



The Digital Rupee and Black Money in India: Perceptions of Cash-Intensive Trades and their Advisers in South Mumbai

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ABSTRACT

This study asks whether people who work in India's cash-intensive trades, and the bankers and tax professionals who serve them, believe the Digital Rupee (e-rupee) can curb black money, and what conditions would make it work. The setting is South Mumbai. A seven-item structured questionnaire was completed by a purposive sample of 59 (every contact on the author's list) jewellery, bullion, diamond and gemstone traders, wholesale and trading businesses, real estate agents, tax professionals and bankers. Official data from the Reserve Bank of India (RBI) and the Government of India frame the results. Awareness is low: 32 of 59 had not heard of the e-rupee or knew only the name, in line with official data showing e-rupee at about 0.03 per cent of currency in circulation. The expected reduction in black money is moderate (mean 3.20 of 5) and rises with familiarity ($\rho = 0.75$, $p < 0.001$). Of the 59, 37 would shift some transactions, but 16 of the 23 who see evasion as very widespread would do so only under a mandate or incentive, or not at all, against 6 of 36 others (Fisher $p < 0.001$). Respondents ask most often for ease of use, consistent enforcement and zero cost or tax benefits. Traceability is seen as necessary but not sufficient. Findings are perceptions, not behaviour, and the sample is purposive, so they do not describe Mumbai or India.

JEL classification: E42, E58, H26, O17

Keywords: CBDC; Digital Rupee; e-rupee; black money; tax evasion; cash; South Mumbai; India

1. Introduction

1.1 Background, research question and objectives

The Digital Rupee is the Reserve Bank of India's central bank digital currency (CBDC): digital legal tender issued by the central bank and exchangeable at par with cash.¹ Unlike the Unified Payments Interface (UPI), which moves money held in bank deposits, the e-rupee is a direct claim on the RBI. A wholesale variant (e₹-W) and a retail variant (e₹-R) were piloted from November and December 2022 (RBI, 2022). The question for this paper is narrow. If cash is the main vehicle for unrecorded income and informal value transfer networks (hawala) move the rest, can a traceable, cash-like instrument change that, and do the people closest to cash-heavy trade think so?

The paper does not try to measure black money. The government itself says it has no official estimate of it, and that the term is not defined in several tax laws (Government of India [GoI], 2023a).² What can be measured is what informed people think the e-rupee would do and what they say they would do themselves. That is the contribution of this study.

Research question. To what extent do people who work in India's cash-intensive trades, and the professionals who serve them, believe the Digital Rupee can curb black money, and what conditions do they say would make it work?

1.1.1 Objectives.

To measure awareness and understanding of the Digital Rupee among cash-intensive trades and their advisers (Q1).

To assess how effective respondents expect traceability to be, and in which channels (Q3, Q4).

To identify the obstacles respondents expect, including asset substitution, privacy and surveillance concerns (Q5).

To gauge stated willingness to shift transactions from cash and the conditions attached (Q6).

To derive, from open answers, the design and policy conditions respondents link to effectiveness, for the RBI, the Central Board of Direct Taxes (CBDT) and banks (Q7).

1.2 Official and secondary evidence

This section sets out what official Indian sources say, so that the survey can be read against them. Each figure was read on the official page named; where only a press report was available, it is marked (Table 1).

Table 1 - Official and secondary figures, with verification status

Indicator	Figure	Source	Status
₹ in circulation, end of year	Rs 16.39 crore (2022-23); 234.12 (2023-24); 1,016.50 (2024-25); 771.66 (2025-26)	RBI (2026a), Table 152	Verified (official)
₹ in circulation, week ended 2 Oct 2026	Rs 1,118.89 crore, about 0.03% of all currency (banknotes Rs 42,64,961 crore; coins Rs 42,759 crore)	RBI (2026b); share is my calculation	Verified (official)
Currency in circulation as % of GDP	14.4% (2020-21); 13.2% (2021-22)	Awasthy et al. (2022)	Verified (RBI working paper; authors' views)
Cash-based transactions as % of private final consumption	47% (2020-21); 40% (2022-23)	Awasthy et al. (2022)	Verified
UPI share of retail payment volume	73% (2022-23)	Awasthy et al. (2022)	Verified
UPI, 2025-26	over 24,162 crore transactions; about Rs 314 lakh crore	Business Today (2026)	Partly verified. Press; NPCI figures not independently accessed
Currency in circulation, 31 Mar 2025	Rs 36.87 lakh crore, up 6% in 2024-25	Taxscan (2025) citing RBI Annual Report 2024-25	Partly verified. Press
Share of banned notes returned, 2016	99.3%	RBI Annual Report 2017-18, as widely reported	Partly verified. Quote exact figures from the Report
Searches, Nov 2016 to Mar 2017	900 groups; seizures Rs 900 crore, of which Rs 636 crore cash; undisclosed income admitted about Rs 7,961 crore	GoI (2023b)	Verified (government statement)
Black Money Act, 2015	648 disclosures of foreign assets worth Rs 4,164 crore in the 2015 window; tax and penalty about Rs 2,476 crore; by 30 Nov 2022, 394 assessments with demand over Rs 15,570 crore	GoI (2023a)	Verified (government statement)
Size of black money	“no official estimation or methodology”; 2019 Standing Committee on Finance: unaccounted income “do not appear amenable to credible estimation in the context of India”	GoI (2023a)	Verified
Shadow economy, 158-country mean	31.9% of GDP (1991 to 2015)	Medina and Schneider (2018)	Verified. India value not retrieved
Retail ₹ users	about 6 million (RBI Annual Report 2024-25); a little over 8 million (RBI Deputy Governor, 5 December 2025)	Outlook Money (2025); Business Standard (2025)	Verified in press reports of RBI statements. The RBI documents themselves were not opened

Indicator	Figure	Source	Status
Retail ₹ holding and transaction limits	no RBI-wide cap found; one bank (Kotak) lists Rs 10,000 per transaction and Rs 1,00,000 wallet balance in one table, and Rs 25,000 per transaction in another	Kotak Mahindra Bank (n.d.)	Bank-specific and inconsistent. Not treated as a national rule
Cash use in gold, diamond and real estate deals	no official figure exists in the sources read	n/a	No official figure. The paper relies on respondents' reports (Q4) and says so

Source: as listed. Verification is as of 12 October 2026. PFCE: private final consumption expenditure. UPI: Unified Payments Interface. NPCI: National Payments Corporation of India.

Three readings follow (Table 1, Figure 1, Figure 2). First, the e-rupee is tiny. Circulation rose from Rs 16.39 crore in 2022-23 to Rs 1,016.50 crore in 2024-25, fell 24 per cent to Rs 771.66 crore in 2025-26 (RBI, 2026a), and in early October 2026 was about 0.03 per cent of all currency (RBI, 2026b). Second, cash is large but shrinking in relative terms: currency in circulation fell from 14.4 to 13.2 per cent of GDP between 2020-21 and 2021-22, and cash-based transactions fell from 47 to 40 per cent of private final consumption between 2020-21 and 2022-23 (Awasthy et al., 2022). UPI already carried 73 per cent of retail payment volume in 2022-23 (Awasthy et al., 2022). Third, the official record on black money is enforcement data, not an estimate: seizures, disclosures and assessments (GoI 2023a, 2023b). The Income-tax Department's own analysis of search seizures named real estate, trading and manufacturing, contractors, gems and jewellery, and services as the main sectors (GoI, 2015), which map closely to the respondent groups in this study.

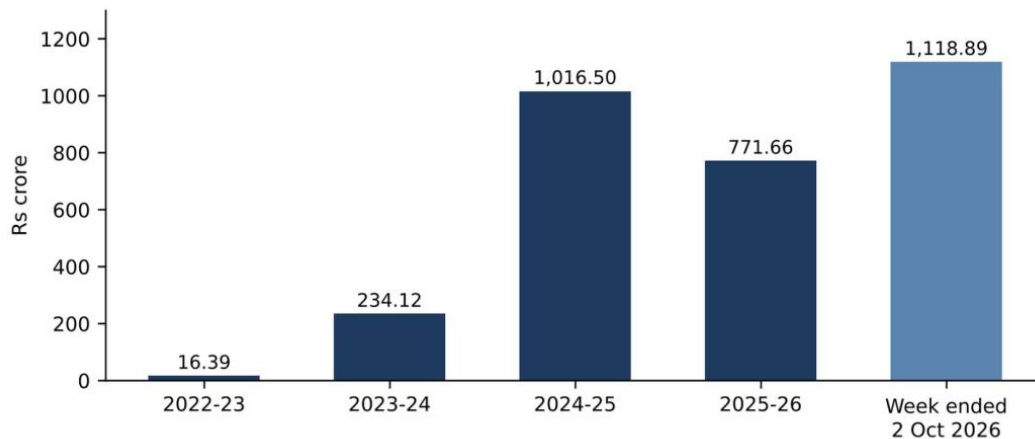


Fig. 1 - e-rupee in circulation (Rs crore)

Source: RBI (2026a) Table 152 for 2022-23 to 2025-26; RBI (2026b) for the week ended 2 October 2026.

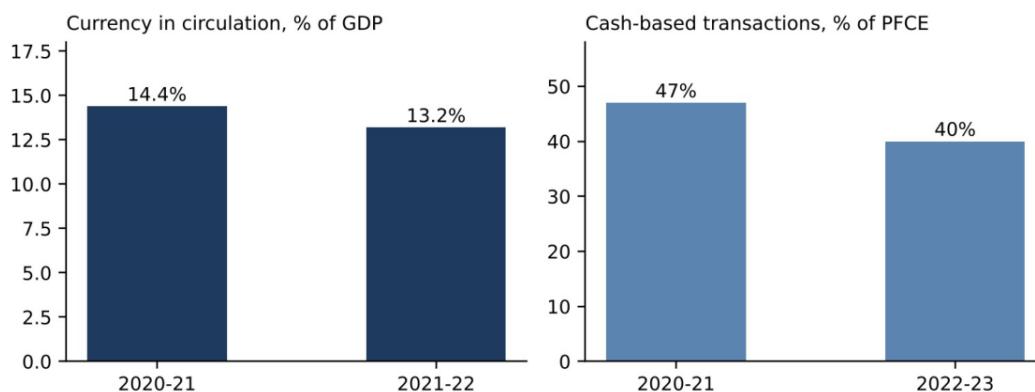


Fig. 2 - Cash indicators

Source: Awasthy et al. (2022). PFCE: private final consumption expenditure.

Two cautions. Doubling of currency in circulation after 2016, which is often quoted, does not by itself show that black money “came back”, because nominal GDP also grew; cash to GDP is the right measure. And popular explainers state that e-rupee wallets are tied to Aadhaar and PAN, capped at Rs

10,000 and open to warrantless tax queries. I could not confirm any of this. The RBI Concept Note says instead that “reasonable anonymity for small value transactions akin to anonymity associated with physical cash” may be desirable, proposes “anonymity for small value and traceable for high value”, and states that “the idea of complete anonymity in digital world is a misnomer”, with intermediaries doing identity checks and anti-money-laundering checks (RBI, 2022). The Concept Note was reviewed in full; it does not state a retail holding cap, so none is assumed here.

1.3 Literature review

1.3.1 CBDC design and privacy

CBDC design involves trade-offs between privacy, adoption and effects on bank intermediation (Bech & Garratt, 2017; Auer et al., 2020; Agur et al., 2022). The RBI Concept Note (2022) adopts an intermediated model and treats privacy as a design question. This matters here: if users expect full traceability, the same feature that deters evasion may deter adoption, and a CBDC that nobody uses traces nothing.

1.3.2 Cash and crime

Rogoff (2016) argues that cash, especially large notes, is a main instrument of tax evasion and crime, and that reducing it costs honest users little. His argument is the main theoretical reason to expect a traceable digital currency to matter. His case is made largely for high-denomination notes; whether a retail CBDC with usage limits does the same job is an empirical question for India.

1.3.3 Shadow economy estimates

Schneider and Enste (2000) and Medina and Schneider (2018) estimate shadow economies with currency demand and MIMIC (multiple indicators, multiple causes) models. Estimates differ by method and period, and the methods are contested; the Government of India itself says unaccounted income does not appear amenable to credible estimation (GoI, 2023a). The paper therefore avoids any headline figure for the size of black money.

1.3.4 Tax evasion and deterrence

In Allingham and Sandmo (1972) a taxpayer evades when the expected gain from under-reporting exceeds the expected penalty, so detection probability and penalty size drive behaviour. Slemrod (2019) and Alm (2012) stress that compliance is highest where third parties report income. This frames the key respondent theme in this study: a trace changes behaviour only if someone matches it against the return.

1.3.5 India-specific evidence

Chodorow-Reich et al. (2020) show that districts more exposed to the 2016 cash withdrawal had lower economic activity, which documents how cash-dependent the economy is. RBI's finding that 99.3 per cent of banned notes came back suggests that most unaccounted cash was converted rather than destroyed (my reading). The RBI occasional paper by Awasthy et al. (2022) shows cash falling relative to consumption as digital payments grow. I did not find peer-reviewed work that surveys Indian traders and their advisers on the e-rupee and illicit finance. To my knowledge, a Scopus or Google Scholar search on “digital rupee” or “e-rupee” with “black money”, “tax evasion” and “trader” returns no matching peer-reviewed study, though the search was not exhaustive.

1.3.6 Theories used

Rogoff, Curse of Cash: traceable money raises the cost of cash-based evasion.

Schneider, shadow economy: informality responds to tax burden, regulation and the ease of using cash.

Allingham and Sandmo: evasion falls when detection probability and penalties rise; hence respondents' stress on enforcement follow-through (Q5, Q7).

Transaction cost and trust theory: informal trades such as diamonds and bullion run on trust networks (Greif, 1993) and cash lowers transaction costs, so a new instrument must be cheaper and at least as trusted.

Technology acceptance (Davis, 1989): willingness to use depends on perceived usefulness and ease of use (Q6, Q7).

Gap. Survey work on the e-rupee has so far looked at adoption: Vijayalakshmi and Pallavi (2026) surveyed 751 respondents in Bengaluru on awareness and willingness to shift. Black money is mostly treated as an enforcement topic. This study asks the narrower question of whether people in the cash-intensive trades and their advisers think the e-rupee can curb black money, and records the conditions respondents name themselves.

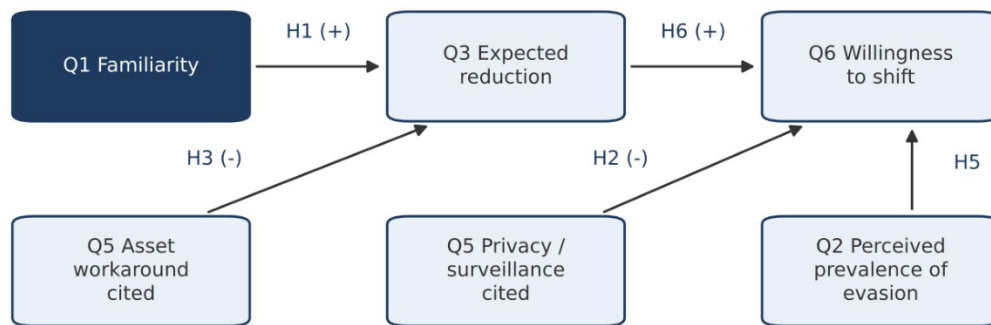
1.4 Hypotheses

I fixed these before running any test. Because I test six of them, I use a stricter cut-off of $p < 0.0083$ (Bonferroni).³ Table 2 lists them and Figure 3 shows how the questionnaire items relate.

Table 2 - Hypotheses, variables and tests

H	Statement (expected direction)	Independent variable	Dependent variable	Test
H1	Higher familiarity with the e-rupee is associated with higher expected reduction in black money	Q1 familiarity (1 to 4)	Q3 expected reduction (1 to 5)	Spearman
H2	Respondents citing privacy or surveillance as an obstacle are less willing to shift	Q5: cites privacy or surveillance (0/1)	Q6: willing partly or fully (0/1)	Fisher exact
H3	Respondents citing asset substitution (gold, property, crypto) expect a smaller reduction	Q5: cites workarounds (0/1)	Q3	Mann-Whitney
H4	Expected reduction differs between high-value-asset traders and others	Group: jewellery and bullion vs other	Q3	Mann-Whitney; Kruskal-Wallis
H5	Respondents who see evasion as very widespread more often make switching conditional on a mandate or incentive (collective action: no one moves alone)	Q2 prevalence (3 vs 4)	Q6: conditional or no (0/1)	Fisher exact; Spearman
H6	Higher expected reduction is associated with greater willingness to shift	Q3	Q6 (0 to 3)	Spearman

Source: author. H4: group (jewellery/bullion vs others) differs on Q3.

H4: group (jewellery/bullion vs others) differs on Q3**Fig. 3 - Hypothesis map: how the questionnaire items are expected to relate**

Source: author. Arrows show the expected direction; + positive, - negative.

2. Methods

2.1 Research design

Type of study. Cross-sectional, structured-interview survey with a purposive sample. The unit is the individual respondent, working in a South Mumbai trade hub.⁴ Questions record familiarity, beliefs, stated intentions and one open answer; no transaction data are collected, so the study measures perceptions and stated intentions, not black money itself.

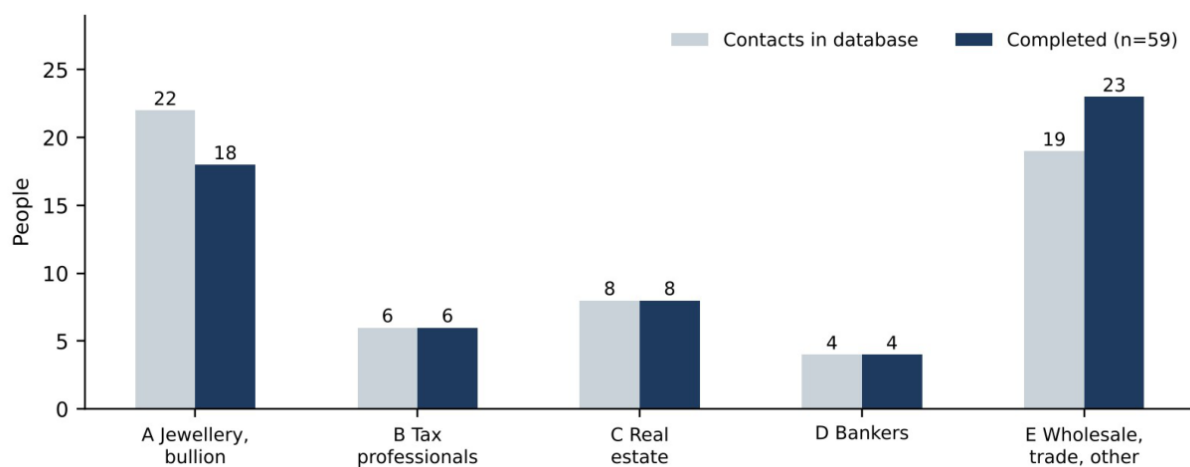
Data collection. A seven-item questionnaire (Q1 to Q7) administered in person and by phone between 15 September and 10 October 2026. Each questionnaire took about 7 minutes.

Sampling. The sampling frame is my contact database of 59 people, and 59 completed questionnaires were obtained, including a few referrals from listed contacts in group E. The sample is purposive: it is the people reachable through the contact list, grouped by role. All respondents work in South Mumbai. With $n = 59$ the study has 80 per cent power to detect a Spearman correlation of about 0.36 or larger at the 5 per cent level (my calculation). That is enough for thematic saturation within the larger groups (Guest et al., 2006) but too small to detect modest group differences. Table 3 and Figure 4 show the frame and the completed responses by group.

Table 3 - Sampling frame and completed responses

Group	Contacts in database	Completed	Completed minus contacts
A. Jewellery, gold, bullion, diamond, gemstone	22	18	-4
B. CAs and tax professionals	6	6	+0
C. Real estate agents and developers	8	8	+0
D. Bankers, wealth managers, forex	4	4	+0
E. Wholesale, trading, SME, other	19	23	+4
Total	59	59	0

Source: author's contact database (59 rows, roles tallied; no personal details reproduced) and the 59 completed questionnaires. Responses are grouped by the respondent's stated role and cannot be matched one to one with the contact list; group E has 4 more responses than contacts listed because some listed contacts referred others. Group E includes transport, kirana (neighbourhood grocery), textile, a manufacturing manager, an SME head, a grain wholesaler, an auto parts dealer, a construction materials dealer, a commercial trader, a wholesale executive and a law student.

**Fig. 4 - Sampling frame and completed responses by group**

Source: author's contact database (59) and the 59 completed questionnaires.

2.1.1 What the sample can and cannot support.

I can say: how these respondents, in these trades, see the e-rupee; which concerns and conditions recur; whether views differ between the groups sampled, when differences are large.

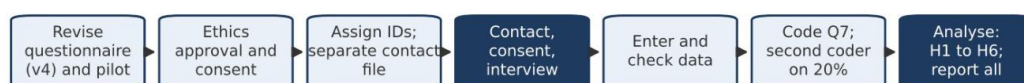
I cannot say: how many traders in Mumbai or India think this (the sample is purposive, not random); that the e-rupee does or does not reduce black money (no behaviour is measured); anything precise about groups with fewer than about 8 respondents.

2.1.2 Two risks in my sampling frame.

Contact-list and referral sampling. Respondents came from a contact list and referrals from listed contacts, so they are not a random draw and may differ from trades and advisers outside these networks.

Uneven coverage. Bankers have 4 responses and wholesale and trade has 23, so group comparisons are uneven.

2.2 Procedures

**Fig. 5 - Research procedure**

Source: author. Dark boxes are the fieldwork and analysis steps.

2.2.1 Step by step (Figure 5).

1. Use the seven-item questionnaire (Q1 to Q7) described in Appendix A. The review below lists wording problems and the fixes proposed for any future round.
2. Ethics approval was obtained prior to fieldwork.
3. Give each respondent an ID (A01, B01 and so on). Keep names, phone numbers and emails in a separate, password-protected file; no personal details enter the dataset or the paper.
4. Contact each person with the consent script below. Record who declined; non-response is itself a finding.
5. Administer the questionnaire in private, not in front of staff, customers or family. Log setting and interviewer notes.
6. Enter and check the data. Code Q7 with the scheme in Appendix D.
7. Analyse as in Section 3. Report all six tests, including those that fail.

Tools and materials. Printed or WhatsApp-form questionnaire (English, Hindi or Gujarati as needed); consent form; interviewer log; Excel or Google Sheets for entry; Python (scipy) or SPSS for analysis; coding sheet for Q7.

Questionnaire review. I checked each question for leading wording, double-barrelled options, coverage and fit to a hypothesis (Table 4). None needs dropping, but six need fixing.

Table 4 - Question-by-question review

Item	Problem found	Verdict	Fix	Tests
Name, Role, City, Years	Asking for Name defeats anonymity on a sensitive topic. No firm size or GST status.	Fix	Replace Name with an ID. Keep Role, City, Years. Add firm size band and GST-registered (yes/no).	Controls
Q1 Familiarity	Last option merges personal use with professional exposure. People overclaim knowledge.	Keep, small fix	Split “used it” from “work with it professionally”. Add a one-line check: “How is it different from UPI?” (open).	H1
Q2 Cash used to avoid tax	“Avoid” is loaded. In the 59 responses nobody chose “rarely” or “not at all”: a ceiling effect, and respondents are unlikely to describe their own trade as evading.	Fix	Ask in the third person: “Out of 10 businesses like yours in your market, how many take part of their sales or purchases in cash without a bill?” (0 to 10).	H5
Q3 Expected reduction	“Because every transaction can be traced” tells the respondent the answer. Only the end points are labelled. No “don't know”.	Fix	“How much, if at all, would the Digital Rupee reduce black money in India?” Label all five points and add “Don't know”. Ask separately about their own trade.	H1, H3, H4, H6
Q4 Most effective areas	Mixes channels (real estate, gold) with offences (laundering, bribery). Forced to exactly two. No “none” or “other”.	Fix	Keep the list, add “Other” and “None”, and ask for a first and second choice.	H4
Q5 Obstacles	“Workarounds” bundles gold, property and crypto, and omits hawala. “Weak enforcement” is not a CBDC obstacle. Missing: cost against UPI and fear of notices, which respondents raise unprompted in Q7.	Fix	Split into: moves to gold; moves to property; moves to hawala; moves to crypto. Add “costs more or is harder than UPI” and “fear of tax notices”.	H2, H3
Q6 Willingness to shift	Double-barrelled: “mandatory” and “incentives” are different things. Self-report invites social desirability.	Fix	Replace with three scenario items (zero fee; tax benefit; buyer insists), each on a five-point scale.	H2, H5, H6
Q7 One change	Good open question. One change only limits richness.	Keep	Add a probe: “What would make you trust it with your business payments?” Code with Appendix D.	Themes

Source: author's review of the questionnaire against the 59 completed responses.

Questions added. Items A1 to A8 fill gaps in the first version. A1, A2 and A5 are indirect ways of asking about sensitive behaviour (Table 5).

Table 5 - Added questions

No.	Question	Why	Type
A1	Out of 10 businesses like yours in your market, how many take part of their sales in cash without a bill?	Indirect measure of cash evasion without self-incrimination	Third-person, 0 to 10
A2	What share of your monthly receipts is in cash? (under 10%, 10 to 25%, 25 to 50%, over 50%, prefer not to say)	Exposure to cash; bands lower refusal	Banded
A3	Would you accept e-rupee for a Rs 5 lakh sale if (a) fee is zero, (b) there is a tax benefit, (c) the buyer insists?	Replaces Q6; separates cost, reward and compulsion	Three 5-point items
A4	I trust that e-rupee data would be used only for tax and crime checks.	Trust theory; privacy is a top Q7 theme	5-point
A5	If you switched, how likely is a tax notice that you would not otherwise get?	Detection probability, Allingham-Sandmo	5-point
A6	If cash payments of large size became impossible in your trade, where would most people move their money first?	Directly tests asset substitution	Single choice: gold, property, hawala, crypto, nowhere
A7	Above what single payment would you accept being traced? (Rs 50,000, Rs 2 lakh, Rs 10 lakh, never)	Threshold design for cap policy	Single choice
A8	Interviewer rating of candour (1 to 5) and setting (alone, with staff, with family)	Lets you test social desirability in the data	Interviewer record

Source: author.

Social desirability and indirect questioning. On this topic people under-report cash behaviour and over-state virtuous intentions (Tourangeau & Yan, 2007; Krumpal, 2013). Self-interest also works the other way: traders who gain from cash may play down the e-rupee's effect. What I use against this: anonymity; third-person phrasing (A1); forgiving wording ("many businesses find it hard to record every cash payment"); self-completion of sensitive items; an interviewer candour rating (A8). For own-behaviour questions a randomized-response design (Warner, 1965) is possible, but with 59 respondents it will be too imprecise to report.

Consent and anonymity wording (read aloud or print at the top)

"I am Swachha Jain, a second-year MA Economics student at KC College, Mumbai. This is an academic study on how traders, advisers and bankers see the Digital Rupee. It asks about your views, not about your own tax or cash dealings. You may skip any question or stop at any time without giving a reason.

Your name will not be recorded with your answers and will not appear in the paper. Your answers are kept in a coded file; your contact details are kept separately. Results are reported only in groups. Answers will not be shared with any tax authority, bank or employer, and will be used only for this thesis.

Questions about the study: swedocuments@gmail.com or 9326320259.

Do you agree to take part? [] Yes [] No Signature or verbal consent recorded by the author. Date: _____"

3. Results

3.1 Data presentation and analysis plan

Table 6 lists the tables and figures prepared for this report, and Table 7 sets out the analysis plan and when each technique is valid.

Table 6 - Planned outputs

Item	Output	Content
Table 8	Respondent profile	Count and share by group, years in field, firm size, GST status, setting of interview

Item	Output	Content
Table 9	Core distributions	Q1, Q2, Q3, Q6 counts and percentages; median and interquartile range for Likert items
Table 10	Channels and obstacles	Q4 and Q5 frequencies, overall and by group, with the number of respondents as denominator
Table 11	Hypothesis tests	Test, n, statistic, p-value, effect size and the Bonferroni verdict for H1 to H6
Table 12	Open-answer themes	Q7 theme counts with one short quotation each
Figures	Bar charts	Q3 distribution; Q4 and Q5 ranked bars; Q6 stacked bars by group
Appendix E	Cross-tabs	Q1 by Q3; Q2 by Q6; group by Q6

Table 7 - Analysis plan and validity conditions

Technique	Used for	Valid at n = 59 if
Descriptive statistics	All items; medians for Likert items, not means alone	Always valid. Report denominators.
Cross-tabs and chi-square	Group by categorical answers	Only when expected cell counts are at least 5. Otherwise use Fisher exact or merge categories. With five groups and four Q6 options most cells will fail this rule.
Mann-Whitney U	Q3 between two groups (H3, H4)	Two independent groups; ordinal data. Report the rank-biserial or the difference in medians.
Kruskal-Wallis	Q3 across three or more groups	Each group at least about 6; otherwise merge small groups. Bankers (n = 4) fall below this, so read that group with caution.
Spearman correlation	Q1 with Q3 (H1), Q3 with Q6 (H6)	Monotone relation; many ties are normal in Likert data. Report rho with a confidence interval.
Fisher exact	2 by 2 tables (H2, H5)	Small samples; report the odds ratio.
Ordered logit	Q6 on Q1, Q3 and group	At most about 3 predictors for 59 cases, and no empty outcome categories. At n = 33 it failed: Q3 separated the Q6 categories and the coefficient diverged. At n = 59 it converges, but the Q3 odds ratio is very large with a wide interval (52, 95% CI 9 to 302), a sign of near-separation. I report it as indicative only.
Thematic coding of Q7	Open answers	Codebook in Appendix D; coded by the author alone.
What a sample of 59 cannot support No causal claims about the e-rupee and black money; this is opinion and stated intention. No national or city-wide percentages. The sample is purposive. No reliable comparison of groups smaller than about 8 (bankers, n = 4; tax professionals, n = 6). No multivariate model beyond about three predictors. Controlling for firm size, group and familiarity at once is not possible. No significance claims after correction unless $p < 0.0083$ for six tests. Effect sizes and intervals matter more than a plain "significant or not".		

3.2 Key findings (n = 59)

All figures below are computed from the 59 completed questionnaires. Bankers (n = 4) appear in tables but are never compared as a group.

3.2.1 Who answered

23 of the 59 respondents are wholesale, trade and other business owners, and 18 are jewellery, bullion, diamond or gemstone traders (Table 8).

Table 8 - Respondent profile

Group	n	Share	Roles included
A. Jewellery, gold, bullion, diamond, gemstone	18	31%	Gold retailer, wholesaler, manufacturer, old-gold dealer, showroom owners (4), bullion traders (3), diamond business and exporter (2), gemstone trader, jewellery manufacturer, wholesale gold trader, jewellery retailer, gold trader, diamond wholesaler
B. Tax professionals	6	10%	Chartered accountants (2), tax advisers and practitioners (3), freelance accountant (1)
C. Real estate	8	14%	Developer (1), real estate agents (7)
D. Bankers, wealth, forex	4	7%	Wealth manager, forex officer, relationship manager, branch manager
E. Wholesale, trade, SME, other	23	39%	Transport (6), kirana (4), textile (5), law student, manufacturing manager, SME head, commercial trader, wholesale executive, grain wholesaler, auto parts, construction materials
All	59	100%	

Source: author's survey (n = 59).

3.2.2 Awareness is low, expectations are moderate

Table 9, Figure 6 and Figure 7 give the core distributions.

Table 9 - Core distributions (n = 59)

Item	Response	n	%
Q1 Familiarity	Never heard of it	2	3%
	Heard of it, do not know how it works	30	51%
	Understand it reasonably well	23	39%
	Have used it or worked with it	4	7%
Q2 Cash used to avoid tax	Yes, to some extent	36	61%
	Yes, very widely	23	39%
	Rarely / not at all	0	0%
Q3 Expected reduction (1 to 5)	1	0	0%
	2	10	17%
	3	30	51%
	4	16	27%
	5	3	5%
Q6 Shift transactions?	No	4	7%
	Only if mandatory or incentivised	18	31%
	Yes, partly	34	58%
	Yes, fully	3	5%

Source: author's survey (n = 59). Q3 mean 3.20, SD 0.78, median 3. Percentages may not sum to 100 because of rounding.

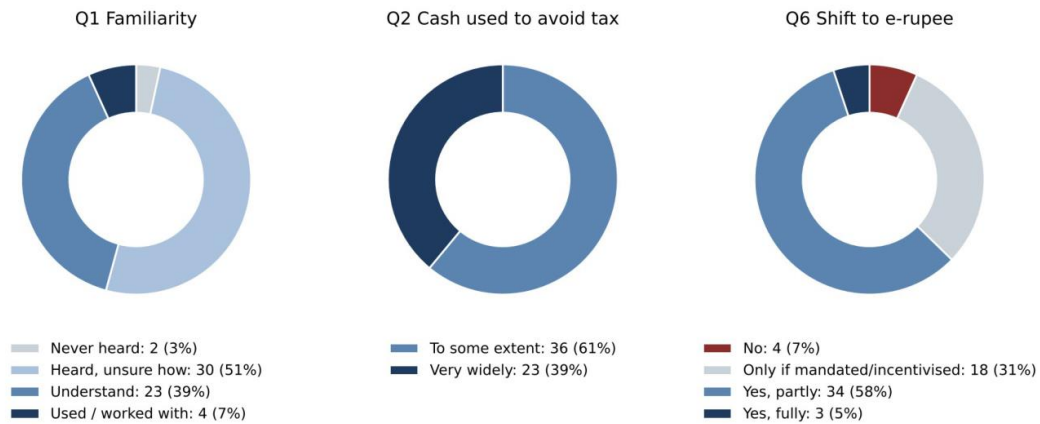


Fig. 6 - Familiarity, perceived cash use and willingness to shift (Q1, Q2, Q6)

Source: author's survey (n = 59). Percentages are shares of respondents.

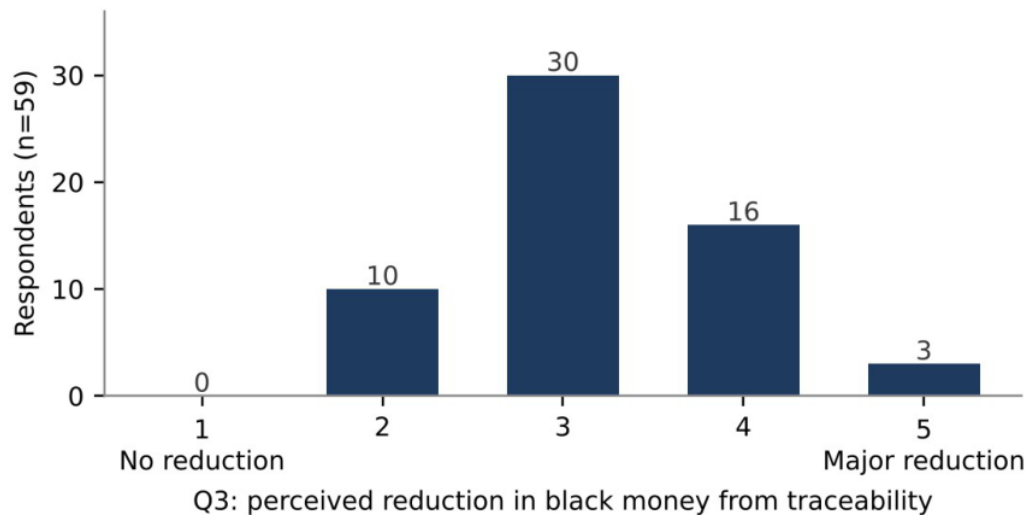


Fig. 7 - Expected reduction in black money from traceability (Q3)

Source: author's survey (n = 59). No respondent chose 1; 3 chose 5.

32 of 59 (54 per cent) had either not heard of the e-rupee or knew it only by name. Everyone accepted that cash is used to avoid tax at least “to some extent”, and no one chose “rarely” or “not at all”. This ceiling means Q2 cannot separate one respondent from another, and the moderate Q3 scores may reflect limited knowledge as much as considered scepticism. Several respondents said as much: “I have seen it in the news” was a common comment behind “heard of it”.

3.2.3 Where it would work, and what stands in the way

Figure 8 ranks the channels (Q4) and obstacles (Q5) chosen; Table 10 and Figure 9 split them by group.

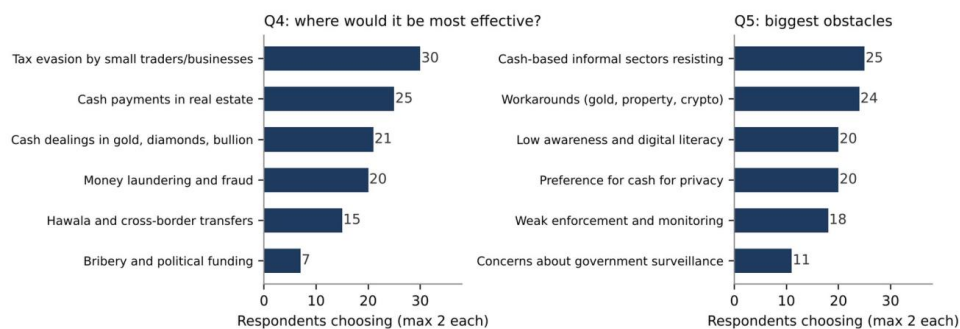


Fig. 8 - Most effective areas (Q4) and biggest obstacles (Q5)

Source: author's survey (n = 59); each respondent chose up to two (all chose two).

The e-rupee was expected to work best against evasion by small traders (30 respondents), cash payments in real estate (25) and cash dealings in gold, diamonds and bullion (21); money laundering and fraud (20) and hawala and cross-border transfers (15) followed, and bribery and political funding trailed (7). The leading obstacle was informal sectors resisting (25), then workarounds into other assets (24), preference for cash for privacy (20), low awareness (20), weak enforcement (18) and surveillance concerns (11). Counting privacy preference and surveillance together, 26 of 59 (44 per cent) cite a privacy-type obstacle.

Table 10 - Channels and obstacles, counts of respondents

Option	All (n=59)	Jewellery group (n=18)	Others (n=41)
Q4 Where most effective			
Cash payments in real estate	25	5	20
Cash dealings in gold, diamonds, bullion	21	12	9
Tax evasion by small traders and businesses	30	5	25
Hawala and cross-border transfers	15	7	8
Bribery and political funding	7	2	5
Money laundering and fraud	20	5	15
Q5 Biggest obstacles			
Workarounds (gold, property, crypto)	24	9	15
Cash-based informal sectors resisting	25	6	19
Preference for cash for privacy	20	8	12
Weak enforcement and monitoring	18	6	12
Low awareness and digital literacy	20	4	16
Concerns about government surveillance	11	3	8

Source: author's survey (n = 59). Each respondent chose up to two options, so columns sum to 118, 36 and 82 for each question.

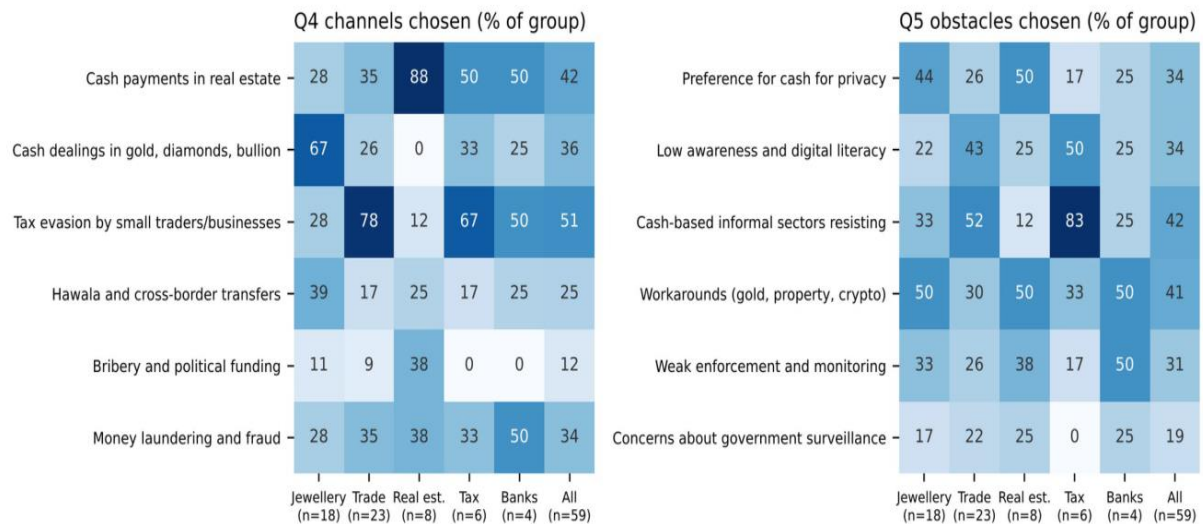


Fig. 9 - Channels and obstacles by group, as a share of each group (Q4, Q5)

Source: author's survey (n = 59). Banks n = 4; read with caution.

An exploratory pattern: the jewellery and bullion group (A) picked the gold channel more often than others did (12 of 18 against 9 of 41; Fisher p = 0.002), while the other respondents picked small-trader evasion more (25 of 41 against 5 of 18; p = 0.025). These were not hypotheses fixed in advance and are not corrected for multiple tests; treat them as leads.

Insiders disagree about their own channel. A diamond business owner said “for gold, diamonds and bullion, I feel the regulated side is already traceable through invoices, GST and bank payments, so the gain there is smaller than people assume.” An old-gold dealer said the opposite: “Unless a seller can be paid in e-rupee without fear of questions about where the gold came from, my segment will stay in cash.” The difference seems to be between invoiced wholesale trade and unbilled purchases from households, which is where cash persists.

3.2.4 Willingness to shift

Figure 10 shows Q6 by group.

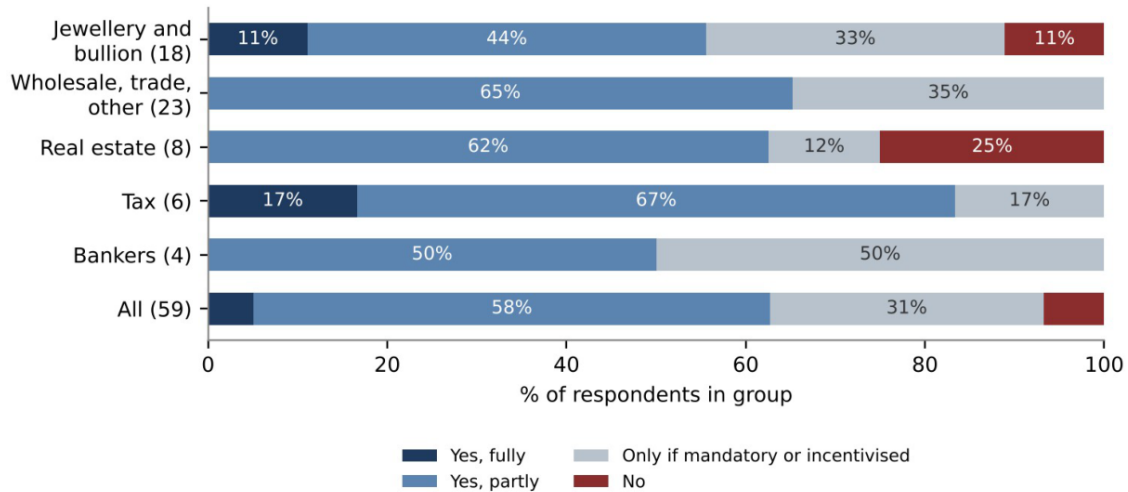


Fig. 10 - Willingness to shift part of regular transactions to the Digital Rupee (Q6), by group

Source: author's survey ($n = 59$).

37 of 59 (63 per cent) would shift partly or fully, 18 (31 per cent) only if mandated or incentivised and 4 (7 per cent) not at all. The pattern is similar across groups (Kruskal-Wallis on Q3 across the five groups: $H = 1.05$, $p = 0.90$).

Stated willingness probably overstates what people would do. About 8 million retail users (the RBI Deputy Governor's figure of December 2025, as reported by Business Standard) out of a population of about 1.46 billion (United Nations Population Fund [UNFPA], 2025) sits uneasily with 63 per cent saying “yes”. This is the usual gap between intention and action, and may also be social desirability.

3.2.5 Hypothesis tests

Table 11 reports the six tests; Figure 11 shows the H1 pattern.

Table 11 - Hypothesis tests

H	Test and n	Result	Verdict (alpha 0.0083)
H1	Spearman, Q1 and Q3, $n = 59$	$\rho = 0.75$, $p < 0.001$. Aware (Q1 of 3 or 4, $n = 27$) mean Q3 3.81; unaware ($n = 32$) 2.69; Mann-Whitney $p < 0.001$	Supported. Holds without bankers, tax or real estate ($\rho = 0.80$, $n = 41$)
H2	Fisher, privacy or surveillance cited and willing, $n = 59$	Willing: 54% (14 of 26) of those citing privacy, 70% (23 of 33) of others. Odds ratio 0.51, $p = 0.28$	Not supported
H3	Mann-Whitney, workaround cited and Q3, $n = 24$ and 35	Mean Q3 3.21 against 3.20; $U = 420$, $p = 1.00$	Not supported
H4	Mann-Whitney, jewellery group and others on Q3, $n = 18$ and 41; Kruskal-Wallis across five groups	Means 3.17 against 3.22; $H = 1.05$, $p = 0.90$	Not supported (low power)
H5	Fisher “very widely” and Q6 conditional or no, $n = 59$	16 of 23 (70%) against 6 of 36 (17%); $p < 0.001$. Spearman $\rho = -0.52$	Supported
H6	Spearman, Q3 and Q6, $n = 59$	$\rho = 0.69$, $p < 0.001$. Ordered logit (Q6 on Q1, Q3, group): Q3 odds ratio 52 (95% CI 9 to 302); Q1 and group not significant	Supported

Source: author's survey ($n = 59$). H1, H5 and H6 pass the Bonferroni threshold ($p < 0.0083$). Q1 and Q6 are also correlated ($\rho = 0.46$, $p < 0.001$), which passes the threshold but was not a planned test. The ordered logit odds ratio for Q3 is very large and imprecise, which signals near-separation. Tests are on ordinal data and the groups are heterogeneous.

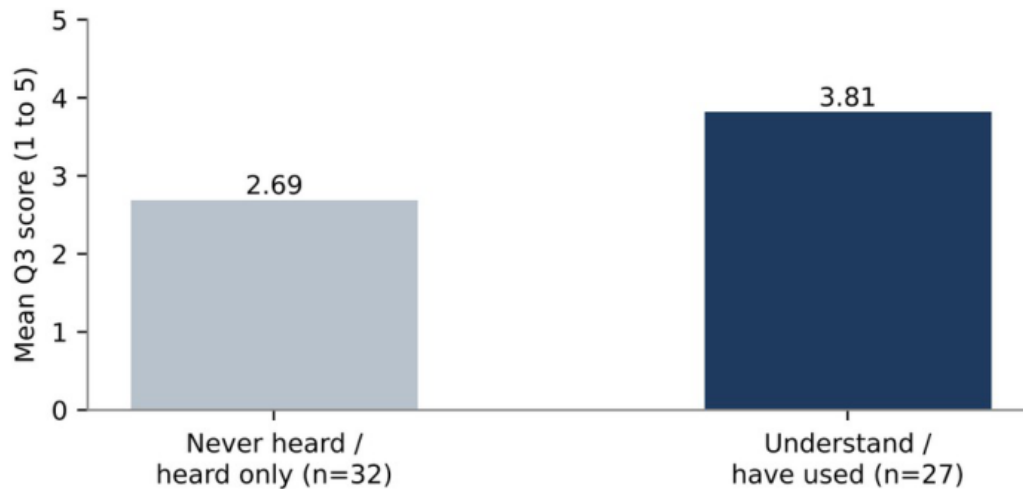


Fig. 11 - Expected reduction (Q3) by familiarity (Q1)

Source: author's survey ($n = 59$); mean Q3 score by familiarity group.

H1 and H6 tell much the same story: respondents who know the product better expect more from it and are readier to use it. I cannot tell which way the influence runs. People who like the idea may be the ones who read up on it, and the four bankers, all aware, lift the aware group. H5 is the most interesting result. Where people believe evasion is widespread, they say they will not move alone. That fits the transaction cost and collective action argument: a trader who goes digital while competitors stay in cash loses business. An auto parts dealer put it this way: "if a competitor sells without a bill and nobody checks, I lose out for being honest."

3.2.6 What respondents say would make it work (Q7)

Table 12 and Figure 12 summarise the open answers. Each answer could carry several themes.⁵

Table 12 - Q7 themes (multi-coded; one answer can carry up to four themes)

Theme	n (of 59)	Typical content	Example
Zero cost, tax benefit or lower compliance burden	19	No fees; GST relief; fewer notices for honest sales	"Today the honest trader pays more while the cash trader survives." (wholesale gold trader)
Privacy and data-use safeguards	16	Data used only for tax and crime; statutory limits; no harassment	"Guarantee customer privacy for ordinary purchases." (showroom owner)
Ease of use	21	UPI-like speed, offline mode, high wholesale limits	Offline use for drivers on the road (transport owner)
Link to GST, e-invoicing, tax data	9	Receipts flow into returns automatically	"Traceability only works when the trail is actually matched against the return." (CA)
Enforcement, analytics, uniform checks	20	Flag unusual patterns; act on flags; same rules for every dealer	Authorities must "actually act" on alerts (SME head)
Link to property and bullion records, mandatory rules	8	Tie payments to registration; PAN and bill above a limit; compulsory above a threshold	"the real problem is not the payment method, it is the gap between the registered agreement value and the actual deal value." (developer)
Training and awareness	15	Local-language training for karigars (artisans) and mandi (wholesale produce	Training for karigars and brokers (jewellery manufacturer)

Theme	n (of 59)	Typical content	Example
		market) agents; demonstrations for small shops	
Cross-border and bank integration	4	Interoperable settlement; link to LRS reporting	Cross-border settlement cheaper than hawala (forex officer)

Source: author's survey (n = 59), open answers. Coded by the author alone.

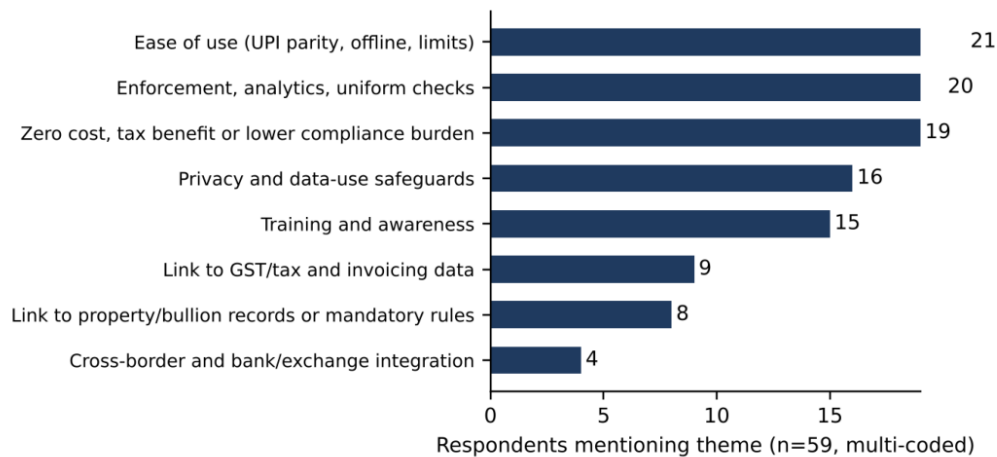


Fig. 12 - What respondents say would make the Digital Rupee effective (Q7 themes)

Source: author's survey (n = 59), open answers, multi-coded by one coder.

The themes fall into three groups. Make it cheap and safe (cost, ease, privacy: 56 mentions). Make the trail count (GST link, enforcement, asset links: 37). Make it universal (training, bank and cross-border integration: 19). No respondent argued that traceability alone would be enough.

3.3 ANOVA and chi-square checks

Sections 3.1 and 3.2 use non-parametric tests (Spearman, Mann-Whitney, Kruskal-Wallis, Fisher) because the scales are ordinal and the five occupational groups are small and uneven in size. This section adds two parametric checks that are commonly expected in this kind of report: a one-way ANOVA (F-test) for group differences, and a chi-square test of independence between two of the survey items. Both are reported as supplementary checks, not replacements for the tests in Table 11.

3.3.1 One-way ANOVA (F-test): does expected reduction (Q3) differ by occupational group?

Table 13a tests the same comparison as H4, but with an F-test across all five groups at once instead of the Mann-Whitney and Kruskal-Wallis tests used there.

Table 13a - One-way ANOVA of Q3 (expected reduction) by group

Group	n	Mean Q3	SD
A Jewellery, bullion	18	3.17	0.92
B Tax professionals	6	3.50	0.84
C Real estate	8	3.00	0.76
D Bankers	4	3.25	0.50
E Trade, transport, other	23	3.22	0.74

Source: author's survey (n = 59). One-way ANOVA: $F(4, 54) = 0.35$, $p = 0.84$. Between-group sum of squares is a small share of the total; the five group means sit within half a point of each other.

The F-test agrees with the Kruskal-Wallis result already in Table 11: group does not explain meaningful variation in Q3. I also ran the same ANOVA for Q1, Q2 and Q6 across the five groups as a check, and none reached significance either (Q1: $F(4,54) = 1.55$, $p = 0.20$; Q2: $F(4,54) = 0.25$, $p = 0.91$; Q6: $F(4,54) = 0.76$, $p = 0.55$). This is consistent with the paper's main claim in Section 3.2 and 4.1: what moves a respondent's expectations and willingness is how familiar they are with the e-rupee (Q1), not which trade they work in.

3.3.2 Chi-square test of independence: familiarity (Q1) and expected reduction (Q3)

Table 13b re-tests the association already shown in Table E1 (Appendix E), using a chi-square test of independence instead of the Spearman correlation used for H1.

Table 13b - Chi-square test, Q1 (familiarity) by Q3 (expected reduction)

Test	Statistic	df	p-value	Result
Q1 x Q3 (familiarity x expected reduction)	chi-square = 44.9	9	< 0.001	Significant association
Q2 x Q6 (perceived prevalence x willingness)	chi-square = 18.6	3	< 0.001	Significant association

Source: author's survey ($n = 59$), cross-tabulations in Tables E1 and E2 (Appendix E). Both tests reject independence at $p < 0.001$ and point the same way as the Spearman results used for H1 and H5 in Table 11: respondents who know the product better expect more from it, and respondents who see cash evasion as common are less willing to shift alone.

Caution on both chi-square tests: with $n = 59$ split across four to six cells per variable, several cells have an expected count below 5 (as low as 0.1 for Q1 x Q3), so the standard chi-square approximation is not fully reliable here. I report the result because it lines up with the Spearman tests already in Table 11, not as a stand-alone finding. A future round with a larger or more evenly spread sample would let this test run properly.

4. Discussion

4.1 Interpretation of results

My reading is that respondents see the e-rupee as necessary but not sufficient. They accept that traceability helps, give it a middle score (mean 3.2), and then list what has to be added. That fits the theory in Section 1.3 (Table 13).

Table 13 - Findings against theory

Theory	What it predicts	What the data show
Rogoff (2016), Curse of Cash	Reducing untraceable cash raises the cost of evasion	Partly. Respondents expect effect in gold, real estate and small-trader evasion (Q4), but 24 of 59 name asset substitution as the main obstacle (Q5), so cash restrictions may move money rather than end evasion.
Allingham and Sandmo (1972)	Evasion falls with detection probability and penalty	Consistent. Q7 asks for a trail that is matched to returns, enforcement that acts, and uniform checks. Respondents also fear notices on honest sales, which is a cost of being detected even when compliant.
Transaction cost theory	People switch only when the new instrument is cheaper or easier	Consistent. Cost and ease themes account for 40 mentions in Q7; H6 shows intention follows expected effect, not just cost.
Trust and networks (Greif, 1993)	Trust-based trades resist formal tracking	Consistent for bullion and gemstones, where respondents stress privacy and trust; the diamond respondent notes the invoiced side is already traced.
Technology acceptance (Davis, 1989)	Use follows perceived usefulness and ease	Consistent: H1 and H6, and ease-of-use asks.

Source: author.

Official evidence points the same way (Table 14). The sectors the Income-tax Department's own search data single out are the ones respondents expect the e-rupee to matter in, cash is still large in consumption but falling, and the e-rupee is too small and too little known to have changed behaviour yet.

Table 14 - Official evidence set against the survey

What official sources say	What the 59 respondents say	Reading
Search seizures point to real estate, trading and manufacturing, contractors, gems and jewellery, and services (GoI, 2015)	Small-trader evasion (30), real estate (25) and gold, diamond and bullion (21) are where the e-rupee would matter most (Q4)	Consistent

What official sources say	What the 59 respondents say	Reading
Cash-based transactions were about 40% of private final consumption in 2022-23, down from 47% (2020-21) (Awasthy et al., 2022)	All 59 say cash is used to avoid tax at least to some extent (Q2); a kirana owner reports UPI is about half of sales	Consistent: cash is large but falling
e₹ was about 0.03% of currency in October 2026 and circulation fell 24% in 2025-26 (RBI, 2026a, 2026b)	32 of 59 had not heard of it or knew only the name (Q1)	Consistent: little use, little awareness
Concept Note: anonymity for small value, traceability for high value (RBI, 2022)	Privacy and data-use safeguards: 16 of 59 (Q7); privacy-type obstacle cited by 26 (Q5); a wholesale executive proposes a threshold	Respondents ask for what the Note already considers; item A7 would test the threshold
No official estimate of black money; unaccounted income “do not appear amenable to credible estimation in the context of India” (GoI, 2023a)	The study measures perceptions, not size	Design fits the data gap; no benchmark for effect size
Searches from November 2016 to March 2017 seized Rs 900 crore, of which Rs 636 crore cash; undisclosed income admitted about Rs 7,961 crore (GoI, 2023b)	Enforcement that acts on the trail matters to respondents (Q5: 18; Q7: 20)	Enforcement tools exist; respondents want the trail matched to returns

Source: RBI (2022, 2026a, 2026b), GoI (2015, 2023a, 2023b), Awasthy et al. (2022) and author's survey (n = 59).

Comparison with existing research. Published estimates of the shadow economy (Medina & Schneider, 2018) and the cash-dependence evidence from 2016 (Chodorow-Reich et al., 2020) describe the problem and its size but not whether a traceable currency changes behaviour. The present results record what the people inside those trades expect, which adoption surveys such as Vijayalakshmi and Pallavi (2026) do not cover. They cannot confirm or refute the Rogoff mechanism, which concerns behaviour.

On these data, H1, H5 and H6 are supported; H2, H3 and H4 are not, but with groups this small a null result is weak evidence of no effect. The H2 result deserves a plain statement: respondents who raise privacy are somewhat less willing than the rest (54 per cent against 70 per cent; the gap of 16 points is not statistically significant, Fisher $p = 0.28$), so these data do not show that privacy worry predicts refusal. That may change once Q6 is replaced by the scenario items.

4.2 Implications

4.2.1 Practical and theoretical

Theory: I think the e-rupee is better modelled as an information technology whose value depends on matching and enforcement than as a payment instrument that deters by itself. Allingham-Sandmo needs two additions for a CBDC setting: the cost of switching, and collective action among competitors (H5).

Practice: adoption in cash-heavy trades will be sequenced. Invoiced wholesale trades can move first; unbilled household-to-dealer purchases (old gold, karigar wages, mandi payments) need training, offline use and a rule that protects honest sellers from questions.

4.2.2 Policy recommendations

These recommendations reflect my own reading of the evidence; some may already be under consideration or in place at these bodies.

Table 15 - Policy recommendations

Body	Recommendation	Respondent evidence
RBI	Publish a data-governance framework that states who may access e-rupee transaction data, on what legal standard and with what oversight. (I could not confirm whether one exists as of October 2026.)	Privacy and data-use safeguards: 16 of 59 (Q7); 26 of 59 cite a privacy obstacle (Q5)
RBI	Test a tiered design: private small payments, full traceability above a threshold. Use item A7 to find the threshold.	Wholesale executive proposal; threshold item not yet asked

Body	Recommendation	Respondent evidence
RBI and banks	Zero merchant charges for e-rupee, wholesale limits suited to trade payments, and offline use.	Cost and ease: 40 mentions (Q7)
CBDT and GST authorities	Let e-rupee receipts flow automatically into GST and income tax data, so the trail is matched to the return.	Link to tax data: 9 mentions; CA and showroom owner quotes
CBDT	Give honest small e-rupee receivers protection from automatic notices, and apply the same checks to every dealer in a market.	Notice fear; "I lose out for being honest" (auto parts dealer)
Centre and States	For property, link e-rupee payment to the registration record and PAN. Registration and stamp duty involve the States, so this needs coordination (verify the constitutional entries).	Developer: gap between agreement value and deal value
Banks	Train staff and customers together; feed e-rupee flows into existing suspicious-transaction monitoring; link cross-border use to LRS reporting.	Branch manager and forex officer answers
RBI, trade bodies	Local-language training for karigars, mandi agents and small shop owners.	Training: 15 mentions (manufacturers, grain wholesaler)

Source: author, drawing on the survey ($n = 59$).

4.3 Limitations

Perceptions, not behaviour. No transaction data; stated willingness probably exceeds actual use.

Small and uneven. 59 respondents, all from the author's contact list; bankers (4) and tax professionals (6) are small groups, and subgroup tests are low-powered.

Purposive sample drawn from a contact list and referrals; cannot be generalised to Mumbai or India.

Social desirability and self-interest. Respondents may under-state cash use and over-state willingness; cash beneficiaries may play down the e-rupee's effect. No direct control was built into the instrument used.

Instrument wording. Q2 and Q3 carry leading wording and Q2 has a ceiling (no one chose "rarely" or "not at all"); results from them should be read with that in mind.

Ordinal data and multiple tests. Six planned tests are corrected; other correlations reported are exploratory, and the ordered logit shows near-separation.

Single coder: the open answers were coded by the author alone.

Some background figures Some background figures (any holding cap, cash use in gold, diamond and real estate deals) are not independently verified, and the retail user count comes from press reports of RBI statements (Table 1).

5. Conclusion

Question and findings. The study asked whether people close to India's cash-intensive trades believe the Digital Rupee can curb black money. On the 59 responses the answer is a qualified yes: awareness is low, the expected effect is moderate, and expectations rise with familiarity ($\rho = 0.75$). Respondents do not expect traceability to work alone; they name cost, trust and enforcement follow-through as conditions, and those who see evasion as widespread will move only if others do (16 of 23 conditional or unwilling).

Final thoughts. In my view, the e-rupee's contribution to curbing black money depends less on the instrument than on three things around it: whether using it is cheaper than cash, whether users trust how the data will be used, and whether the tax system actually reads the trail. A traceable rupee that nobody uses, or whose trail nobody checks, changes little.

5.1 Future research.

Extend the sample beyond the author's contact list with random or referral-chain sampling, and add more bankers and tax professionals.

Use indirect measures (A1, A2, A5, A7) and report interviewer candour ratings.

Add behavioural data: merchant-level e-rupee and UPI acceptance, or a field trial in a single market.

Estimate cash displacement needed for a measurable effect and compare with other CBDCs (outside the scope of this perception study).

Re-survey the same respondents after adoption policies change.

Notes

In this paper “e-rupee”, “e₹” and “Digital Rupee” mean the RBI's central bank digital currency. e₹-R is the retail variant and e₹-W the wholesale variant. The government's written reply notes that “black money” is not defined in several tax laws (GoI, 2023a). Here the term means undisclosed income and assets, as respondents used it.

With six tests, the Bonferroni threshold is 0.05 divided by 6, about 0.0083. It guards against false positives from running several tests.

South Mumbai here means the older commercial and residential areas named by respondents, such as Fort, Kalbadevi, Zaveri Bazaar, Bhuleshwar, Colaba, Malabar Hill and Kemps Corner, and nearby areas such as Lalbaug.

A theme is counted once per respondent however often it appears, so theme counts add to more than 59.

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Revised questionnaire (v4)

Responses are used for academic research only. Do not write your name. You may skip any question.

Table A1 - Questionnaire v4

No.	Question and options
Profile	Role: _____ City: _____ Years in field: _____ Firm size: [] 1 to 5 [] 6 to 25 [] 26 to 100 [] over 100 GST-registered: [] Yes [] No
Q1	How familiar are you with the Digital Rupee (e-rupee)? [] Never heard of it [] Heard of it, do not know how it works [] Understand it reasonably well [] Work with it professionally [] Have used it myself. In one line, how is it different from UPI? _____
A1	Out of 10 businesses like yours in your market, how many take part of their sales or purchases in cash without a bill? 0 1 2 3 4 5 6 7 8 9 10
A2	What share of your monthly receipts is in cash? [] under 10% [] 10 to 25% [] 25 to 50% [] over 50% [] prefer not to say
Q3	How much, if at all, would the Digital Rupee reduce black money in India? 1 = not at all, 2 = a little, 3 = somewhat, 4 = a lot, 5 = very much, [] Don't know. And in your own trade? (same scale)
Q4	Where would it be most effective? Choose a first and second choice: real estate cash; gold, diamond and bullion cash; small-trader tax evasion; hawala and cross-border; bribery and political funding; money laundering and fraud; other _____; none
Q5	Biggest obstacles? Choose up to two: people prefer cash for privacy; low awareness; informal sectors resist; money moves to gold; money moves to property; money moves to hawala; costs more or is harder than UPI; fear of tax notices; weak enforcement; concern about surveillance
A3	Would you accept e-rupee for a Rs 5 lakh sale if (a) the fee is zero, (b) there is a tax benefit, (c) the buyer insists? Definitely not 1 2 3 4 5 Definitely yes (each)
A4	I trust that e-rupee data would be used only for tax and crime checks. Strongly disagree 1 2 3 4 5 Strongly agree

A5	If you switched, how likely is a tax notice that you would not otherwise get? Very unlikely 1 2 3 4 5 Very likely
A6	If large cash payments became impossible in your trade, where would most people move their money first? [] gold [] property [] hawala [] crypto [] nowhere
A7	Above what single payment would you accept being traced? [] Rs 50,000 [] Rs 2 lakh [] Rs 10 lakh [] never
Q7	What one change would make the Digital Rupee most effective against black money? _____ What would make you trust it with business payments? _____
A8	(Interviewer) Candour 1 to 5: ____ Setting: [] alone [] with staff [] with family

Consent form

Use the consent wording box in Section 2.2, printed on one page with: study title, student name, contact for questions, data-retention date, and the signature or recorded-verbal-consent line. Keep consent records separate from responses.

Respondent profile and coded responses (n = 59)

No names or contact details. Codes: Q1 1 never, 2 heard, 3 understand, 4 used; Q2 3 some extent, 4 very widely; Q3 1 to 5; Q6 0 no, 1 only if mandated or incentivised, 2 partly, 3 fully.

Table C1 - Coded respondent data

ID	Role	Group	Q1	Q2	Q3	Q6
R01	Chartered accountant	B	3	3	3	2
R02	Diamond business owner	A	2	3	2	1
R03	Gold jewellery retailer	A	2	3	3	2
R04	Gold wholesaler	A	3	3	4	2
R05	Gold jewellery manufacturer	A	1	4	2	1
R06	Old/scrap gold dealer	A	2	4	2	0
R07	Gold showroom owner (Fort)	A	3	3	4	3
R08	Bullion trader (bars)	A	4	3	3	2
R09	Bullion trader (wholesale/bank)	A	3	3	5	3
R10	Transport business owner	E	2	4	3	2
R11	Gemstone trader	A	2	3	3	2
R12	Kirana store owner	E	2	3	3	2
R13	Law student	E	2	4	3	2
R14	Real estate developer	C	2	3	3	2
R15	Textile wholesaler	E	2	4	3	1
R16	Textile and apparel trader	E	3	3	4	2
R17	Manufacturing unit manager	E	2	3	3	1
R18	SME operations head	E	3	3	3	2
R19	Commercial trader	E	2	4	2	1
R20	Wholesale business executive	E	2	3	3	2
R21	Grain wholesaler	E	2	4	2	1
R22	Auto parts dealer	E	2	3	3	2
R23	Construction materials dealer	E	2	4	3	1
R24	Wealth management professional	D	3	3	3	2

R25	Forex desk officer	D	3	3	3	1
R26	Relationship manager	D	3	4	3	1
R27	Branch manager	D	3	3	4	2
R28	Showroom owner (Colaba)	A	2	3	3	1
R29	Showroom owner (Kemps Corner)	A	4	3	4	2
R30	Showroom owner (Malabar Hill)	A	2	4	2	0
R31	Wholesale gold and bullion trader	A	3	4	3	1
R32	Diamond dealer and exporter	A	3	3	4	2
R33	Jewellery manufacturer (karkhana)	A	2	4	2	1
R34	Real estate agent	C	2	4	3	1
R35	Real estate agent	C	2	3	3	2
R36	Real estate agent	C	2	4	2	0
R37	Real estate agent	C	3	3	4	2
R38	Real estate agent	C	2	4	2	0
R39	Real estate agent	C	2	3	3	2
R40	Real estate agent	C	3	3	4	2
R41	Accountant / tax professional	B	3	4	3	2
R42	Freelance accountant	B	2	4	3	1
R43	Chartered accountant (15+ years)	B	4	3	4	2
R44	Technology-oriented tax adviser	B	3	4	5	3
R45	Tax practitioner (small businesses)	B	2	3	3	2
R46	Kirana shop owner (traditional)	E	2	3	3	2
R47	Kirana shop owner (modern, UPI)	E	3	4	4	2
R48	Kirana shop owner (experienced)	E	1	3	2	1
R49	Small local transport operator	E	2	3	3	2
R50	Taxi and commercial vehicle operator	E	3	4	4	2
R51	Fleet owner / logistics contractor	E	4	3	4	1
R52	Goods transport / delivery owner	E	2	3	3	2
R53	Transport contractor / fleet manager	E	3	4	5	2
R54	Textile wholesaler (12 yrs)	E	3	3	4	2
R55	Textile wholesaler (18 yrs)	E	2	4	3	1
R56	Textile and apparel owner	E	3	3	4	2
R57	Jewellery retailer / business owner	A	3	3	4	2
R58	Gold trader	A	2	4	3	1
R59	Diamond trader / wholesaler	A	3	3	4	2

Source: author's coded dataset ($n = 59$).

Coding scheme**Table D1 - Q7 codebook**

Code	Theme	Include when the answer asks for	Exclude
INCENT	Zero cost, tax benefit or lower compliance burden	No fees, GST relief, fewer notices or lower compliance cost for e-rupee users	General “make it cheap” without a user benefit
PRIVACY	Privacy and data-use safeguards	Limits on data use, statutory protection, assurance against harassment	Mere mention of surveillance as an obstacle
EASE	Ease of use	UPI-like speed, offline use, simple app, high limits for wholesale	Training (code TRAIN)
TAX	Link to GST, e-invoicing, tax data	Automatic reporting, reconciliation, invoice-payment matching	Registration of property (code ASSET)
ENFORCE	Enforcement and analytics	Alerts, analytics, authorities acting, uniform checks across dealers	General “stricter law” with no mechanism
ASSET	Link to assets and mandatory rules	Property registration, PAN rules, bar-buyer records, compulsory above a limit	Cross-border (code XBORDER)
TRAIN	Training and awareness	Language-specific training, awareness drives	Ease of interface
XBORDER	Cross-border and bank integration	Interoperable cross-border settlement, exchange and bank links, LRS reporting	Domestic wholesale limits

Method: thematic coding (Braun & Clarke, 2006). One answer can carry several codes.

Extra tables**Table E1 - Familiarity (Q1) by expected reduction (Q3)**

Q1 \ Q3	2	3	4	5	Total
Never heard (1)	2	0	0	0	2
Heard only (2)	8	22	0	0	30
Understand (3)	0	7	13	3	23
Used / worked with (4)	0	1	3	0	4
Total	10	30	16	3	59

Table E2 - Perceived prevalence (Q2) by willingness (Q6)

Q2 \ Q6	No	Only if mandated or incentivised	Partly	Fully	Total
To some extent	0	6	28	2	36
Very widely	4	12	6	1	23
Total	4	18	34	3	59

Table E3 - Mean scores by group

Group	n	Mean Q1	Mean Q2	Mean Q3	Mean Q6
A Jewellery, bullion	18	2.56	3.33	3.17	1.56
B Tax	6	2.83	3.50	3.50	2.00
C Real estate	8	2.25	3.38	3.00	1.38
D Bankers	4	3.00	3.25	3.25	1.50
E Trade, other	23	2.35	3.43	3.22	1.65

Means of ordinal codes are shown for orientation only; group D has 4 respondents.

Questionnaire used in the fieldwork (Q1 to Q7)

This is the version administered to respondents. Appendix A shows the revised version proposed for future rounds.

Table F1 - Questionnaire used in the fieldwork

No.	Question and options
Profile	Name: _____ Role: _____ City: _____ Years in field: _____
Q1	How familiar are you with the Digital Rupee (e-rupee)? ☐ Never heard of it ☐ Heard of it, but do not know how it works ☐ Understand it reasonably well ☐ Have used it or worked with it
Q2	Do you think cash is still widely used in India to avoid reporting income or paying tax? ☐ Yes, very widely ☐ Yes, to some extent ☐ Rarely ☐ Not at all
Q3	Because every Digital Rupee transaction can be traced, how much do you think it can reduce black money? 1 = no reduction, 5 = major reduction: 1 2 3 4 5
Q4	In which areas would the Digital Rupee be most effective in curbing illicit activity? Select up to 2. ☐ Cash payments in real estate ☐ Cash dealings in gold, diamonds and bullion ☐ Tax evasion by small traders and businesses ☐ Hawala and illegal cross-border transfers ☐ Bribery and political funding ☐ Money laundering and fraud
Q5	What are the biggest obstacles to the Digital Rupee reducing black money? Select up to 2. ☐ People prefer cash for privacy ☐ Low awareness and digital literacy ☐ Cash-based informal sectors resisting the change ☐ Workarounds such as moving to gold, property or crypto ☐ Weak enforcement and monitoring ☐ Concerns about government surveillance
Q6	Would you personally shift part of your regular transactions from cash to the Digital Rupee? ☐ Yes, fully ☐ Yes, partly ☐ Only if it is made mandatory or given incentives ☐ No
Q7	In your opinion, what one change would make the Digital Rupee most effective against black money? _____

Names were recorded on the form for the author's use only and do not enter the dataset or the paper.