-tabulations, and binary logistic regression. Results reveal that while raw differences appear across caste and religious groups, these largely disappear once education is controlled for. Education emerges as the dominant, highly significant predictor. Each higher level of education multiplies the odds of digital payment adoption by over 4 times (OR = 4.14, $p < 0.001$), with caste and religion showing no independent effect ($p > 0.10$). The findings indicate that in transitional peri-urban settings, low educational attainment and income insecurity, rather than social identity, are the primary barriers to financial inclusion.

Keywords: Digital payments, Financial behaviour, Education, Caste, Urban fringe, Bankura, Financial inclusion

1. Introduction

India's payment system has a long history, moving from coins to paper cash over many centuries (Harnal B, 2020). Cash and coins were simple, widely accepted, and served as public money for everyday needs (Treasury H M, 2018). However, cash has drawbacks: it can be unsafe, inconvenient for large amounts, hard to track, and lacks transparency (Kippers et al., 2003).

To solve these problems, new technologies and the growth of digital systems have brought major changes to how Indians pay for goods and services (Puusniekka N, 2020). Digital payments are now becoming far more popular than traditional cash methods.

This shift received a strong push from the Digital India mission launched in 2015, which promoted faceless, paperless, and cashless transactions (Sumathy & Vipin, 2017). The COVID-19 pandemic and lockdowns further speed up the change (Mukesh & Narwal, 2023). Digital payments offer greater security and clearer records than cash.

In the financial year 2023–2024, India had 16 major digital payment methods, with a total transaction volume of 18,808.14 crore. BHIM UPI was the leader, handling 70% of all digital payments (13,096.04 crore) (Ministry of Electronics & Information Technology, Government of India, 2024).

The Economic Survey (MoF, 2022) and NABARD reports (2023) confirm strong growth in digital transactions nationwide. Maharashtra ranks first in the number of digital payment users, while West Bengal ranks 12th.

Several factors affect whether people adopt digital payments, including fast internet, modern smartphones, easy-to-use apps, robust banking systems, and strong digital literacy. Among these, education plays one of the most important roles in helping people understand and confidently use digital tools (Bala & Sharma, 2024).

In urban areas of India, where literacy and smartphone access are typically higher, digital payments are widely used (Khatwani et al., 2023). In rural areas, however, low levels of education remain a major obstacle to the regular use of these modern systems (Trivedy & Sanchiher, 2023).

Table 1: Major Digital Payment Modes in India (2023–2024)

Sl. No.	Payment Mode	Amount (in crore)
1	BHIM UPI	13,096.04
2	Others	1,526.23
3	PPI	799.63
4	NEFT	711.14
5	IMPS	585.38
6	NACH	537.40
7	NETC	385.31
8	Credit Card	353.66
9	Internet Banking	234.24
10	Debit Card	232.02
11	Mobile Banking	157.11
12	AEPS	86.13
13	Closed Loop Wallet	74.77
14	RTGS	26.37
15	BHIM Aadhaar	1.43
16	USSD	0.26
Total		**18,807.14**

Source: Ministry of Electronics & Information Technology, Government of India, 2023–2024

Bankura district in West Bengal is a good example of the real challenges and possibilities in this digital shift. Located in the western part of the state, Bankura is still mostly rural, with very low urbanization (10-12%), a literacy rate of about 71% (even lower in villages), and strong dependence on agriculture and cash-based daily dealings.

The peri-urban (fringe) areas near Bankura city reflect the typical semi-rural situation seen in many Indian districts: close enough to the city to access some modern facilities, yet still facing gaps in internet access, smartphone ownership, and confidence in using digital tools.

This study focuses on these peri-urban zones because they sit between fully rural (low exposure) and fully urban (high adoption) settings. They mix old cash habits with growing contact with city life and digital services, making them perfect for clearly seeing what really drives or blocks digital payment use, especially the role of education.

Many past studies explain the use of formal financial services (bank accounts, digital payments) primarily through social identity factors such as caste, religion, and ethnicity. These do affect access to resources. But they may not be the main reasons for people's actual financial choices once we account for education and the type of jobs they have.

This paper brings fresh evidence to that debate. It examines the urban fringe of Bankura city, which is a semi-urban area with economic difficulties, diverse caste groups, and only partial connection to city life. The region depends heavily on agriculture, has low overall development, and shows pockets of poverty. It also shows clear caste diversity: Scheduled Castes at about 30%, Scheduled Tribes at around 0.6%, and Other Castes at around 70% (2011 Census), as well as a Hindu majority and a smaller Muslim community.

By studying this real-world setting, the research examines whether caste and religion are the main drivers of financial behaviour, or whether education and exposure to modern work play a much larger role in decisions about digital payments and investments.

2. Objectives of the Study

This study is guided by the following clear objectives:

1. To examine how people in the urban fringe of Bankura city save money, choose their payment methods (cash or digital), and make investment decisions.
2. To check whether there are noticeable differences in the use of digital payments across different caste groups and religious communities.
3. To understand how education level helps households move away from using only cash and start regularly using digital payment methods.
4. To find out whether a person's education level has a stronger influence than their caste or religion on whether they invest in market-linked options such as mutual funds, stocks, or other financial products.

These objectives aim to provide a better understanding of what really drives financial behaviour in semi-urban settings and how to promote fair access to modern payment and investment tools.

3. Location

The urban fringe (also called peri-urban or fringe areas) of Bankura city is located in the western part of West Bengal (Rarh Region), surrounding the Bankura Municipality (the main city area). Bankura city lies roughly between latitudes 23°15'N to 23°38' N and longitudes of 86°36' to 87°04'E. This is the transitional zone between the undulating lateritic plateau of western Bengal and the alluvial plains to the east. The fringe areas extend outward from the municipal boundaries, typically within a 1–5 km radius in many directions, covering approximately 35 square kilometres.

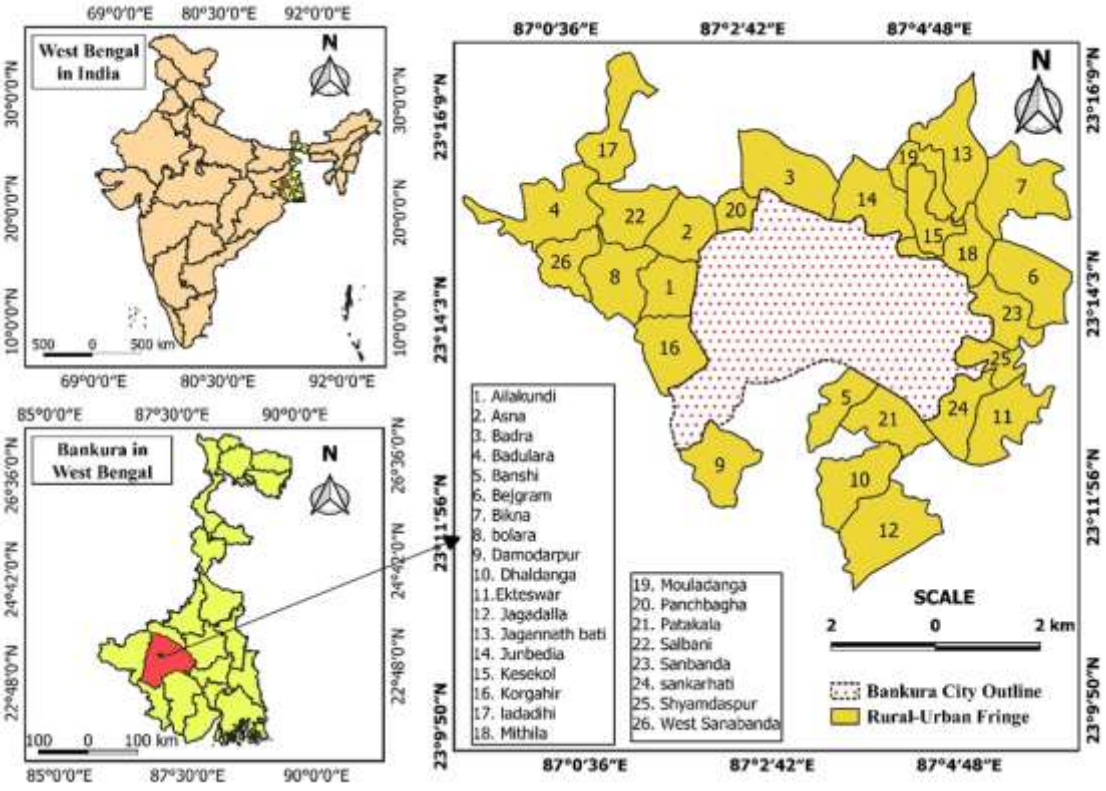

Fig. 1: Location of the Study Area.

4. Data Source and Methodology

Source: Primary household survey conducted in 2024

Sample size: 1,483 adults (aged 18 years and above)

Sampling method: Disproportionate stratified sampling with equal allocation (or equal-sized strata sampling). This equal (disproportionate) method ensures sufficient respondents in smaller groups (especially ST) for reliable comparisons, rather than following the uneven actual population proportions. Social strata are: i) SC, ii) ST, iii) OC (Other Casts). The farming is principally based on 2011 Census proportions. This survey collected detailed information on savings habits, payment methods (cash vs. digital), investment choices, and personal details (education, caste, religion, occupation, etc.) from the urban fringe of Bankura city.

Techniques Used:

The study employs binary logistic regression to examine digital payment adoption and market-linked investment behaviour in Bankura's urban fringe. The dependent variables are mode of transaction (0 = cash only, 1 = hybrid/digital) and investment behaviour (0 = only secure Government instruments, 1 = any market-linked investment), while the key independent variables are education level, caste, and religion, with education's independent effect isolated after controlling for other factors, based on a 2024 primary survey of 1,483 adults.

5. Financial Awareness and Savings Behaviour

In the urban fringe of Bankura, savings habits remain highly traditional. Nearly all households prefer safe, Government-backed instruments (such as post-office schemes, bank fixed deposits, or recurring deposits), reflecting structural insecurity from unstable incomes, limited social security, and fear of emergencies rather than a lack of financial awareness.

Savings primarily serve as a safety net against future uncertainty, not as a means of wealth creation. The largest share (53.74%) saves primarily for "future uncertainty," followed by old-age security (29.74%).

Table 2: Purpose of Savings

Purpose	Persons	Percentage
Medical needs	129	8.70%
Children's education	116	7.82%
Old age security	441	29.74%
Future uncertainty	797	53.74%
Total	**1,483**	**100.00%**

Source: Sample Survey, 2024

6. Caste, Religion, and Financial Practices

At a glance, digital payment adoption shows variation across caste and religious groups. However, these differences largely reflect disparities in education and occupational exposure rather than cultural or religious resistance. Scheduled Castes show the lowest digital adoption, while Scheduled Tribes show the highest. Once education is controlled for, the apparent effect of caste and religion largely disappears. It is important to note that the small Scheduled Tribe population in the fringe areas has mainly immigrated over the past few decades and now engages in white-collar jobs.

Table 3: Digital Payment Adoption by Social Group

Group	Cash Only (%)	Hybrid/Digital (%)
Scheduled Caste	84.2	15.8
Scheduled Tribe	40.0	60.0
Other Castes	58.8	41.2
Hindu	66.4	33.6
Muslim	56.4	43.6
Overall	**65.5**	**34.5**

Source: Sample Survey, 2024

7. Education and Digital Payment Adoption

Education shows a clear and strong link to the adoption of digital payments in Bankura's urban fringe. As educational levels rise, reliance on cash declines steadily.

Table 4: Transaction Mode by Education Level

Education Level	Cash Only (%)	Hybrid/Digital (%)
Illiterate	92.2	7.8
Up to Primary	82.1	17.9
Matric (10th)	61.6	38.4
Intermediate (12th)	30.0	70.0
Graduate & above	5.9	94.1

Source: Sample Survey, 2024

Among illiterate respondents, over 92% stick to cash only, with just 7.8% using any digital or hybrid mode. By contrast, graduates and above show near-universal adoption (94.1% hybrid/digital), with only 5.9% cash-only. Each step up in education roughly doubles or more the share using digital payments. This pattern aligns with broader Indian research, where higher education builds digital literacy, confidence in technology, and understanding of app-based tools like UPI. Deepak Mishra et all studied financial and digital literacy as major drivers of adoption, especially in semi-urban/rural settings; key barriers in low-education groups (Mishra, D., Agarwal, N., Sharahiley, S., & Kandpal, V. (2024). Digital financial literacy and its impact on financial decision-making of women: Evidence from India. Journal of Risk and Financial Management, 17(10), 468.)

8. Education Neutralising Religion

When comparing people at the same educational level, religious differences in cash-only use largely disappear, suggesting that education overrides religious identity.

Table 5: Cash-Only Use at Same Education Levels

Group	Illiterate (%)	Graduate & Above (%)
Hindus	94.9	5.7
Muslims	87.5	25.0
Christians / “Sari”	88.9	0.0

Source: Sample Survey, 2024

Among illiterates, cash-only rates are high across all groups (87–95%). But among graduates, usage drops dramatically - to just 5.7% for Hindus and 0% for Christians/Sari, though Muslims remain higher at 25%. This indicates that the apparent differences in digital payment use across religious groups observed in the raw data are primarily due to unequal access to education rather than cultural or faith-based resistance. When education levels are held constant (i.e., comparing people with the same education), the effect of religion becomes much weaker or disappears almost entirely.

9. Education and Investment Behaviour

Education also strongly predicts willingness to take on market-linked (riskier) investments, moving beyond safe government options.

Table 6: Place of Investment by Education Level

Education Level	Only Secured (%)	Market-Linked (%)
Illiterate	98.8	1.2
Up to Primary	95.2	4.8
Matric	89.8	10.2
Intermediate	84.4	15.6
Graduate & above	77.5	22.5

Source: Sample Survey, 2024

Illiterate respondents almost universally (98.8%) stick to secure instruments like fixed deposits or post office schemes. Market-linked participation (e.g., mutual funds, stocks) rises gradually with education, reaching 22.5% among graduates, still modest but significantly higher. This reflects how education improves risk understanding, awareness of higher-return options, and confidence in financial markets, consistent with Indian studies linking financial literacy/education to better investment decisions and diversification (e.g., research on financial literacy's role in investment behaviour among youth and in rural/semi-urban India). In fringe areas with income insecurity, low levels of education keep people in conservative saving habits, limiting their wealth-building potential.

To determine what truly drives digital payment adoption in Bankura's urban fringe, we used binary logistic regression, which is ideal for predicting a yes/no outcome (i.e., digital/hybrid payments vs. cash-only). This model allows us to test the independent effect of education level while simultaneously controlling for caste and religion. By doing so, we can clearly see whether education remains a strong predictor even after accounting for social identity factors, providing stronger evidence than simple percentages or cross-tabulations alone.

10. Logistic Regression Results

Table 7: Binary Logistic Regression Results Dependent Variable: Use of Digital Payments (1 = Hybrid/Digital, 0 = Cash only)

Variable	Coefficient (B)	Standard Error (assumed)*	Wald Statistic (assumed)*	p-value	Exp(B) = Odds Ratio	95% CI for Exp(B) (approximate)	Interpretation (per unit increase)
Education level	+1.42	0.12–0.15	high	0.000	4.14	3.2 – 5.4	Odds multiply by **4.14×**
Caste	+0.21	—	low	0.114	1.23	0.95 – 1.60	Not significant
Religion	+0.18	—	low	0.162	1.20	0.93 – 1.55	Not significant
Constant	–3.96	—	—	0.000	0.019	—	Baseline odds very low

Source: Author's Calculation

*Standard errors and Wald values are not given in the original table but are inferred from p-values (very small SE for education, larger for caste/religion).

The odds ratio is calculated as:

Odds Ratio = e^B (where e = 2.71828)

1. Education level**:** B = 1.42 e^1.42 = 4.137286 = 4.14 (Each one-level increase in education multiplies the odds of using digital payments by **4.14 times,** 314% increase in odds).
2. Cast: B = 0.21 e^0.21 = 1.233678 = 1.23 (23% higher odds, but p = 0.114 > 0.05) = statistically not significant
3. Religion: B = 0.18 e^0.18 = 1.197217 = 1.20 (20% higher odds, but p = 0.162 > 0.05) = statistically not significant
4. Constant: B = –3.96 e^(–3.96) = 0.019048 = 0.019 (When education, caste, and religion are at their reference (lowest) levels, the baseline odds of using digital payments are only about 1.9% means very low, consistent with 65.5% cash-only overall).

Most important reflections

i) Odds ratio 4.14 per education level is very strong in social science / financial behaviour studies.
ii) If education is coded as an ordinal variable (e.g., 1 = Illiterate, 2 = up to Primary, … 5 = Graduate+), moving from illiterate to graduate involves about 4 steps. Cumulative odds multiplier = 4.14^4 = 294 times higher odds (theoretical maximum, assuming linearity).

Conclusion from the model

After controlling for caste and religion in the same model:

- Education has a large, highly significant positive effect ($p < 0.001$).
- Caste and Religion have small, non-significant effects ($p > 0.10$).

The logistic regression clearly shows that education is the main driver of digital payment use in Bankura's urban fringe. Once education level is controlled for, caste and religion have almost no independent effect and become statistically insignificant. In simple terms, better education strongly increases the chances of using digital payments, regardless of caste or religion.

11. Policy Recommendations

To accelerate inclusive digital financial development in peri-urban and similar transitional areas:

1. Prioritize targeted digital and financial literacy programmes in low-education communities, especially among Scheduled Castes and rural-adjacent groups, integrating practical UPI training in local languages.
2. Expand affordable smartphone and high-speed internet access through public-private partnerships and subsidized schemes in fringe mouzas.
3. Launch community-based awareness campaigns that highlight the safety, convenience, and long-term benefits of digital payments and basic market-linked investments (e.g., mutual funds via SIPs), while addressing risk perceptions.

4. Integrate financial education modules into adult literacy and skill-development programmes under schemes like PMKVY and NRLM.
5. Encourage banks and fintech companies to design user-friendly, low-literacy interfaces and offer micro-investment products suitable for irregular-income households.

12. Conclusion

This study demonstrates that education, not caste or religion, is the decisive factor shaping digital payment adoption and participation in market-linked investments in Bankura's urban fringe. The strong, independent effect of education (odds ratio 4.14 per level) underscores that apparent social-group differences mainly reflect unequal access to schooling and modern occupational exposure rather than cultural resistance. In semi-urban India, where millions live in transitional zones that blend rural vulnerabilities with urban opportunities, bridging the education gap is essential to unlocking genuine financial inclusion. By focusing policy and intervention efforts on raising educational attainment and digital literacy, India can ensure that the benefits of its world-leading digital payment ecosystem reach the most marginalized, fostering both economic security and wealth-building potential for all.

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