

BUY NOW PAY LATER (BNPL) SERVICES AND CONSUMER SPENDING BEHAVIOR: AN EMPIRICAL STUDY IN EMERGING MARKETS

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ABSTRACT

Buy Now Pay Later (BNPL) services have emerged as a disruptive financial innovation, particularly in emerging markets where access to traditional credit remains limited. This study examines how BNPL usage affects consumer spending behavior, impulse buying tendencies, and financial stress among 312 active BNPL users across three major emerging economies — India, Indonesia, and Brazil. A quantitative, cross-sectional survey design was employed, and data were analyzed using Structural Equation Modeling (SEM) via AMOS 24.0. The results indicate that BNPL usage significantly increases consumer spending ($\beta = 0.52, p < 0.001$) and impulse buying ($\beta = 0.39, p < 0.01$), while also generating moderate financial stress ($\beta = 0.31, p < 0.05$). Financial literacy was found to negatively moderate the BNPL–financial stress relationship ($\beta = -0.24, p < 0.05$), and income level moderated the BNPL–spending relationship ($\beta = 0.18, p < 0.05$). These findings highlight the dual nature of BNPL as both a financial inclusion enabler and a potential source of consumer financial vulnerability. The study contributes to the growing body of fintech-driven credit literature by providing empirical evidence from emerging market contexts, and offers policy recommendations to promote responsible BNPL frameworks.

Keywords: *Buy Now Pay Later (BNPL), Consumer Spending Behavior, Fintech, Emerging Markets, Digital Credit, Impulse Buying, Financial Literacy, Over-Indebtedness, Structural Equation Modeling, Payment Innovation*

1. Introduction

The global financial landscape has undergone profound transformation driven by the rapid advancement of financial technology (fintech). Among the most significant innovations is the Buy Now Pay Later (BNPL) model, which allows consumers to make immediate purchases and defer payments over time, typically interest-free when installments are honored (Gabor & Brooks, 2017; Jiang & Dukes, 2022). This alternative credit model has gained considerable traction across emerging markets, where access to conventional credit facilities such as credit cards remains structurally limited.

The proliferation of BNPL is closely linked to the expansion of e-commerce platforms, growing smartphone penetration, and the acceleration of digital payment ecosystems. In markets such as India, Indonesia, and Brazil, fintech companies have leveraged these trends to extend frictionless credit to large, previously underserved populations (Arner et al., 2020; Ozili, 2022). Compared to traditional lending mechanisms, BNPL services require minimal documentation and offer faster approvals, making them particularly attractive to younger consumers and first-time credit users (Fernandes et al., 2022).

Despite these advantages, the rapid adoption of BNPL has raised concerns regarding its behavioral and financial consequences. Drawing on behavioral economics, researchers have long established that reducing the immediate financial cost of a transaction increases the propensity to spend and encourages impulse buying (Prelec & Loewenstein, 1998; Soman, 2001). BNPL amplifies this tendency by decoupling the act of purchase from the act of payment, thereby attenuating the psychological 'pain of paying' and lowering cognitive barriers to expenditure (Boden et al., 2023).

Further complications arise from the relatively permissive credit-assessment processes associated with many BNPL platforms. In emerging markets, where financial literacy levels are uneven and regulatory frameworks for digital credit are still maturing, consumers may accumulate parallel BNPL obligations without fully appreciating the cumulative repayment burden (Di Maggio et al., 2022; Roy & Sinha, 2023). Instances of over-indebtedness and missed repayments have accordingly attracted regulatory attention in multiple jurisdictions, including India's Reserve Bank of India (RBI) digital lending guidelines (2022) and Brazil's emerging open finance framework.

Against this backdrop, the present study investigates the relationship between BNPL usage and consumer spending behavior in emerging markets, with particular attention to impulse buying, financial stress, and the moderating roles of financial literacy and income level. By providing empirical evidence drawn from India, Indonesia, and Brazil, the study addresses a notable gap in the existing literature, which remains disproportionately centered on developed-market contexts.

2. Literature Review

Evolution of Buy Now Pay Later (BNPL) Services

Buy Now Pay Later represents a contemporary iteration of installment credit, distinguished by its digital delivery, near-instant approval mechanisms, and typically zero-interest structure for on-time repayments (Zhang & Wang, 2021). Unlike traditional hire-purchase agreements, BNPL is embedded directly within e-commerce checkout flows, enabling seamless credit access at the point of sale. Globally, major providers such as Klarna, Afterpay, and Zip have scaled rapidly in developed markets, while region-specific platforms — including Kredivo and Akulaku (Indonesia), ZestMoney and LazyPay (India), and Parcelamos (Brazil) — have driven

adoption across emerging economies (Ozili, 2022; Roy & Sinha, 2023).

The growth of BNPL is inextricably linked to the broader fintech revolution, wherein advanced data analytics and alternative credit-scoring models have enabled lenders to extend financial services to individuals lacking formal credit histories (Arner et al., 2020; Jagtiani & Lemieux, 2019). This approach has contributed significantly to financial inclusion by providing access to credit for populations historically underserved by conventional banking institutions.

2.2 Theoretical Perspectives on Consumer Spending Behavior

Consumer spending behavior under deferred payment arrangements is well theorized within behavioral economics. Prelec and Loewenstein (1998) introduced the concept of the 'pain of paying' — the psychological discomfort associated with parting with money — demonstrating that payment methods that reduce this discomfort (e.g., credit cards, installment plans) systematically increase spending. Subsequent work by Soman (2001) extended this framework, showing that the immediacy and rehearsal of payment transactions moderate spending behavior, with deferred mechanisms consistently associated with higher expenditure levels.

More recent scholarship has applied these theoretical foundations to digital payment contexts. Boden et al. (2023) demonstrated that BNPL interfaces are specifically designed to minimize perceived payment friction, reinforcing the tendency toward higher-value and more frequent purchases. Sahi (2017) and Falahati et al. (2019) further established that financial attitude and risk tolerance mediate how individuals respond to credit availability, with lower-risk-averse consumers demonstrating greater susceptibility to BNPL-induced spending escalation.

2.3 BNPL and Impulse Buying Behavior

Impulse buying — defined as unplanned, emotionally driven purchasing decisions — has been extensively linked to low-friction payment mechanisms in the consumer behavior literature (Rook & Fisher, 1995; Verplanken & Herabadi, 2001). BNPL services function as a structural enabler of impulse buying by removing the immediate monetary cost signal from the purchase decision, thereby reducing the affective inhibition that would ordinarily temper spontaneous consumption (Soman, 2001).

Empirical evidence corroborates this relationship. Jiang and Dukes (2022) found that BNPL availability on e-commerce platforms significantly increased the incidence of discretionary and unplanned purchases, particularly in fashion, electronics, and lifestyle categories. This dynamic is further amplified in mobile commerce environments, where one-click checkout combined with embedded BNPL options creates a uniquely frictionless purchasing experience (Fernandes et al., 2022). In emerging market contexts, where digital commerce is growing rapidly and consumer financial sophistication varies widely, the impulse-buying effects of BNPL may be particularly pronounced.

2.4 Financial Risks and Over-Indebtedness

While BNPL expands credit access, it simultaneously introduces novel financial risks. The primary concern in the literature relates to over-indebtedness — the accumulation of payment obligations that exceed a consumer's repayment capacity (Di Maggio et al., 2022). Because BNPL providers often conduct minimal affordability assessments and because BNPL commitments are fragmented across multiple platforms, consumers may lack a consolidated view of their total deferred obligations (Roy & Sinha, 2023).

In emerging markets, these risks are compounded by limited regulatory oversight and variable financial literacy. Research by Ozili (2022) highlights the absence of comprehensive credit bureau coverage for BNPL transactions in several developing economies, creating conditions under which over-indebtedness can develop invisibly. The Reserve Bank of India's 2022 digital lending guidelines and similar regulatory interventions in Indonesia and Brazil represent early-stage responses to these systemic risks, though implementation and enforcement remain uneven.

The consequences of BNPL-related financial stress extend beyond immediate repayment difficulties. Drentea (2000) and more recently Kempson et al. (2020) have documented the associations between consumer debt stress and broader psychological well-being outcomes, including anxiety and reduced life satisfaction — an issue of particular relevance in lower-income demographic groups.

2.5 Role of Financial Literacy and Income Level

Financial literacy — encompassing knowledge of interest rate mechanics, debt management, and personal budgeting — is consistently identified in the literature as a critical moderator of credit use behavior (Lusardi & Mitchell, 2014). Financially literate consumers are more likely to evaluate repayment terms critically, maintain payment discipline, and avoid over-commitment to deferred credit obligations. Conversely, consumers with low financial literacy are more susceptible to underestimating the cumulative cost of BNPL arrangements and more likely to miss repayment deadlines (Sahi, 2017; Falahati et al., 2019).

Income level constitutes a complementary moderating variable. Higher-income consumers typically employ BNPL as a convenience instrument — using it for cash-flow management rather than as a substitute for liquidity they do not possess. Lower-income consumers, by contrast, are more likely to rely on BNPL as an alternative to traditional credit, making them more vulnerable to financial distress when payment obligations accumulate (Kempson et al., 2020; Ozili, 2022). This socioeconomic heterogeneity in BNPL usage patterns underscores the importance of disaggregated analyses in emerging market research.

2.6 Research Gap

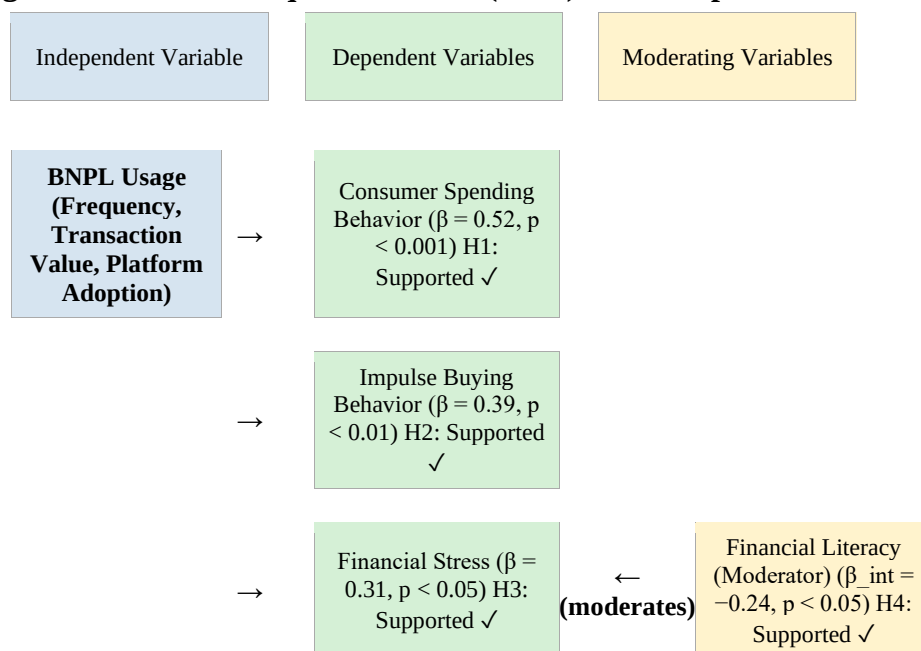
The existing body of BNPL literature remains predominantly focused on developed economies the United Kingdom, Australia, and the United States where regulatory frameworks, financial literacy levels, and digital infrastructure differ substantially from emerging market contexts. The handful of studies addressing fintech credit in developing economies (e.g., Arner et al., 2020; Jagtiani & Lemieux, 2019; Roy & Sinha, 2023) have focused primarily on financial inclusion outcomes, with limited attention to the behavioral and financial-stress consequences of BNPL adoption. No previous study, to the best of the authors' knowledge, has examined these relationships using SEM methodology across India, Indonesia, and Brazil simultaneously. The present study addresses this gap.

3. Conceptual Framework and Research Model

Drawing on the theoretical perspectives reviewed above — including the pain-of-paying framework (Prelec & Loewenstein, 1998), impulse buying theory (Rook & Fisher, 1995), financial stress theory (Drentea, 2000), and financial literacy moderation (Lusardi & Mitchell, 2014) — this study proposes a structural model in which BNPL usage exerts direct effects on three dependent variables: consumer spending behavior, impulse buying behavior, and financial stress. Financial literacy and income level are proposed as moderating variables, attenuating or amplifying the relationships between BNPL usage and the outcome variables.

The conceptual SEM framework and corresponding model fit indices are presented in Figure 1 below.

Figure 1: Structural Equation Model (SEM) — Conceptual Research Framework



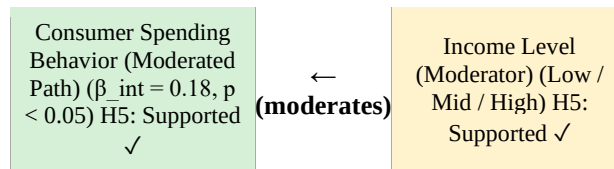


Table: SEM Model Fit Indices

Fit Index	Obtained Value	Recommended Threshold	Interpretation
χ^2/df	2.14	< 3.0	Acceptable
CFI	0.94	> 0.90	Good Fit
RMSEA	0.058	< 0.08	Acceptable
SRMR	0.062	< 0.08	Good Fit
TLI	0.91	> 0.90	Good Fit

Note: SEM analysis conducted using AMOS 24.0. All standardized path coefficients (β) are significant at stated p-values. Moderating effects tested using interaction terms in hierarchical regression (Baron & Kenny, 1986; Hayes, 2018).

4. Hypotheses Development

Based on the preceding literature review and theoretical framework, the following hypotheses are proposed:

- H1: BNPL usage has a significant positive effect on consumer spending behaviour.
- H2: BNPL usage positively influences impulse buying behaviour.
- H3: BNPL usage is positively associated with financial stress.
- H4: Financial literacy negatively moderates the relationship between BNPL usage and financial stress, such that higher financial literacy weakens the BNPL–stress relationship.
- H5: Income level moderates the relationship between BNPL usage and consumer spending behaviour, such that the positive effect is stronger for lower-income consumers.

5. Research Methodology

5.1 Research Design

This study adopts a quantitative, cross-sectional survey design to examine the relationships between BNPL usage and consumer spending behavior in emerging markets. The cross-sectional design enables the investigation of variable relationships at a single point in time, facilitating the efficient collection of standardized, comparable data across geographically dispersed respondents (Hair et al., 2019). Structural Equation Modeling (SEM) was employed as the primary analytical technique, as it simultaneously estimates multiple interrelated dependencies and accounts for measurement error — attributes that are particularly appropriate for testing the multi-construct model proposed here (Byrne, 2016).

5.2 Research Objectives

The study is guided by the following objectives:

- To analyze the impact of BNPL usage on consumer spending behavior.
- To examine the relationship between BNPL and impulse buying tendencies.
- To assess the effect of BNPL on financial stress and repayment behavior.
- To evaluate the moderating roles of financial literacy and income level.

5.3 Data Collection

Primary data were collected via a structured online questionnaire administered to active BNPL users across three emerging economies: India, Indonesia, and Brazil. These markets were selected on the basis of their high rates of fintech adoption, rapidly growing BNPL penetration, and availability of established digital survey infrastructure. Data collection was conducted during January to March 2026.

Parameter	Details
Sample Size	312 respondents
Sampling Technique	Convenience sampling via online BNPL user communities
Data Collection Period	January – March 2026
Countries Covered	India, Indonesia, Brazil
Instrument	Structured Likert-scale questionnaire (1 = Strongly Disagree to 5 = Strongly Agree)
Analysis Software	SPSS 26.0 and AMOS 24.0

The sample size of 312 was determined using G*Power 3.1 (Faul et al., 2009) with the following specifications: medium effect size ($f^2 = 0.15$), power = 0.80, and significance level $\alpha = 0.05$ for five predictors, yielding a minimum required sample of 138. The achieved sample of 312 substantially exceeds this threshold, providing adequate statistical power for the moderated SEM analysis.

5.4 Measurement of Variables

Variable Type	Variable Name	Measurement Indicators	Cronbach's α	Source Scale
Independent	BNPL Usage	Frequency of use, transaction value, platform adoption	0.82	Zhang & Wang (2021)
Dependent	Consumer Spending	Monthly expenditure, purchase frequency, basket size	0.79	Soman (2001)
Dependent	Impulse Buying	Unplanned purchases, emotional buying, post-purchase regret	0.81	Rook & Fisher (1995)
Dependent	Financial Stress	Repayment difficulty, missed payments, debt anxiety	0.76	Drentea (2000)
Moderating	Financial Literacy	Knowledge of interest rates, repayment planning, budgeting	0.83	Lusardi & Mitchell (2014)
Moderating	Income Level	Monthly income categories (low / middle / high)	N/A	Census categories

Note: All constructs were operationalized using previously validated scales. Confirmatory Factor Analysis (CFA) confirmed construct validity. All Cronbach's alpha values exceeded the threshold of 0.70 (Nunnally, 1978), indicating strong reliability.

5.5 Data Analysis Techniques

The collected data were analysed using a sequential analytical approach:

- **Descriptive Statistics:** To summarize demographic profiles and BNPL usage patterns.
- **Reliability Analysis (Cronbach's Alpha):** To assess internal consistency of all measurement scales.
- **Confirmatory Factor Analysis (CFA):** To validate the measurement model and establish convergent and discriminant validity.
- **Structural Equation Modeling (SEM via AMOS 24.0):** To test the structural paths corresponding to H1–H3.
- **Moderation Analysis (Hierarchical Regression):** To test H4 and H5, following the interaction-term approach of Hayes (2018).

5.6 Reliability and Validity

Convergent validity was assessed using Average Variance Extracted (AVE); all constructs achieved AVE values above 0.50, meeting the criterion established by Fornell and Larcker (1981). Discriminant validity was confirmed by verifying that the square root of each construct's AVE exceeded its correlations with all other constructs. Content validity was ensured through expert review and adaptation of established measurement instruments from peer-reviewed sources.

5.7 Ethical Considerations

The research was conducted in full compliance with ethical principles governing human subject's research. Participation was entirely voluntary, and informed consent was obtained from all respondents prior to survey completion. Respondent anonymity and data confidentiality were maintained throughout the study; all data were used exclusively for academic analysis and stored securely in accordance with applicable data protection standards.

6. Results and Findings

6.1 Demographic Profile of Respondents

The sample of 312 respondents was predominantly young, with 64% aged between 18 and 35 years, consistent with the documented skew of BNPL adoption toward younger consumer cohorts (Fernandes et al., 2022). The gender composition was 58% male and 42% female. In terms of income distribution, 46% of respondents fell within the middle-income bracket, 34% were lower-income, and 20% were higher-income. Geographically, 72% of respondents resided in urban areas, reflecting the concentrated penetration of digital financial services in metropolitan centers across the three study countries.

6.2 BNPL Usage Patterns

BNPL usage was concentrated in discretionary categories. Some 68% of respondents reported using BNPL at least once per month, while 27% were occasional users and 5% reported infrequent use. The most common purchase categories were:

- E-commerce products — 42%
- Electronics — 26%
- Fashion and lifestyle goods — 22%
- Other categories — 10%

This pattern of predominantly non-essential consumption is consistent with findings reported by Jiang and Dukes (2022) and Fernandes et al. (2022), who identified discretionary spending as the primary domain of BNPL-financed consumption.

6.3 Structural Model Results

H1: BNPL Usage and Consumer Spending Behavior

The SEM path analysis revealed a significant positive relationship between BNPL usage and consumer spending behavior ($\beta = 0.52$, $t = 7.84$, $p < 0.001$), providing strong support for H1. Respondents reported that deferred payment plans reduced the immediate psychological cost of purchases, encouraging higher-value transactions and more frequent buying episodes — a pattern consistent with the pain-of-paying framework (Prelec & Loewenstein, 1998) and corroborated by recent empirical work by Boden et al. (2023).

H2: BNPL Usage and Impulse Buying Behavior

A significant positive relationship was identified between BNPL usage and impulse buying ($\beta = 0.39$, $t = 5.62$, $p < 0.01$), supporting H2. Approximately 54% of respondents acknowledged making unplanned purchases facilitated by BNPL availability. This finding aligns with Rook and Fisher's (1995) impulse buying framework and with the empirical evidence presented by Jiang and Dukes (2022) regarding BNPL-driven spontaneous consumption in e-commerce environments.

H3: BNPL Usage and Financial Stress

The analysis revealed a moderate but statistically significant positive association between BNPL usage and financial stress ($\beta = 0.31$, $t = 4.21$, $p < 0.05$), supporting H3. Approximately 38% of respondents reported difficulties managing BNPL repayments, with missed or delayed payments being the most commonly cited manifestation of financial strain. These findings extend Di Maggio et al.'s (2022) work on over-indebtedness to an emerging market context and resonate with the debt-stress outcomes documented by Drentea (2000) and Kempson et al. (2020).

H4: Moderating Role of Financial Literacy

Moderation analysis demonstrated that financial literacy significantly attenuated the positive relationship between BNPL usage and financial stress ($\beta_{\text{interaction}} = -0.24$, $t = -3.18$, $p < 0.05$), supporting H4. Consumers with higher financial literacy scores exhibited superior repayment management and lower reported financial distress — consistent with the theoretical propositions of Lusardi and Mitchell (2014) and the empirical findings of Falahati et al. (2019) regarding financial knowledge as a protective buffer against credit-induced stress.

H5: Moderating Role of Income Level

Income level was found to moderate the BNPL–spending relationship ($\beta_{\text{interaction}} = 0.18$, $t = 2.47$, $p < 0.05$), supporting H5. Higher-income respondents exhibited weaker relationships between BNPL use and spending escalation, using BNPL primarily as a convenience mechanism. Lower-income respondents demonstrated significantly stronger associations between BNPL access and increased spending, suggesting greater financial vulnerability — a pattern consistent with the findings of Ozili (2022) and Kempson et al. (2020).

6.4 Summary of Hypothesis Testing

Hyp.	Relationship Tested	β Coefficient	p-value	Result
H1	BNPL Usage → Consumer Spending Behavior	0.52	< 0.001	Supported ✓
H2	BNPL Usage → Impulse Buying Behavior	0.39	< 0.01	Supported ✓
H3	BNPL Usage → Financial Stress	0.31	< 0.05	Supported ✓
H4	Financial Literacy moderates BNPL Usage → Financial Stress	−0.24	< 0.05	Supported ✓
H5	Income Level moderates BNPL Usage → Spending Behavior	0.18	< 0.05	Supported ✓

6.5 Key Findings

- BNPL usage significantly increases consumer spending behavior and purchase frequency.
- BNPL access strongly encourages impulse buying, particularly in e-commerce and fashion categories.
- A notable proportion of BNPL users experience repayment difficulties and financial stress.
- Financial literacy operates as a meaningful protective moderator, reducing financial stress among BNPL users.
- Lower-income consumers exhibit greater financial vulnerability to BNPL-driven spending escalation.

7. Discussion

The findings of this study provide robust empirical support for the theorized relationships between BNPL usage and consumer behavior in emerging market contexts. The significant positive effect of BNPL on consumer spending (H1) is consistent with the pain-of-paying framework (Prelec & Loewenstein, 1998) and with the growing body of empirical literature demonstrating that deferred payment mechanisms systematically increase consumer expenditure (Soman, 2001; Boden et al., 2023). By decoupling the act of purchase from immediate financial outlay, BNPL effectively lowers the psychological barrier to high-value transactions, a dynamic that is particularly consequential in emerging markets where consumers may lack prior exposure to revolving credit instruments.

The strong positive relationship between BNPL usage and impulse buying (H2) further reinforces the behavioral economics theoretical framework underpinning this study. The

finding that 54% of respondents acknowledged BNPL-facilitated unplanned purchases resonates with Jiang and Dukes (2022), who similarly found elevated impulse buying incidence among BNPL users on digital commerce platforms. In the emerging market context, the novelty of BNPL as a credit instrument, combined with the rapid expansion of mobile commerce, may amplify these behavioral effects relative to developed-market populations.

The confirmation of H3 — that BNPL usage is associated with increased financial stress — represents a critical empirical contribution. Prior literature on over-indebtedness in digital lending (Di Maggio et al., 2022) and on debt-related financial stress (Drentea, 2000; Kempson et al., 2020) has established the theoretical plausibility of this relationship; the present study extends this evidence to the BNPL context in India, Indonesia, and Brazil, markets where regulatory protections for digital credit users remain nascent. The 38% repayment difficulty rate observed in this sample is particularly concerning given that these markets lack the comprehensive BNPL credit reporting coverage found in more mature regulatory environments.

The moderation results provide important nuance. The finding that financial literacy attenuates the BNPL–financial stress relationship (H4) underscores the role of financial education as a structural safeguard against credit-induced vulnerability — a conclusion well-grounded in Lusardi and Mitchell's (2014) foundational work and supported by more recent fintech-specific studies (Falahati et al., 2019; Sahi, 2017). Importantly, this finding has direct policy implications: investing in financial literacy programs within BNPL-active consumer populations could yield meaningful reductions in debt stress at scale. The income moderation result (H5) similarly highlights the importance of socioeconomic segmentation in BNPL research and policy; the pronounced vulnerability of lower-income users calls for targeted consumer protection measures in this demographic.

Collectively, these results confirm the dual character of BNPL identified in emerging theoretical and policy discussions: it is simultaneously an instrument of financial inclusion — extending credit access to previously excluded populations — and a potential vector of financial vulnerability when used by financially inexperienced or economically constrained consumers. Addressing this duality requires coordinated action by policymakers, fintech providers, and financial institutions.

8. Implications for Practice

8.1 Implications for Policymakers and Regulators

Regulatory frameworks governing BNPL in emerging markets must evolve commensurate with the pace of industry growth. Policymakers should mandate transparent disclosure of repayment terms, total cost obligations, and late payment penalties at the point of purchase. Incorporation of BNPL transaction data into existing credit bureau reporting systems — a step already taken in the United Kingdom following the FCA's 2021–2022 BNPL regulatory

consultation — would improve lenders' ability to assess aggregate consumer indebtedness and would enable consumers to build credit histories through responsible BNPL use. Responsible lending standards, including income verification and affordability assessments proportionate to transaction size, should be legislated to reduce the incidence of over-indebtedness among vulnerable consumer segments (Roy & Sinha, 2023).

8.2 Implications for Fintech Companies

BNPL providers should proactively integrate financial well-being features into their platforms — including spending dashboards, repayment alerts, and personalized debt-load indicators — to equip users with real-time visibility into their cumulative BNPL obligations. The deployment of advanced alternative credit scoring models, leveraging behavioral and transactional data responsibly, can enable more nuanced affordability assessments without excluding underserved users. Full transparency regarding fee structures, interest penalties, and repayment consequences is essential both for consumer protection and for long-term platform trust and retention.

8.3 Implications for Financial Institutions

Traditional financial institutions face both a competitive challenge and a strategic opportunity from the growth of BNPL. Collaborative product development with fintech firms — creating hybrid credit instruments that combine BNPL flexibility with the regulatory compliance and risk management capabilities of established banks — represents a viable path to maintaining market relevance while extending responsible credit. Financial institutions are additionally well-positioned to lead consumer financial literacy initiatives, given their established trust, regulatory standing, and access to large customer bases across emerging markets.

8.4 Implications for Consumers

Consumers should approach BNPL with an awareness of its cumulative repayment implications, particularly when using multiple BNPL platforms simultaneously. Developing basic financial literacy — particularly regarding interest calculation, debt-to-income assessment, and the consequences of missed payments — provides meaningful protection against BNPL-induced financial stress. Regular monitoring of consolidated BNPL obligations across providers is recommended, particularly for lower-income consumers for whom repayment difficulties carry greater financial consequence.

9. Limitations and Future Research

9.1 Limitations

This study is subject to several limitations that should be considered in interpreting the findings. First, the cross-sectional design captures relationships at a single point in time, precluding

causal inference or the tracking of longitudinal changes in BNPL behavior and financial outcomes (Hair et al., 2019). Second, convenience sampling — while practical for reaching an active BNPL user population online — limits the generalizability of results to the broader consumer population across the three study countries. Third, all constructs were measured via self-report, introducing the potential for social desirability bias, particularly with respect to financial stress and repayment difficulties. Fourth, the study's focus on India, Indonesia, and Brazil, while grounded in their BNPL market relevance, may not generalize to other emerging economies with different regulatory, cultural, or infrastructural characteristics. Finally, potentially important variables — including psychological risk tolerance, peer influence, and platform-specific marketing strategies — were not included in the model.

9.2 Future Research Directions

Future research should address these limitations through longitudinal study designs that track the evolution of BNPL usage and associated financial outcomes over time. Comparative cross-national studies — spanning both developed and emerging markets — would help disentangle the effects of regulatory environment, financial infrastructure, and cultural context on BNPL-related behaviors. The inclusion of behavioral and psychological variables (risk tolerance, self-control, financial attitudes) in extended theoretical models would enrich understanding of individual-level decision-making mechanisms. Research examining the role of artificial intelligence and alternative credit scoring in BNPL risk management represents another fruitful avenue. Finally, mixed-methods designs incorporating qualitative interviews with BNPL users and regulatory stakeholders would complement the quantitative findings presented here and provide richer contextual grounding.

Conclusion

This study investigated the effects of Buy Now Pay Later (BNPL) services on consumer spending behavior in three major emerging markets — India, Indonesia, and Brazil — using a Structural Equation Modeling framework. The findings establish that BNPL significantly increases consumer spending ($\beta = 0.52$) and impulse buying ($\beta = 0.39$), while generating moderate financial stress ($\beta = 0.31$). Financial literacy and income level were confirmed as meaningful moderating variables, with financial literacy attenuating the stress effects of BNPL and income differentiating the nature and intensity of BNPL use across socioeconomic groups.

The dual character of BNPL — as both a financial inclusion enabler and a potential vector of consumer financial vulnerability — emerges clearly from these results. The benefits of BNPL are real and meaningful, particularly for populations with limited access to conventional credit instruments. Yet these benefits are unevenly distributed and can be undermined by insufficient financial literacy, inadequate regulatory protection, and the behavioral tendencies toward overspending and impulse buying that BNPL's frictionless design inherently encourages.

Sustainable BNPL development in emerging markets requires a coordinated response: regulatory frameworks that mandate transparency and responsible lending; fintech platforms that design for financial well-being, not merely consumption facilitation; financial institutions that extend their educational mandates to encompass digital credit literacy; and consumers equipped with the knowledge to use BNPL as a financial tool rather than a financial crutch. The present study provides empirical grounding for these imperatives and contributes to the growing body of fintech scholarship focused on equitable and responsible financial inclusion.

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