

Factors Associated with Consumer Adoption and Preference towards Cashless Payment Methods: A Descriptive Survey

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Abstract

The rapid expansion of digital payment infrastructure has changed how consumers make everyday transactions. Cashless methods such as the Unified Payments Interface (UPI), mobile wallets, debit and credit cards provide speed and convenience, but their continued use depends on trust, perceived security, ease of use and awareness. This descriptive study examines perceptions, usage and preferences regarding cashless payments among 43 respondents who completed an online structured questionnaire. The questionnaire combined profile and usage questions with eleven five-point Likert statements.

Keywords: Cashless payment, Digital payments, Consumer adoption, UPI, Perceived security, Trust, Consumer preference

I. INTRODUCTION

The movement from cash towards digital and cashless payments has become an important feature of modern consumer behaviour. Consumers can now complete purchases through UPI applications, mobile wallets, cards, internet banking and QR-code systems without carrying physical currency. Smartphones, affordable internet access and interoperable payment infrastructure have made these services increasingly accessible.

From a consumer-behaviour perspective, adoption is not determined by availability alone. Consumers evaluate whether a payment method is useful, easy to operate, safe, trustworthy and convenient. The Technology Acceptance Model (TAM) proposed by Davis (1989) identifies perceived usefulness and perceived ease of use as fundamental beliefs underlying technology acceptance. In digital payments, these constructs can be complemented by perceived security, trust, awareness and transaction convenience. Shree, Pratap, Saroy and Dhal (2021) show that consumers weigh cost, convenience, safety and privacy when choosing between cash and digital modes, and that confidence in payment institutions and experience of fraud affect that choice. Understanding these factors is useful for banks, fintech firms, merchants, regulators and consumer-education initiatives.

II. NEED FOR THE STUDY

Cashless payments are no longer limited to online shopping or formal banking; they are used for groceries, transport, utility bills, education, food delivery and person-to-person transfers. Adoption nevertheless differs across consumers because of differences in digital literacy, perceived risk and prior experience. A consumer may recognise the convenience of digital payments and still prefer cash because of security concerns or lack of confidence.

Recent studies report convenience, ease of use, transaction speed and perceived security among the important considerations in the acceptance of cashless payments (Nagaraja Naik & Prasanna, 2024). This study examines how these perceptions are distributed in a survey sample and how strongly each is associated with respondents' stated preference for cashless payments over cash.

III. REVIEW OF LITERATURE

Davis (1989) developed the Technology Acceptance Model and showed that perceived usefulness and perceived ease of use are important beliefs associated with technology acceptance, which provides a theoretical foundation for studying consumer acceptance of digital payment technologies. Davis, Bagozzi and Warshaw (1989) compared technology-acceptance models and

found that behavioural intention is an important link between perceptions of a technology and its subsequent use, with perceived usefulness strongly influencing intention. Venkatesh, Morris, Davis and Davis (2003) later integrated several acceptance models into the Unified Theory of Acceptance and Use of Technology, which adds social influence and facilitating conditions to performance and effort expectancy.

Shree et al. (2021) studied digital payments and consumer experience in India and examined perceptions of cash and digital modes in terms of cost, convenience, safety and privacy, together with confidence in payment institutions and fraud experience. Their dimensions show why payment adoption is best studied as a multidimensional consumer decision. Nagaraja Naik and Prasanna (2024) reported that convenience, ease of use, transaction speed, perceived security, digital literacy and awareness are important considerations in consumer acceptance of cashless payment systems.

Zehra et al. (2024) surveyed 1,000 respondents across India on digital payment gateways and found that convenience and trust in security differed across platforms, and that convenience and rewards were strongly correlated with consumers' recommendations of a platform. Aljaradat and Shukla (2026), using structural equation modelling on survey data from urban North India, found that effort expectancy, grievance redressal and performance expectancy were positively associated with digital payment use behaviour, while trust showed no significant direct association with use but was positively associated with performance expectancy. Together, these studies point to the importance of both technological and psychological factors in digital payment behaviour.

IV. RESEARCH GAP

Much of the recent Indian evidence rests on large surveys analysed with model-based techniques (for example, Zehra et al., 2024; Aljaradat & Shukla, 2026). There is less descriptive evidence that sets functional, risk-related and awareness-related perceptions side by side and shows how strongly each relates to consumers' stated preference for cashless payments over cash. The present study addresses this by combining these perceptions in one compact survey instrument and reporting their distribution, reliability and association with preference.

V. OBJECTIVES OF THE STUDY

- 1.To describe the demographic profile, frequency of use, purpose of use and payment methods used by respondents.
- 2.To identify the most preferred cashless payment method among respondents.
- 3.To assess respondents' perceptions of convenience, time saving, ease of use, security, trust, rewards, internet availability, awareness, fear of fraud and transaction efficiency.
- 4.To test the internal consistency of the perception scale.
- 5.To examine the association between each perception item and respondents' preference for cashless payments over cash.

VI. RESEARCH METHODOLOGY

6.1 Research design

The study adopts a descriptive research design to examine consumer perception, usage patterns and factors associated with cashless payment use. The analysis describes patterns in the collected sample and does not claim that the results represent the wider population.

6.2.Data collection and instrument

Primary data were collected through a structured questionnaire administered online. Responses were received between 15 June 2026 and 28 June 2026. The questionnaire opened with a voluntary-participation consent statement, followed by questions on gender, age, educational qualification, occupation and monthly income; awareness of cashless payment methods; the methods used most frequently (multiple responses allowed); frequency of use; and main purpose of use. It then presented eleven statements measured on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree) covering convenience, time saving, security, trust, ease of use, rewards and cashback, internet availability, preference for cashless payments over cash, awareness, fear of fraud and transaction efficiency. The questionnaire closed with the most preferred payment mode, a question on whether cashless payments will dominate future transactions, and an optional open-ended comment. Likert statements were scored as worded, and no item was reverse-scored.

6.3.Sample and ethical considerations

The analysis is based on 43 responses, all of which were complete on the Likert items and all of which carried the respondent's consent. The sample is a non-probability convenience sample of individuals who chose to complete the online questionnaire, so the results are indicative only. Participation was voluntary, consent was recorded before any question was answered, and identifying

details collected by the form, such as e-mail addresses, were not used in the analysis.

6.4. Statistical tools

1. Percentage analysis was used to describe the demographic profile, usage pattern and preferences.
2. Descriptive statistics (mean, standard deviation, median and percentage of agree/strongly agree responses) were used to summarise the eleven Likert statements.
3. Cronbach's alpha was used to assess the internal consistency of the eleven items.
4. Spearman rank correlation was used to examine the association between each of the ten perception items (Items 1 to 7 and 9 to 11) and preference for cashless payments over cash (Item 8), since Likert responses are ordinal. Tests were two-tailed at the 5% level. Strength of association is described using the convention of Schober, Boer and Schwarte (2018): below 0.10 negligible, 0.10–0.39 weak, 0.40–0.69 moderate, 0.70–0.89 strong and 0.90 or above very strong.

VII. DATA ANALYSIS AND INTERPRETATION

7.1 Profile of respondents

Table 1: Demographic profile of respondents (n = 43)

Variable	Category	Frequency	Percentage
Gender	Female	35	81.40%
	Male	7	16.28%
	Prefer not to say	1	2.33%
Age (years)	21–30	16	37.21%
	31–40	13	30.23%
	Below 20	8	18.60%
	41–50	4	9.30%
	Above 50	2	4.65%
Education	Postgraduate	17	39.53%
	Undergraduate	11	25.58%
	Professional qualification	8	18.60%
	School level	7	16.28%
Occupation	Employee	24	55.81%
	Student	12	27.91%
	Homemaker	4	9.30%
	Teacher	3	6.98%
Monthly income*	Below 10,000	20	47.62%
	Above 51,000	10	23.81%
	11,000–30,000	8	19.05%
	31,000–50,000	4	9.52%

*One respondent did not report income; income percentages are based on 42 valid responses. Income bands are reported as printed in the questionnaire, and the currency was not specified.

Females form 81.40% of the sample, males 16.28%, and 2.33% preferred not to say. The largest age group is 21–30 years (37.21%), followed by 31–40 years (30.23%). Postgraduates form the largest educational group (39.53%), and employees form the largest occupational group (55.81%). Among the 42 respondents who reported income, 47.62% are in the lowest band (below 10,000 per month) and 23.81% are in the highest (above 51,000). The sample is therefore predominantly female, young to middle-aged and educated, which must be kept in mind when interpreting the results. Awareness of cashless payment methods is almost universal: 42 of the 43 respondents (97.67%) said they are aware of them.

7.2 Usage pattern and preferences

Table 2: Usage pattern and payment preferences (n = 43)

Variable	Category	Frequency	Percentage
Frequency of use	Daily	28	65.12%
	Weekly	9	20.93%
	Occasionally	4	9.30%
	Monthly	2	4.65%
Main purpose	Shopping	31	72.09%
	Bill payments	5	11.63%
	Online purchases	5	11.63%
	Money transfer	1	2.33%
	All of the above	1	2.33%
Preferred payment mode	Debit/credit card	17	39.53%
	UPI	12	27.91%
	Mobile wallet	8	18.60%
	Cash	6	13.95%
Will cashless payments dominate in future?	Yes	33	76.74%
	Maybe	8	18.60%
	No	2	4.65%

Table 3: Cashless payment methods used most frequently (multiple responses; n = 43)

Method	Respondents	Percentage of respondents
Debit/credit card	29	67.44%
UPI / QR payments	23	53.49%
Mobile wallets	11	25.58%
Internet banking	6	13.95%

Respondents could select more than one method, so percentages add to more than 100%. Cashless payment use is frequent in the sample: 65.12% use it daily and 20.93% weekly. Shopping is the principal purpose (72.09%). Debit/credit cards are both the most widely used method (67.44% of respondents) and the most preferred mode (39.53%), followed by UPI (27.91% prefer it and 53.49% use it), mobile wallets (18.60%) and cash (13.95%). The lead of cards over UPI may reflect the composition of this sample rather than a wider pattern and should not be generalised. A large majority (76.74%) expect cashless payments to dominate in future, 18.60% are unsure and 4.65% do not.

7.3 Perceptions of cashless payments

Table 4: Descriptive statistics of perception items (n = 43)

Item	Statement	Mean	SD	Median	Agree / Strongly agree
1	Cashless payments are convenient to use.	3.70	1.49	4	69.77%
2	Cashless payment methods save time.	3.67	1.52	4	67.44%
3	I feel secure while making digital payments.	3.14	1.26	3	41.86%
4	I trust cashless payment systems.	3.21	1.10	3	41.86%
5	Cashless payment apps are easy to use.	3.42	1.30	4	62.79%
6	I use cashless payments because of rewards/cashback offers.	2.74	1.24	3	25.58%
7	Internet availability affects my usage of cashless payments.	3.14	1.34	3	44.19%
8	I prefer cashless payments over cash transactions. (outcome)	3.37	1.40	4	55.81%
9	Awareness and knowledge influence my adoption of digital payments.	3.23	1.31	4	55.81%
10	Fear of fraud affects my use of cashless payments.	3.09	1.32	3	48.84%
11	Cashless payments improve transaction efficiency.	3.47	1.33	4	62.79%

Perceptions are favourable on functional dimensions. Convenience records the highest mean (3.70, 69.77% agreement), followed by time saving (3.67, 67.44%), transaction efficiency

(3.47, 62.79%) and ease of use (3.42, 62.79%). More than half of the respondents (55.81%) agree that they prefer cashless payments over cash (mean 3.37). Perceptions of security (mean 3.14) and trust (3.21) are close to the scale midpoint, and only 41.86% agree on each. Fear of fraud has a mean of 3.09, with 48.84% agreeing that it affects their use, so security-related concern remains relevant. Rewards and cashback have the lowest mean (2.74), and only 25.58% agree that they use cashless payments because of such offers, which suggests that promotional incentives are less prominent in this sample than functional benefits. Standard deviations between 1.10 and 1.52 show that opinions are widely dispersed.

7.4 Reliability analysis

The eleven Likert items produced a Cronbach's alpha of 0.948 (n = 43), indicating a high level of internal consistency. A value this high can also indicate overlap between items, and because the items cover several distinct perceptions, alpha is interpreted here as an overall consistency measure and not as evidence of a single underlying construct. Items were scored as worded. Items 7 and 10 (internet availability and fear of fraud) describe influences on use without indicating direction and were therefore not reversed; if both are reverse-scored, alpha falls to 0.814, which remains satisfactory.

7.5 Correlation analysis

Spearman rank correlation was used to examine the association between each of the ten perception items and preference for cashless payments over cash (Item 8). The coefficient ranges from -1 to +1; a positive value indicates that respondents who rate the item higher also tend to prefer cashless payments more strongly.

Table 5: Spearman correlation of perception items with preference for cashless payments (Item 8) (n = 43)

Item	Factor	rho	p-value	Strength
11	Transaction efficiency	0.7997	< 0.001	Strong
9	Awareness and knowledge	0.7727	< 0.001	Strong
5	Ease of use	0.7340	< 0.001	Strong
1	Convenience	0.7169	< 0.001	Strong
2	Time saving	0.7078	< 0.001	Strong
4	Trust in cashless systems	0.6703	< 0.001	Moderate
3	Security while making digital payments	0.6474	< 0.001	Moderate
10	Fear of fraud	0.5718	< 0.001	Moderate
7	Internet availability	0.4891	< 0.001	Moderate
6	Rewards/cashback	0.3848	0.011	Weak

Strength classified as per Schober et al. (2018). All tests two-tailed. All ten coefficients are positive and significant at the 5% level. Transaction efficiency ($\rho = 0.7997$), awareness and knowledge (0.7727), ease of use (0.7340), convenience (0.7169) and time saving (0.7078) show strong associations with preference for cashless payments. Trust (0.6703), security (0.6474), fear of fraud (0.5718) and internet availability (0.4891) show moderate associations, and rewards/cashback (0.3848) shows the weakest, a weak association. If the significance threshold is adjusted for ten tests ($0.05/10 = 0.005$), the association for rewards/cashback ($p = 0.011$) would no longer be significant, while the other nine would remain so.

These results should be read with three cautions. First, the coefficients describe association and do not establish that any factor causes preference; Item 8 is also a self-reported preference and not observed payment behaviour. Second, the positive coefficient for fear of fraud means that respondents who prefer cashless payments were also more likely to agree that fear of fraud affects their use. Because the statement does not say whether the fear discourages use or only shapes how payments are made, the coefficient should not be read as evidence that fear encourages preference. The same applies to internet availability. Third, respondents' answers to related statements tend to move together, which may partly reflect a general tendency to agree.

7.6 Sensitivity check

Four respondents (9.30%) gave the same answer to all eleven Likert statements. Uniform responding can inflate both alpha and inter-item correlations, so the analysis was repeated without these four respondents ($n = 39$). Cronbach's alpha was 0.939, and all ten correlations with Item 8 remained positive and significant at the 5% level. The ranking was unchanged: transaction efficiency ($\rho = 0.7702$) and awareness and knowledge (0.7363) remained the strongest and rewards/cashback (0.3363) the weakest. The conclusions therefore do not depend on these four respondents.

7.7 Respondents' comments

Twenty respondents added an open-ended comment, three of which were blank or "nil/no". Most substantive comments praised the convenience, speed and ease of cashless payments. A smaller number raised concerns: potential misuse and the need for stronger security, overspending because of reduced accountability, and dependence on the internet. Two respondents advocated a hybrid approach in which digital payments are used for most transactions and some cash is kept as a backup, for example during network failures. One respondent reported that some banks are reluctant to link their accounts to UPI applications and suggested that this be resolved.

VIII. FINDINGS OF THE STUDY

In relation to Objective 1 (profile and usage):

1. The sample consists of 43 respondents; females form the largest share (81.40%) and the 21–30 age group is the largest (37.21%). Employees (55.81%) and students (27.91%) are the largest occupational groups, and 97.67% are aware of cashless payment methods.
2. Cashless payment use is frequent: 65.12% use it daily and 20.93% weekly, mainly for shopping (72.09%). Debit/credit cards (67.44%) and UPI/QR payments (53.49%) are the most widely used methods.
3. A large majority (76.74%) believe cashless payments will dominate in future, while 18.60% are uncertain.

In relation to Objective 2 (preferred method):

1. Debit/credit cards are the most preferred payment mode (39.53%), followed by UPI (27.91%), mobile wallets (18.60%) and cash (13.95%).

In relation to Objective 3 (perceptions):

1. Convenience (mean 3.70) and time saving (3.67) are the most positively rated items, followed by transaction efficiency and ease of use. A majority (55.81%) prefer cashless payments over cash.
1. Security (3.14) and trust (3.21) are rated close to the midpoint, and 48.84% agree that fear of fraud affects their use.
2. Rewards and cashback are the least important motivation (mean 2.74; 25.58% agreement).

In relation to Objectives 4 and 5 (reliability and association):

1. The eleven-item scale shows high internal consistency (Cronbach's $\alpha = 0.948$; 0.939 after excluding respondents with uniform answers).
2. All ten perception items are positively and significantly correlated with preference for cashless payments, most strongly transaction efficiency ($\rho = 0.7997$) and least strongly rewards/cashback ($\rho = 0.3848$).

IX. DISCUSSION

The strong associations of ease of use, convenience, time saving and efficiency with preference for cashless payments are consistent with the Technology Acceptance Model, in which usefulness and ease of use are central beliefs (Davis, 1989), and with the emphasis on convenience, ease of use and transaction speed in earlier work (Nagaraja Naik & Prasanna, 2024). The strong association of awareness and knowledge is likewise in line with the importance attached to digital literacy and awareness in that study. Security and trust, in contrast, are rated near the midpoint and are only moderately associated with preference, and nearly half of respondents report that fear of fraud affects their use. This pattern is broadly in line with Aljaradat and Shukla (2026), who found that performance and effort expectancy were associated with use behaviour while trust had no significant direct association with it. Adoption in this sample therefore appears to rest on functional benefits, while confidence in security remains unsettled. The weak role of rewards suggests that incentives may not by themselves sustain use, although Zehra et al. (2024) found rewards to matter for platform recommendation, so the role of incentives may depend on whether the question is about using cashless payments at all or about choosing between platforms. The respondents' comments add that some users see cash as a useful backup, which is consistent with the 13.95% who still prefer cash.

X. SUGGESTIONS

1. Strengthen security awareness: because only 41.86% agree that they feel secure and 48.84% agree that fear of fraud affects their use, providers can improve user education on safe payment practices, fraud prevention and transaction verification.
2. Improve user confidence: clear communication on transaction security, privacy protection and complaint resolution may strengthen trust, which is rated close to the scale midpoint.
3. Maintain convenience and speed: convenience, time saving and efficiency are the most favourably rated features and should remain the focus of payment design.
4. Promote awareness and digital literacy: awareness and knowledge show a strong association with preference for cashless payments, so user education is relevant to wider adoption.
1. Improve digital accessibility: 44.19% agree that internet availability affects their usage, so reliable connectivity, and the option of a cash backup during network failures, supports continued use.
2. Use incentives as a complement: only 25.58% use cashless payments because of rewards, so incentives may work better alongside improvements in usability, trust and efficiency than as a substitute for them.
3. Ease account linking: one respondent reported reluctance among some banks to link accounts to UPI applications, and banks may wish to review how smoothly account linking works.

4. Support diverse preferences: respondents prefer cards, UPI, wallets and cash, so payment ecosystems should accommodate different preferences while improving interoperability and ease of use.

XI. LIMITATIONS OF THE STUDY

1. Small sample: the analysis is based on 43 respondents, which limits generalisation.
2. Sample composition: 81.40% of respondents are female, and the sample is concentrated in particular age, education and occupation groups.
3. Non-probability sampling: respondents were those who chose to complete an online questionnaire, so representativeness of the wider population cannot be established.
4. Place of residence was not recorded, so the results cannot be tied to a specific country or payment ecosystem.
5. Self-reported responses may be affected by individual perception and reporting behaviour, and uniform responding by some respondents may inflate correlations, although the sensitivity check suggests the conclusions are stable.
6. Cross-sectional data do not show how perceptions change over time.
7. Correlation does not establish causation, and Item 8 measures stated preference and not observed payment behaviour. Fear of fraud and internet availability are worded without direction, so their coefficients need careful interpretation.
8. Multiple tests: ten correlations were tested without adjustment for multiple comparisons, and the association for rewards/cashback would not remain significant under a Bonferroni adjustment.
9. Questionnaire design: income currency was not specified, income and age bands did not cover every value (for example, an income of exactly 10,000 to 11,000 or an age of 20), and one income response is missing.
10. Differences by age, income and other demographic groups were not analysed because of the small group sizes.

XII. SCOPE FOR FURTHER RESEARCH

Future studies could use a larger and more balanced probability sample, record respondents' location, measure social influence and behavioural intention directly, and compare adoption and preference across age and income groups using non-parametric tests such as the Kruskal–Wallis test. Regression-based or structural equation models would allow the relative influence of each factor on adoption to be estimated, and longitudinal data would show how perceptions of security and trust change with experience.

XIII. CONCLUSION

Cashless payment systems are widely used in the surveyed sample and are viewed favourably in terms of convenience, time saving, ease of use and transaction efficiency. Daily use is reported by 65.12% of respondents and 76.74% expect cashless payments to dominate in future. Security, trust and fear of fraud, however, remain important concerns, while rewards and cashback are a comparatively minor motivation. The eleven-item scale is highly consistent ($\alpha = 0.948$), and every perception item is positively associated with preference for cashless payments over cash, most strongly transaction efficiency, awareness, ease of use, convenience and time saving. These conclusions held when respondents with uniform answers were excluded. Within the limits of a small non-probability sample, the findings suggest that continued attention to security, awareness, reliability and user experience is relevant to sustained use of cashless payments.

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