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A Study on the future of Buy now pay later and its Challenges

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ABSTRACT :

Buy Now, Pay Later (BNPL) services have spread rapidly among young consumers in India, driven by digital payment platforms, e-commerce growth and the appeal of interest-free instalments. BNPL offers convenience and easier access to credit. However, it also lowers the immediate pain of payment, which can encourage impulsive purchases and spending beyond one's means. Many young users, particularly students with limited or irregular income, may not fully understand repayment obligations, late fees or the cumulative effect of several BNPL commitments. Over time, this can lead to overspending, debt build-up and financial stress.

Despite BNPL's growing popularity, little empirical evidence explains how it shapes the spending behaviour of young Indian consumers. In particular, it is unclear whether BNPL usage directly increases spending or does so mainly by triggering impulse buying. It is also unclear whether factors such as age, income and financial literacy protect consumers from these effects. Without this understanding, consumers, BNPL providers and regulators lack a sound basis for promoting responsible use. This study therefore examines the effect of BNPL usage on consumer spending behaviour, the mediating role of impulse buying, and the moderating roles of age, income and financial literacy among young consumers in India.

Introduction

Over the past decade, consumer payments have changed a great deal. E-commerce, smartphone banking and fintech platforms have moved much of retail spending online. One of the most prominent innovations in this shift is Buy Now, Pay Later (BNPL), a short-term financing option. BNPL lets a consumer receive a product right away and pay for it in a small number of interest-free or low-cost instalments. Traditional credit cards involve long approval processes, revolving interest and strict eligibility checks. BNPL, by contrast, is built into the checkout page of online and physical retailers, and approval often takes a few seconds with little paperwork. This simplicity has turned BNPL from a niche payment alternative into a mainstream way to finance purchases, especially among younger, digitally active consumers.

Academic interest in BNPL has grown alongside its commercial expansion. Yusran and Mohamad (2026), in a bibliometric review, report that research on BNPL has increased sharply since 2020. The main themes are the financial behaviour of Generation Z, digital literacy and technology acceptance. Pan (2026) synthesizes the literature and identifies convenience, liquidity management and access to credit as the main reasons consumers adopt BNPL. The same review notes that behavioural factors such as present bias, framing and mental accounting shape how people use the service. BNPL's influence also reaches beyond the individual transaction into how consumers relate to brands. Hu and Yin (2025) show that pay-later services play an important role in building consumer trust and shaping psychological contracts between consumers and businesses. This suggests that BNPL is becoming a strategic tool for customer retention as well as a payment method.

The popularity of BNPL is closely tied to the digital marketing environment in which it operates. Abdullah, Ahmad and Zahid (2025) find that digital marketing has a positive effect on impulsive buying among university students. They also find that BNPL partially mediates this relationship and that peer influence strengthens it. Podin et al. (2025) study Millennials and Generation Z in Malaysia. They observe that BNPL has become socially normalised because it is easy to access, but that it also affects users' spending patterns and financial management. Together, these studies show that BNPL is part of a wider ecosystem of online advertising, social influence and instant gratification. That ecosystem is likely to drive the service's future growth.

However, BNPL's rapid expansion has raised serious concerns about its long-term effects on consumers' financial wellbeing. Iswarya and Nangaiyarkarasi (2025) argue that BNPL increases purchasing power and convenience but can also lead to higher spending and a build-up of personal debt, particularly among younger consumers. Harun and Ab Aziz (2025) take a behavioural-finance approach and show that self-control bias significantly increases over-indebtedness among Malaysian BNPL users. Overconfidence and mental accounting appeared to have protective effects. Komen, Flood and Heckman (2025) analyse the 2023 Survey of Household Economics and Decisionmaking (SHED) dataset. They raise the question of whether BNPL users are financially savvy or financially vulnerable, and they highlight risks such as loan stacking and overextension. Pan (2026) likewise links BNPL use to higher spending, lower emergency savings, more frequent late payments and lower financial wellbeing. Pan also cautions that the direction of causality is still unclear.

Beyond debt, there is a notable gap between how widely BNPL is used and how well consumers understand it. Narayanasamy and Deepa (2026) examine BNPL awareness among Indian retail consumers. They find that perceived ease of use, trust and security, financial literacy, discounts and social influence did not significantly predict awareness, and their model explained only 2.9% of its variance. This shows that consumers may be using BNPL without fully understanding its terms, obligations and consequences. Similarly, Simiyu et al. (2024) report that demographic variables such as age, gender, income and education only weakly explain BNPL adoption and borrowing behaviour. They argue that psychological factors and financial education should be included in future research. These findings suggest that the challenges facing BNPL are behavioural, informational and regulatory as well as financial. The literature therefore presents a mixed picture. On one hand, BNPL is widely seen as a convenient, inclusive and commercially valuable tool that will keep reshaping retail payments. On the other hand, it carries growing risks: impulsive consumption, over-indebtedness, late payments, low awareness and weak consumer protection. Most existing studies focus on one side of this picture, such as the drivers of adoption, the effect on impulsive buying, or the link with debt. Few have looked at BNPL's future direction alongside the challenges that could shape or limit that future. In addition, several authors call for longitudinal, cross-country and behaviourally grounded research to better explain the long-term effects of BNPL (Harun & Ab Aziz, 2025; Yusran & Mohamad, 2026; Pan, 2026).

This study, titled *A Study on the Future of BNPL and Its Challenges*, aims to address this gap. Its objectives are to:

1. examine the factors driving the growth of BNPL services;
2. assess how consumers perceive the future sustainability and relevance of BNPL;
3. identify the main financial, behavioural and regulatory challenges linked to BNPL use;
4. suggest measures that can help BNPL grow responsibly while protecting consumers.

By bringing together insights on adoption, consumer behaviour and financial risk, this study aims to give a balanced view of BNPL as both an opportunity and a potential concern. The findings are expected to be useful to policymakers designing consumer-protection frameworks, BNPL providers and retailers seeking sustainable business models, and consumers who need to make informed and responsible credit decisions.

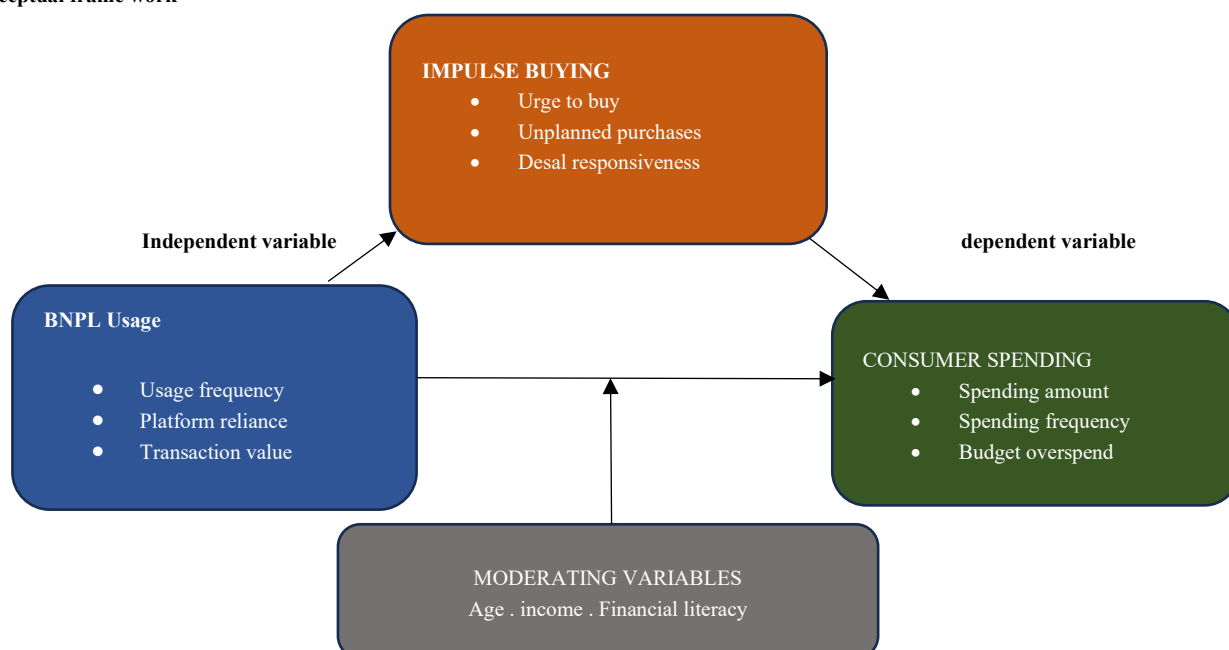
Research Gap

Research on Buy Now, Pay Later (BNPL) has grown rapidly since 2020, but most studies focus on why consumers adopt BNPL rather than on its future (Yusran & Mohamad, 2026; Pan, 2026). BNPL's challenges have been studied separately. Researchers have looked at personal debt (Iswarya & Nangaiyarkarasi, 2025), over-indebtedness caused by behavioural biases (Harun & Ab Aziz, 2025), impulsive buying (Abdullah et al., 2025) and financial vulnerability (Komen et al., 2025), but no study brings these together in one framework. Narayanasamy and Deepa (2026) also found a clear gap between usage and awareness, and Simiyu et al. (2024) showed that demographics alone do not explain BNPL behaviour. Whether BNPL causes financial harm is still unclear (Pan, 2026), and empirical evidence from India remains limited. The present study addresses these gaps by examining how consumers see the future of BNPL and the key financial, behavioural and regulatory challenges it faces.

Problem Statement

Buy Now, Pay Later (BNPL) is growing rapidly, but it is linked to impulsive buying, debt accumulation and low consumer awareness (Abdullah et al., 2025; Iswarya & Nangaiyarkarasi, 2025; Narayanasamy & Deepa, 2026). Little is known about how consumers see the future of BNPL and which challenges threaten its sustainable growth, particularly in India. This study therefore examines the future of BNPL and the financial, behavioural and regulatory challenges it faces.

Conceptual frame work



Objectives

Practical Objectives

1. To examine the effect of **BNPL usage on consumer spending**.
2. To assess the **mediating role of impulse buying**.
3. To examine the **moderating effects of age, income, and financial literacy**.

Theoretical Objective

To test how **BNPL usage influences consumer spending through impulse buying**, considering key moderating variables.

HYPOTHESES

H1 – BNPL Usage and Consumer Spending

- **H₁ (Alternative Hypothesis):** BNPL usage has a **significant effect on consumer spending behaviour**.
- **H₀ (Null Hypothesis):** BNPL usage has **no significant effect on consumer spending behaviour**.

H2 – Mediation

- **H₂:** Impulse buying behaviour **significantly mediates** the relationship between BNPL usage and consumer spending behaviour.
- **H₀₂:** Impulse buying behaviour **does not significantly mediate** the relationship between BNPL usage and consumer spending behaviour.

H3 – Moderation

- **H₃:** Age, income, and financial literacy **significantly moderate** the relationship between BNPL usage and consumer spending behaviour.
- **H₀₃:** Age, income, and financial literacy **do not significantly moderate** the relationship between BNPL usage and consumer spending behaviour.

REVIEW OF LITERATURE

Narayanasamy P. & Dr. V. Deepa (2026): The study found that ease of use, trust, financial literacy, discounts, and social influence did not significantly affect BNPL awareness. It highlights a gap between consumers using BNPL services and their actual understanding of them. **The findings suggest that greater BNPL usage does not necessarily mean greater consumer awareness.**

1. **Yusran & Mohamad (2026):** The study identified digital literacy, technology acceptance, and social influence as important themes in BNPL research. It suggested further research on the behavioural and financial consequences of BNPL among digital-native consumers. **This indicates a need to study how BNPL affects actual spending and financial behaviour.**
2. **Iswarya & Nangaiyarkarasi (2025):** The study found that BNPL provides purchasing convenience and increases consumers' purchasing capacity. However, increased usage may also result in higher spending and personal debt, especially among younger consumers. **The study emphasizes the importance of examining the relationship between BNPL usage and consumer spending behaviour.**
3. **Harun & Aziz (2025):** The study found that self-control bias can increase the risk of over-indebtedness among BNPL users. It highlights the importance of behavioural factors in understanding BNPL-related financial problems. **The findings show that individual behavioural characteristics can influence the financial outcomes of BNPL usage.**
4. **Abdullah, Ahmad & Zahid (2025):** The study found that digital marketing positively influences impulsive buying behaviour among university students. BNPL partially mediates this relationship, while peer influence strengthens impulsive buying behaviour. **This study demonstrates the importance of BNPL and behavioural factors in explaining impulsive purchasing decisions.**
5. **Podin et al. (2025):** The study found that BNPL influences the spending behaviour of Millennials and Gen Z through increased accessibility and spending opportunities. It may also contribute to financial strain, anxiety, and feelings of guilt among users. **The findings indicate that convenient payment options can have both positive and negative effects on consumers.**
6. **Hu & Yin (2025):** The study examined how BNPL affects consumer trust and psychological contracts with brands. It found that payment flexibility and service convenience play an important role in shaping consumer perceptions and relationships. **This highlights that BNPL can influence consumer behaviour beyond its basic payment function.**
7. **Komen, Flood & Heckman (2025):** The study examined the financial attitudes and vulnerability of BNPL users using the 2023 SHED dataset. It highlighted risks such as loan stacking and financial overextension, emphasizing the need for consumer protection. **The findings suggest that financial literacy may be important in understanding consumers' BNPL-related financial decisions.**
8. **Simiyu et al. (2024):** The study examined demographic factors such as age, income, gender, education, and occupation in relation to BNPL borrowing. It found that demographic factors alone do not fully explain BNPL behaviour and recommended considering psychological factors and financial education. **This supports the need to examine demographic variables as possible moderating factors in BNPL research.**
9. **Pan (2026):** The study found that BNPL is associated with increased spending, reduced emergency savings, and lower financial well-being. However, it highlighted that the causal relationship between BNPL usage and financial deterioration remains unclear. **The study therefore highlights the need for further research into the direct behavioural effects of BNPL usage.**

Research Methodology

Research Design

The study follows a descriptive and causal (explanatory) research design with a quantitative, cross-sectional approach. It tests the direct effect of BNPL

usage on consumer spending behaviour, the mediating role of impulse buying, and the moderating role of age, income and financial literacy, as shown in the conceptual framework.

Population, Sample and Sampling Technique

The target population consists of young consumers in India who are aware of or use BNPL services. A non-probability convenience sampling technique was used, and the questionnaire was circulated online among college students and young adults. A total of 428 complete responses were received between 21 and 25 September 2026. This exceeds the minimum sample of 384 recommended for a large population at a 95% confidence level and 5% margin of error (Krejcie & Morgan, 1970).

Data Collection Instrument

Primary data were collected through a structured online questionnaire of 25 questions in three parts. Part A (Q1–Q5) recorded demographic details: age, gender, education, employment status and monthly personal income. Part B (Q6) measured how often respondents use BNPL, on a five-point scale from Never to Very Often. Part C (Q7–Q25) contained 19 statements measured on a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). Secondary data were drawn from journals, conference proceedings and published reports on BNPL. Each construct score was calculated as the mean of its items, as shown in Table 1.

Table 1: Measurement of variables

Variable	Role in the model	Items	No. of items
BNPL Usage (BU)	Independent variable	Q7–Q10	4
Impulse Buying (IB)	Mediating variable	Q11–Q15	5
Consumer Spending Behaviour (CS)	Dependent variable	Q16–Q20	5
Financial Literacy (FL)	Moderating variable	Q21–Q25	5
Age and monthly income	Moderating variables	Q1, Q5	2
BNPL usage frequency	Grouping variable	Q6	1

Source: Structured questionnaire designed for the study.

Tools of Analysis

The data were coded and analysed in Microsoft Excel using the Analysis ToolPak and built-in statistical functions. Percentage analysis was used to describe the respondents, and Cronbach's alpha was used to test the internal consistency of each scale (Cronbach, 1951). The chi-square test of independence examined whether BNPL usage frequency is associated with gender, age, income and employment status. One-way ANOVA (single factor) compared mean consumer spending and impulse buying across usage-frequency, income, age and employment groups. Simple linear regression was used to test H1. Mediation (H2) was tested with the three-step regression procedure of Baron and Kenny (1986) and the Sobel (1982) test. Moderation (H3) was tested with moderated regression using mean-centred interaction terms (Aiken & West, 1991). All tests were carried out at the 5% level of significance.

For the chi-square tests, usage frequency was grouped into Frequent (Often or Very Often) and Occasional (Sometimes, Rarely or Never) users, and small demographic categories were merged, because several of the original cells had expected counts below five. For the same reason, the Never and Rarely groups were combined for the ANOVA.

Data Analysis and Interpretation

Demographic Profile of Respondents

Table 2: Demographic profile of respondents (n = 428)

Variable	Category	Frequency	Percentage (%)
Age	Under 18	1	0.2
	18–24	418	97.7
	25–34	9	2.1
Gender	Male	415	97.0
	Female	13	3.0
Education	Higher Secondary / Intermediate	1	0.2
	Diploma	1	0.2
	Undergraduate	420	98.1
	Postgraduate	6	1.4
Employment status	Student	418	97.7
	Self-employed	10	2.3
Monthly personal income	No personal income	411	96.0
	Below ₹20,000	2	0.5
	₹20,001–₹40,000	5	1.2
	₹40,001–₹60,000	9	2.1
	Above ₹60,000	1	0.2
BNPL usage frequency	Never	2	0.5
	Rarely	2	0.5
	Sometimes	206	48.1
	Often	212	49.5
	Very Often	6	1.4

Source: Primary data, computed in Microsoft Excel.

Table 2 shows that the sample is highly homogeneous. Almost all respondents are aged 18–24 (97.7%), male (97.0%), undergraduates (98.1%) and students (97.7%), and 96.0% have no personal income. BNPL use is widespread: 49.5% use it often, 48.1% sometimes and 1.4% very often, while only 0.9% rarely or never use it. This confirms that BNPL has become a routine payment option for young consumers who largely depend on others for income, the group that Podin et al. (2025) and Iswarya and Nangaiyarkarasi (2025) identify as most exposed to overspending.

Reliability and Descriptive Statistics

Table 3: Reliability and descriptive statistics of the constructs

Construct	Items	No. of items	Cronbach's alpha	Mean	Std. deviation	Result
BNPL Usage	Q7–Q10	4	0.824	4.959	0.230	Reliable
Impulse Buying	Q11–Q15	5	0.952	4.764	0.238	Reliable
Consumer Spending	Q16–Q20	5	0.971	4.977	0.180	Reliable
Financial Literacy	Q21–Q25	5	0.962	4.979	0.171	Reliable

Source: Primary data, computed in Microsoft Excel.

Cronbach's alpha for all four constructs is above the recommended minimum of 0.70 (Nunnally, 1978), ranging from 0.824 for BNPL usage to 0.971 for consumer spending, so the scales are internally consistent. The mean scores are very close to the maximum of 5 (BNPL usage = 4.96, consumer spending = 4.98, financial literacy = 4.98), which shows near-universal agreement that BNPL makes purchases easier, encourages more spending and is understood by its users. The impulse-buying mean is slightly lower (4.76) because responses to Q15 did not go above 4. The low standard deviations show that responses vary very little across respondents.

Table 4: Pearson correlation matrix of the constructs

Construct	BNPL Usage	Impulse Buying	Consumer Spending	Financial Literacy
BNPL Usage	1	0.808	0.819	0.808
Impulse Buying	0.808	1	0.865	0.820
Consumer Spending	0.819	0.865	1	0.942
Financial Literacy	0.808	0.820	0.942	1

Source: Primary data, computed in Microsoft Excel. All correlations are significant at $p < 0.001$.

All constructs are strongly and positively correlated ($r = 0.808$ to 0.942). BNPL usage is closely related to both impulse buying ($r = 0.808$) and consumer spending ($r = 0.819$), and impulse buying is strongly related to spending ($r = 0.865$), which is consistent with the proposed mediation path. The very high correlation between financial literacy and spending ($r = 0.942$) partly reflects the uniform response pattern: respondents who agreed with one set of statements tended to agree with all of them.

Chi-Square Test of Independence

The chi-square test was used to find whether BNPL usage frequency (Frequent vs Occasional) is associated with the demographic profile of respondents and with their level of spending. The null hypothesis in each case is that the two variables are independent.

Table 5: Results of the chi-square tests

Variables tested	χ^2 value	df	Table value (5%)	p-value	Result
Gender $\times$ BNPL usage	0.123	1	3.841	0.726	Not significant
Age group $\times$ BNPL usage	1.489	1	3.841	0.222	Not significant
Income status $\times$ BNPL usage	4.619	1	3.841	0.032	Significant
Employment status $\times$ BNPL usage	3.461	1	3.841	0.063	Not significant
BNPL usage $\times$ Spending level	0.270	1	3.841	0.603	Not significant

Source: Primary data, computed in Microsoft Excel.

Table 6: Cross-tabulation of income status and BNPL usage frequency

Income status	Frequent users	Occasional users	Total
No income	205	206	411
Has income	13	4	17
Total	218	210	428

Source: Primary data, computed in Microsoft Excel.

Table 5 shows that BNPL usage frequency is not significantly associated with gender ($\chi^2 = 0.123$, $p = 0.726$), age group ($\chi^2 = 1.489$, $p = 0.222$) or employment status ($\chi^2 = 3.461$, $p = 0.063$), so the null hypothesis is accepted in these cases. Income status, however, is significantly associated with usage frequency ($\chi^2 = 4.619$, $p = 0.032$). As Table 6 shows, 76.5% of respondents with a personal income are frequent BNPL users, compared with 49.9% of those with no income. This suggests that having an income, and therefore the ability to commit to instalments, encourages more regular use of BNPL. Usage frequency is not associated with the level of spending ($\chi^2 = 0.270$, $p = 0.603$), because both frequent and occasional users reported very high spending scores. The age and employment tests each have one cell with an expected count slightly below five, so those two results should be treated with caution.

One-Way ANOVA

One-way ANOVA (single factor) was used to test whether mean consumer spending and impulse buying differ across groups of respondents. The null hypothesis in each case is that the group means are equal.

Table 7: Group-wise mean scores by BNPL usage frequency

Usage frequency	N	Consumer spending mean	Std. deviation	Impulse buying mean	Std. deviation
Never/Rarely	4	3.550	0.443	2.800	0.783
Sometimes	206	4.996	0.056	4.792	0.076
Often	212	4.987	0.141	4.777	0.152
Very Often	6	4.900	0.110	4.633	0.320

Source: Primary data, computed in Microsoft Excel.

Table 8: Results of one-way ANOVA

Dependent variable and factor	Source	Sum of squares	df	Mean square	F	p-value
Consumer spending by BNPL usage frequency	Between groups	8.276	3	2.7588	213.070	< 0.001
	Within groups	5.490	424	0.0129		
	Total	13.766	427			
Impulse buying by BNPL usage frequency	Between groups	15.734	3	5.2446	264.970	< 0.001
	Within groups	8.392	424	0.0198		
	Total	24.126	427			
Consumer spending by income status	Between groups	0.157	1	0.1574	4.926	0.027
	Within groups	13.609	426	0.0319		
	Total	13.766	427			
Consumer spending by age group	Between groups	0.481	1	0.4805	15.408	< 0.001
	Within groups	13.286	426	0.0312		
	Total	13.766	427			
Consumer spending by employment status	Between groups	0.060	1	0.0601	1.869	0.172
	Within groups	13.706	426	0.0322		
	Total	13.766	427			

Source: Primary data, computed in Microsoft Excel.

Table 8 shows that mean consumer spending differs significantly across usage-frequency groups ($F(3, 424) = 213.07, p < 0.001, \eta^2 = 0.601$), as does impulse buying ($F(3, 424) = 264.97, p < 0.001, \eta^2 = 0.652$). Table 7 shows that the difference lies mainly between respondents who never or rarely use BNPL (spending mean = 3.55; impulse buying mean = 2.80) and all other users, whose means are close to 5. In other words, the main divide is between using and not using BNPL, rather than between moderate and heavy users, which also explains the non-significant chi-square result for usage and spending level. Because the Never/Rarely group has only 4 respondents, this result should be confirmed with a larger group of non-users.

Spending also differs significantly by income status ($F = 4.93, p = 0.027$), with respondents who have no personal income reporting slightly higher spending (4.98) than those with an income (4.88), and by age group ($F = 15.41, p < 0.001$), with 18–24-year-olds (4.98) scoring higher than other respondents (4.76). These effect sizes are small ($\eta^2 = 0.011$ and 0.035). There is no significant difference in spending between students and self-employed respondents ($F = 1.87, p = 0.172$).

Linear Regression Analysis

H1: Effect of BNPL usage on consumer spending. Simple linear regression was run with consumer spending as the dependent variable and BNPL usage as the independent variable.

Table 9: Regression of consumer spending on BNPL usage (H1)

Model statistic / predictor	Coefficient (B)	Std. error	t-value	p-value
Constant	1.806	0.108	16.75	< 0.001
BNPL Usage	0.639	0.022	29.44	< 0.001
R = 0.819; R ² = 0.670; Adjusted R ² = 0.670				
F(1, 426) = 866.74; p < 0.001				

Source: Primary data, computed in Microsoft Excel.

The model is significant ($F = 866.74, p < 0.001$) and BNPL usage explains 67.0% of the variation in consumer spending ($R^2 = 0.670$). The coefficient of BNPL usage is positive and significant ($B = 0.639, t = 29.44, p < 0.001$), so a one-point increase in BNPL usage is associated with a 0.639-point increase in consumer spending. The regression equation is: Consumer Spending = $1.806 + 0.639 \times \text{BNPL Usage}$. **H₀ is therefore rejected and H₁ is accepted: BNPL usage has a significant effect on consumer spending behaviour.**

H2: Mediating role of impulse buying. Following Baron and Kenny (1986), three regressions were estimated: (1) consumer spending on BNPL usage (path c); (2) impulse buying on BNPL usage (path a); and (3) consumer spending on both BNPL usage and impulse buying (paths c' and b). The Sobel test was then used to check whether the indirect effect is significant.

Table 10: Mediation analysis: BNPL usage → impulse buying → consumer spending (H2)

Step / path	Coefficient (B)	Std. error	t-value	p-value	R ²
Step 1: BU → CS (total effect, c)	0.639	0.022	29.44	< 0.001	0.670
Step 2: BU → IB (path a)	0.835	0.029	28.32	< 0.001	0.653
Step 3: IB → CS, controlling BU (path b)	0.442	0.029	15.48	< 0.001	0.789

Step / path	Coefficient (B)	Std. error	t-value	p-value	R ²
Step 3: BU → CS, controlling IB (direct effect, c')	0.270	0.030	9.15	< 0.001	
Indirect effect ($a \times b$) = 0.369; Sobel z = 13.59; $p < 0.001$; proportion mediated = 57.8%					

Source: Primary data, computed in Microsoft Excel.

BNPL usage significantly predicts impulse buying ($a = 0.835$, $p < 0.001$), and impulse buying significantly predicts consumer spending after controlling for BNPL usage ($b = 0.442$, $p < 0.001$). When impulse buying is added to the model, the effect of BNPL usage on spending falls from 0.639 to 0.270 but remains significant, and the explained variance rises from 67.0% to 78.9%. The Sobel test confirms that the indirect effect is significant ($a \times b = 0.369$, $z = 13.59$, $p < 0.001$), and about 58% of the total effect of BNPL usage on spending passes through impulse buying. **H₀₂ is therefore rejected and H₂ is accepted: impulse buying partially mediates the relationship between BNPL usage and consumer spending behaviour.** This agrees with Abdullah, Ahmad and Zahid (2025), who also report a partial mediating role for BNPL in impulsive purchasing.

H3: Moderating role of financial literacy, income and age. Three moderated regression models were estimated. In each model, BNPL usage was mean-centred and multiplied by the moderator to create an interaction term. Financial literacy was also mean-centred; income (1 = has personal income) and age (1 = outside the 18–24 group) were entered as dummy variables. A significant interaction term indicates moderation.

Table 11: Moderated regression analysis (H3)

Model and predictor	Coefficient (B)	Std. error	t-value	p-value
Model A: Financial literacy (R² = 0.911)				
BNPL Usage (centred)	0.147	0.019	7.59	< 0.001
Financial Literacy (centred)	0.306	0.071	4.29	< 0.001
BNPL Usage $\times$ Financial Literacy	−0.313	0.038	−8.16	< 0.001
Model B: Income (R² = 0.906)				
BNPL Usage (centred)	0.919	0.015	63.35	< 0.001
Has personal income (dummy)	−0.049	0.019	−2.58	0.010
BNPL Usage $\times$ Income	−0.852	0.031	−27.44	< 0.001
Model C: Age (R² = 0.837)				
BNPL Usage (centred)	0.882	0.019	45.53	< 0.001
Age outside 18–24 (dummy)	−0.121	0.039	−3.11	0.002
BNPL Usage $\times$ Age	−0.766	0.047	−16.39	< 0.001

Source: Primary data, computed in Microsoft Excel. Dependent variable: Consumer Spending.

All three interaction terms are negative and significant. For financial literacy ($B = -0.313$, $t = -8.16$, $p < 0.001$), the effect of BNPL usage on spending becomes weaker as financial literacy increases: it is about 0.45 for a respondent with a financial literacy score of 4, compared with 0.15 at the average score. For income ($B = -0.852$, $p < 0.001$), the effect of BNPL usage on spending is 0.92 for respondents with no personal income but only 0.07 for those with an income. For age ($B = -0.766$, $p < 0.001$), the effect is 0.88 for 18–24-year-olds and 0.12 for other respondents. **H₀₃ is therefore rejected and H₃ is accepted: age, income and financial literacy significantly moderate the relationship between BNPL usage and consumer spending.** BNPL raises spending most among young, financially dependent consumers with lower financial literacy. However, only 17 respondents have an income and only 10 fall outside the 18–24 group, so the income and age results rest on small subgroups and need to be confirmed in a more diverse sample.

Summary of Hypothesis Testing

Table 12: Summary of hypothesis testing

Hypothesis	Statistical test	Key result	Decision
H1: BNPL usage $\rightarrow$ consumer spending	Simple linear regression	$B = 0.639$, $t = 29.44$, $p < 0.001$	H ₀₁ rejected; H ₁ supported
H2: Mediation by impulse buying	Baron & Kenny regressions, Sobel test	$a \times b = 0.369$, $z = 13.59$, $p < 0.001$	H ₀₂ rejected; H ₂ supported (partial mediation)
H3a: Moderation by financial literacy	Moderated regression	$B = -0.313$, $p < 0.001$	H ₀₃ rejected; supported
H3b: Moderation by income	Moderated regression	$B = -0.852$, $p < 0.001$	H ₀₃ rejected; supported
H3c: Moderation by age	Moderated regression	$B = -0.766$, $p < 0.001$	H ₀₃ rejected; supported

Source: Primary data, computed in Microsoft Excel.

Findings

- BNPL is widely used by the young consumers surveyed: 99.1% use it at least sometimes, and most of them are students with no personal income.
- All four scales are reliable (Cronbach's alpha between 0.82 and 0.97), and respondents strongly agree that BNPL makes purchases easier, increases spending and encourages unplanned buying.
- BNPL usage frequency is associated with income status, with income earners more likely to be frequent users, but not with gender, age or employment status.
- Consumer spending and impulse buying differ significantly across usage-frequency groups; the clearest gap is between non-users and users of BNPL.
- Respondents aged 18–24 and those without a personal income report significantly higher BNPL-driven spending than older respondents and

income earners.

- BNPL usage has a strong, significant positive effect on consumer spending and explains 67.0% of its variation (H1 supported).
- Impulse buying partially mediates the effect of BNPL usage on spending and carries about 58% of the total effect (H2 supported).
- Financial literacy, income and age weaken the effect of BNPL usage on spending, so the effect is strongest among young, financially dependent consumers with lower financial literacy (H3 supported).
- Responses are highly concentrated at the top of the scale: 406 of 428 respondents (94.9%) gave the highest possible score to every statement.

Discussion

The results support the view in the literature that BNPL is more than a neutral payment method. The strong positive effect of BNPL usage on spending agrees with Iswarya and Nangaiyarkarasi (2025) and Pan (2026), who associate BNPL with higher spending and personal debt. Respondents agreed that BNPL leads them to buy higher-priced products, to buy items they would otherwise postpone and to spend beyond their planned budget. Splitting a price into small instalments makes a purchase feel cheaper at the moment of decision, which is consistent with the present bias and mental accounting effects described by Pan (2026).

The partial mediation by impulse buying shows how this happens. BNPL increases spending partly by making spontaneous, unplanned purchases easier, which matches the finding of Abdullah, Ahmad and Zahid (2025) that BNPL partly carries the effect of digital marketing on impulsive buying. Because the mediation is partial, BNPL also raises spending directly, for example by allowing planned but costly purchases to be brought forward.

The moderation results add to the work of Simiyu et al. (2024), who found that demographic factors alone explain BNPL behaviour only weakly. In this study, demographics matter mainly because they change how strongly BNPL usage translates into spending. The effect is strongest among young respondents without an income, who are the consumers Podin et al. (2025) describe as most vulnerable to financial strain and guilt. Higher financial literacy weakens the effect, which supports the call by Komen, Flood and Heckman (2025) and Harun and Ab Aziz (2025) for financial education and consumer protection. At the same time, the near-perfect agreement with the financial-literacy statements, alongside equally strong agreement that BNPL leads to overspending, echoes Narayanasamy and Deepa's (2026) observation of a gap between how widely BNPL is used and how well it is understood. Self-reported understanding may not translate into careful use.

For the future of BNPL, the findings point in two directions. The high level of usage and agreement suggests that BNPL will remain a relevant and popular payment option among young Indian consumers, and that it can strengthen customer engagement for retailers, as Hu and Yin (2025) argue. However, its main challenges are behavioural (impulse buying and spending beyond budget), financial (repayment pressure on consumers without an income) and regulatory (the need for clear disclosure and affordability checks). How these challenges are managed is likely to decide whether BNPL grows sustainably.

Suggestions

For consumers

- Set a monthly limit for BNPL repayments and track all active instalments, including those across different apps, before making a new purchase.
- Pause before using BNPL for unplanned purchases and check whether the item is a need or a sudden want.
- Read the terms on late fees, penalties and the effect of missed payments on credit scores before choosing BNPL.

For BNPL providers and retailers

- Display the total cost, repayment schedule and late-payment charges clearly at checkout, rather than only the instalment amount.
- Carry out simple affordability checks, especially for young users who have no regular income, and set sensible credit limits.
- Add in-app reminders, spending summaries and voluntary spending caps so that users can manage repayments.

For regulators and policymakers

- Bring all BNPL products clearly under the Reserve Bank of India's digital lending framework, with standard rules on disclosure, credit reporting and grievance redressal.
- Encourage reporting of BNPL loans to credit bureaus so that loan stacking across platforms can be detected.

For educational institutions

- Include short modules on digital credit, BNPL and budgeting in college curricula, since students are the heaviest users and are the most affected.
- Run financial-literacy workshops that use practical BNPL examples, because higher financial literacy weakens the effect of BNPL on spending.

Limitations and Scope for Future Research

The study has some limitations. First, responses are strongly concentrated at the top of the scale: 406 of the 428 respondents (94.9%) gave the highest score to every statement, and 416 (97.2%) recorded the maximum consumer-spending score. As a result, the significant chi-square, ANOVA and regression results depend largely on the small number of respondents who answered differently, and the high R^2 values and correlations may be inflated by acquiescence or straight-line responding. Second, the sample was drawn by convenience sampling and is highly homogeneous: mostly male, aged 18–24, undergraduate students with no personal income. The findings therefore cannot be generalised to all BNPL users in India, and the income and age moderation results rest on very small subgroups. Third, Q15 responses did not exceed 4, which suggests that its response options may have differed from the other items. Fourth, the cross-sectional design and self-reported data cannot establish causality.

Future research could use a larger, stratified sample that includes working professionals, women and older consumers, and could reverse-word some items and include attention checks to reduce response bias. Longitudinal studies using actual transaction and repayment data would help to establish whether BNPL causes higher spending and debt, as recommended by Pan (2026) and Yusran and Mohamad (2026). Structural equation modelling and bootstrapped mediation tests could also be used to test the conceptual framework more rigorously, and cross-country comparisons could show how regulation shapes the future of BNPL.

Conclusion

This study examined the future of BNPL and its challenges by testing how BNPL usage affects consumer spending among 428 young consumers in India. The results show that BNPL usage significantly increases consumer spending, that impulse buying partly explains this effect, and that the effect is strongest among young, financially dependent consumers with lower financial literacy. Chi-square and ANOVA results further show that usage is linked to income and that non-users differ clearly from users in their spending and impulse buying. BNPL is therefore likely to remain an important part of digital payments, but its growth carries real behavioural, financial and regulatory risks. A sustainable future for BNPL will depend on transparent product design by providers, stronger regulation and better financial literacy among young consumers. Given the strong concentration of responses at the top of the scale, these conclusions should be confirmed with a larger and more diverse sample.

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