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A Study on Digital Payment Apps and Impulse Buying: Analysing Spending Behaviours among University Students

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ABSTRACT:

Digital payment apps like Google Pay and PhonePe have made paying for things very easy, and students are among the people using them most. This study tries to find out whether this ease has anything to do with impulse buying. Data were collected from 90 respondents using a structured questionnaire and analysed with percentage analysis, chi-square test, independent-samples t-test and one-way ANOVA. Most respondents (91.1%) use a payment app daily or several times a week. A good number said they spend more when no physical cash is involved (81.1%) and that they hardly notice how much they have spent (80.0%). Around half (51.1%) said offers and cashback make them spend more than they planned. Gender and age did not make a significant difference. The study suggests that students need more awareness about their spending, and that payment apps could help by giving simple budgeting features.

Keywords: Digital payment apps, UPI, impulse buying, spending behaviour, university students

Introduction:

Paying with a phone

Not very long ago, students carried cash for everything, from the canteen to the bus fare. Now most of them just scan a QR code. Apps such as Google Pay, PhonePe and Paytm let a person pay bills, order food, shop online or send money to a friend in a few seconds. In India, a big reason for this change is the Unified Payments Interface (UPI) brought in by the National Payments Corporation of India (NPCI). The Reserve Bank of India looks after the safety of the payment system as a whole.

The digital payment landscape

Popular apps in India include Google Pay, PhonePe, Paytm and BHIM, along with apps offered by banks. Besides sending money, many of them handle bill payments, recharges, ticket booking and rewards. Shops, colleges, delivery apps and e-commerce sites now accept digital payments as a normal thing, and customers have started to expect payments to be quick and simple.

Students and impulse buying

Students are among the most regular users of these apps. They pay for food, travel, online orders and subscriptions, and most of them live on a limited allowance, scholarship or part-time income. Impulse buying means buying something that was not planned, usually because of mood, an attractive offer or plain convenience. With cash, you see the money leave your hand. With a phone, it leaves the account in one tap and may not feel like spending at all. Cashback and coupons make it harder, because buying something can feel like saving money.

Relevance and significance of the study

Students are still forming their own money habits. If digital payments make unplanned spending easy, small purchases can add up without being noticed. This study looks at whether students who find digital payments easy and convenient also spend more freely and with less awareness. Understanding this can help students, colleges and payment companies encourage better habits.

Methodology:

This study uses both primary and secondary data. Primary data were collected through a structured online questionnaire, and 90 responses were received. The questionnaire asked about the respondent's background, how they use payment apps, convenience, offers, security and trust, and how easy it feels to spend. Most questions were multiple choice or five-point Likert statements. Secondary data were taken from journals, books, research articles and publications of the Reserve Bank of India and NPCI. The research is descriptive and analytical in design.

The data were analysed using Microsoft Excel and SPSS. Percentage analysis was used to describe the respondents and their answers. A chi-square test checked whether gender is related to how often people buy through payment apps. A Welch t-test compared spending ease between men and women, and one-way ANOVA compared it across age groups. For the t-test and ANOVA, each respondent got a Perceived Spending Ease score, which is the average of six Likert statements scored from 1 (Strongly Disagree) to 5 (Strongly Agree).

Objectives:

1. To study how university students use digital payment applications.
2. To examine the relationship between payment convenience and impulse buying.
3. To understand the influence of cashback, discounts and promotional offers on purchase decisions.
4. To assess students' spending awareness and financial management practices.
5. To suggest ways of encouraging responsible use of digital payments.

Data Analysis and Interpretation

1. Percentage analysis for age

Table 1: Age of respondents

Age group	Frequency	Percentage (%)
Below 18 years	2	2.2
18 – 20 years	8	8.9
21 – 23 years	45	50.0
24 – 26 years	12	13.3
Above 26 years	23	25.6
Total	90	100.0

INFERENCE: Half of the respondents (50.0%) are 21 to 23 years old and 25.6% are above 26. Only 2.2% are below 18. So most of the sample is young adults, who are the ones starting to take their own spending decisions.

2. Percentage analysis for gender

Table 2: Gender of respondents

Gender	Frequency	Percentage (%)
Female	63	70.0
Male	27	30.0
Total	90	100.0

INFERENCE: Female respondents are 70.0% and male respondents are 30.0%. The results therefore reflect the views of women more than men.

3. Percentage analysis for educational qualification

Table 3: Educational qualification

Qualification	Frequency	Percentage (%)
Postgraduate	72	80.0
Undergraduate	15	16.7
B.Sc., B.Ed.	2	2.2
Ph.D.	1	1.1
Total	90	100.0

INFERENCE: Most respondents (80.0%) are postgraduates and 16.7% are undergraduates. The sample is well educated and probably comfortable with digital payment technology.

4. Percentage analysis for current student status

Table 4: Current university/college student status

Response	Frequency	Percentage (%)
Yes	68	75.6
No	22	24.4
Total	90	100.0

INFERENCE: About three out of four respondents (75.6%) are currently students of a university or college. The remaining 24.4% are not.

5. Percentage analysis for use of digital payment applications

Table 5: Use of digital payment applications

Response	Frequency	Percentage (%)
Yes	78	86.7
No	12	13.3
Total	90	100.0

INFERENCE: Most respondents (86.7%) have used a digital payment app, so these apps are common among them.

6. Percentage analysis for most frequently used application

Table 6: Most frequently used digital payment application

Application	Frequency	Percentage (%)
Google Pay	81	90.0

Application	Frequency	Percentage (%)
PhonePe	9	10.0
Total	90	100.0

INFERENCE: Google Pay is the app used most often by 90.0% of respondents, and PhonePe by the other 10.0%. No other app was selected, so usage is mostly on one platform.

7. Percentage analysis for frequency of digital payment usage

Table 7: Frequency of digital payment usage

Frequency of use	Frequency	Percentage (%)
Daily	38	42.2
Several times a week	44	48.9
2 – 3 times a month	6	6.7
Rarely	2	2.2
Total	90	100.0

INFERENCE: In all, 91.1% of respondents pay through an app daily (42.2%) or several times a week (48.9%). Only 8.9% use it less often than this.

8. Convenience and ease of use

Table 8: Convenience and ease of use

Statement	SA %	A %	N %	D %	SD %	Agree (SA+A) %
Apps are easy to use	45.6	35.6	5.6	6.7	6.7	81.2
Payments are quick and convenient	34.4	47.8	3.3	12.2	2.2	82.2
Payments can be made anytime	37.8	41.1	14.4	0.0	6.7	78.9
Apps make purchasing easier	45.6	36.7	15.6	1.1	1.1	82.3
Apps reduce payment effort	28.9	50.0	6.7	6.7	7.8	78.9
Apps make purchasing simple	42.2	41.1	14.4	1.1	1.1	83.3

SA = Strongly Agree, A = Agree, N = Neutral, D = Disagree, SD = Strongly Disagree

INFERENCE: Respondents feel that payment apps are convenient. Agreement is between 78.9% and 83.3% for all six statements, and the highest (83.3%) is for apps making purchasing simple.

9. Promotional offers and discounts

Table 9: Promotional offers and discounts

Statement	SA %	A %	N %	D %	SD %	Agree (SA+A) %
Discounts encourage purchases	17.8	24.4	34.4	13.3	10.0	42.2

Statement	SA %	A %	N %	D %	SD %	Agree (SA+A) %
Cashback influences purchases	12.2	38.9	17.8	24.4	6.7	51.1
Special offers attract me	10.0	33.3	36.7	15.6	4.4	43.3
Promotional offers increase likelihood of purchase	20.0	23.3	32.2	16.7	7.8	43.3
Promotions make me spend more than planned	24.4	26.7	21.1	17.8	10.0	51.1
I look for promotional offers	21.1	28.9	33.3	8.9	7.8	50.0

SA = Strongly Agree, A = Agree, N = Neutral, D = Disagree, SD = Strongly Disagree

INFERENCE: Opinions on offers are more divided than those on convenience. Slightly more than half agree that cashback influences their purchases (51.1%) and that promotions make them spend more than planned (51.1%). For discounts and special offers, about one third stayed neutral. So offers do not work on everyone in the same way.

10. Payment security and trust

Table 10: Payment security and trust

Statement	SA %	A %	N %	D %	SD %	Agree (SA+A) %
I trust digital payment apps	34.4	25.6	25.6	6.7	7.8	60.0
Payment information is secure	28.9	24.4	24.4	2.2	20.0	53.3
I feel confident making payments	21.1	36.7	26.7	7.8	7.8	57.8
Security features encourage usage	34.4	36.7	15.6	5.6	7.8	71.1
I prefer apps because transactions are secure	22.2	43.3	17.8	3.3	13.3	65.5
I am comfortable using stored payment details	36.7	23.3	20.0	12.2	7.8	60.0

SA = Strongly Agree, A = Agree, N = Neutral, D = Disagree, SD = Strongly Disagree

INFERENCE: Trust in payment apps is fairly good. 60.0% trust them and 71.1% say security features encourage them to use the apps. The weakest response is for the statement that payment information is secure, where 53.3% agree and 22.2% disagree.

11. Perceived spending ease and impulse buying

Table 11: Perceived spending ease

Statement	SA %	A %	N %	D %	SD %	Agree (SA+A) %
Digital payments make spending easier	25.6	50.0	13.3	4.4	6.7	75.6
I spend more because no physical cash is required	36.7	44.4	4.4	13.3	1.1	81.1
Apps make unplanned purchases easier	22.2	42.2	16.7	8.9	10.0	64.4
I am less aware of the amount spent	44.4	35.6	7.8	11.1	1.1	80.0
Ease encourages immediate purchases	25.6	47.8	10.0	6.7	10.0	73.4

Statement	SA %	A %	N %	D %	SD %	Agree (SA+A) %
Apps reduce hesitation before spending	26.7	51.1	15.6	5.6	1.1	77.8

SA = Strongly Agree, A = Agree, N = Neutral, D = Disagree, SD = Strongly Disagree

INFERENCE: This table shows the closest link between digital payments and impulse buying. About 81.1% say they spend more because no physical cash is needed and 80.0% say they are less aware of the amount they spend. In addition, 77.8% feel less hesitation before paying, 73.4% say the ease leads to immediate purchases and 64.4% say unplanned purchases become easier.

12. Chi-square test

H0: Gender and the frequency of purchases through digital payment apps are independent.

H1: Gender and the frequency of purchases through digital payment apps are associated.

Table 12: Gender and frequency of digital payment purchases

Gender	Daily / several times a week	Less frequent	Total
Female	50	13	63
Male	25	2	27
Total	75	15	90

Table 13: Chi-square test results

Test statistic	Value
Pearson chi-square (with continuity correction, 2×2)	1.524
Degrees of freedom	1
p-value	0.217
Significance level	0.05
Decision	Fail to reject H0

INTERPRETATION: The p-value (0.217) is greater than 0.05, so the null hypothesis is accepted. There is no significant association between gender and how often respondents buy using payment apps. Frequent use is common in both women (50 of 63) and men (25 of 27). One cell has an expected count of 4.5, which is below 5, so the result should be taken with some caution.

13. Independent-samples t-test

H0: There is no significant difference in the mean Perceived Spending Ease score between female and male respondents.

H1: There is a significant difference in the mean Perceived Spending Ease score between female and male respondents.

Table 14: Group statistics for perceived spending ease

Gender	N	Mean score	Std. deviation
Female	63	3.899	0.849
Male	27	3.809	1.096

Table 15: Independent-samples (Welch) t-test results

Test statistic	Value
Welch t-statistic	0.384
Degrees of freedom (approx.)	40.00
Two-tailed p-value	0.703
Significance level	0.05
Decision	Fail to reject H0

INTERPRETATION: Female respondents scored a little higher (3.899) than male respondents (3.809), but the difference is small and not significant ($p = 0.703$). The null hypothesis is accepted. This only means no difference was found in this sample, not that the two groups are exactly the same.

14. One-way ANOVA

H0: The mean Perceived Spending Ease score is the same across age groups.

H1: At least one age group has a different mean Perceived Spending Ease score.

Table 16: Perceived spending ease score by age group

Age group	N	Mean score	Std. deviation
18 – 20 (including below 18)	10	4.133	0.666
21 – 23	45	3.704	1.034
24 – 26	12	4.083	1.069
Above 26	23	3.978	0.663

The two respondents below 18 were combined with the 18 – 20 group because a group of two is too small to analyse.

Table 17: One-way ANOVA results

Test statistic	Value
F-statistic	1.077
Degrees of freedom	3, 86
p-value	0.363
Significance level	0.05
Decision	Fail to reject H0

INTERPRETATION: The result is not significant, $F(3, 86) = 1.077$, $p = 0.363$, so the null hypothesis is accepted. The 18 to 20 group has the highest mean (4.133) and the 21 to 23 group has the lowest (3.704), but the differences are not large enough to say they are real. Age does not seem to change how easy students find it to spend.

Results

Table 18: Summary of key findings

Area	Key finding
Usage	91.1% use payment apps daily or several times a week; Google Pay is used most (90.0%).
Convenience	78.9% – 83.3% agree that payment apps are easy, quick and simple.
Promotions	51.1% say cashback influences them and that promotions make them spend more than planned.
Security and trust	60.0% trust payment apps; 71.1% say security features encourage use.
Spending ease	81.1% spend more without physical cash; 80.0% are less aware of the amount spent.
Chi-square (gender × frequency)	$p = 0.217$, not significant.
t-test (gender × spending ease)	$p = 0.703$, not significant.
ANOVA (age × spending ease)	$p = 0.363$, not significant.

Respondents use digital payment apps very often and find them convenient and trustworthy. Most of them also feel that paying digitally makes spending easier and makes them less aware of the amount spent, and about half say offers make them spend more than planned. Gender and age did not show any significant difference. These results show that ease of payment and impulsive spending tendencies go together, but they do not prove that one causes the other.

Suggestions

1. Students should check their transaction history regularly so they know where their money goes.
2. A daily or monthly spending limit helps keep small payments from adding up unnoticed.
3. Cashback and discount offers should be used only for things that are actually needed.
4. Payment apps could offer spending summaries, budget alerts and limit warnings.
5. Waiting a day before a non-essential purchase can separate planned buying from emotional buying.

Conclusion

Digital payment apps have made buying quicker and simpler, and for most students they are now the usual way to pay. This study found that the same ease goes along with spending more freely and noticing less, and that offers add to this for about half of the respondents. Gender and age did not change these views significantly. Students can keep control by setting limits, checking their spending now and then, and thinking twice before buying only because of an offer. Payment companies can also help by adding budgeting tools to their apps.

The study has its limits. It is based on 90 self-reported responses, most respondents are female and postgraduates, and a few are not current students, so the results cannot be applied to all university students. A larger and more balanced sample, along with regression analysis, could be used in future studies.

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