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The Effect of "Buy Now, Pay Later" On Personal Financial Distress Through Impulsive Buying and Financial Management Behavior as Chain Mediation Among Generation Z in DKI Jakarta

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ABSTRACT

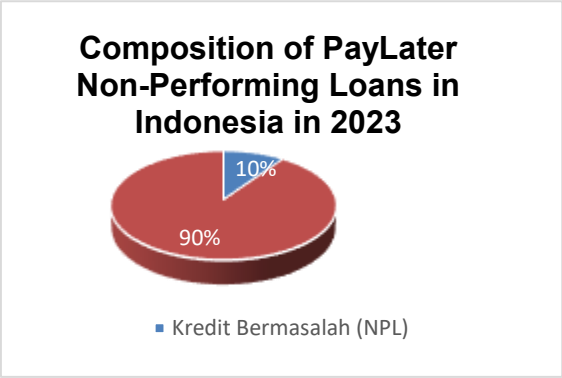
The expansion of Buy Now, Pay Later (BNPL) services among Generation Z raises serious concerns about personal financial health. This study examines the effect of BNPL usage on personal financial distress, with impulsive buying and financial management behavior as chain mediators, among 264 valid Generation Z respondents aged 17 to 27 years who live or work in DKI Jakarta. Based on Behavioral Finance Theory as the grand theory and supported by the Theory of Planned Behavior, Mental Accounting Theory, Social Cognitive Theory, Impulsive Buying Theory, and Cognitive Dissonance Theory, a multiple chain mediation model with seven hypotheses was tested using Partial Least Squares Structural Equation Modeling (PLS-SEM) in SmartPLS 4 with 5,000 bootstrap subsamples. The results show that BNPL usage has a significant positive effect on personal financial distress ($\beta = 0.285$; $p = 0.002$) and a very strong effect on impulsive buying ($\beta = 0.817$; $p < 0.001$). Impulsive buying is shown to mediate the effect of BNPL usage on personal financial distress ($\beta = 0.372$; $p < 0.001$), and this indirect path exceeds its direct effect, resulting in partial mediation. In contrast, all paths involving financial management behavior were not statistically significant, a finding that was transparently reported and partly attributed to limitations in measurement quality and the low statistical power of the construct. Practically, these findings direct consumer protection and financial literacy efforts for young users toward targeting impulsive moments during transactions rather than focusing solely on financial knowledge.

INTRODUCTION

Buy Now, Pay Later (BNPL) services have become one of the fastest-growing segments in the global digital financial ecosystem. BNPL is a technology-based consumer credit mechanism that allows consumers to purchase products or services directly and repay them through regular, typically interest-free installments, with near-instant approval and without formal credit checks (Johnson, Rodwell, & Hendry, 2021). The global BNPL transaction value is projected to exceed USD 342 billion by 2030 (Worldpay, 2025). However, this growth comes with significant risks. Data from the United States show that more than 42% of BNPL users have experienced late payments, while one in three users has reported defaulting on a payment

(Lending Tree, 2022; Irrera, 2021). In Australia, 15% of users are forced to take out new loans to pay off previous BNPL bills (Boxell, 2022). This pattern suggests that easy access to BNPL does not always translate into adequate financial preparedness.

In Indonesia, BNPL growth is taking place with equally high intensity. With 30.8 million active users as of 2023 (Statista, 2023), Indonesia occupies a strategic position in the Southeast Asian BNPL market. Dominant platforms such as Shopee PayLater, GoPay PayLater, Kredivo, Akulaku, and Atome continue to expand market penetration through direct integration within the e-commerce ecosystem. Data from the Financial Services Authority (OJK) recorded total PayLater financing at approximately IDR 6.5 trillion as of March 2025. Behind this growth, the non-performing loan (NPL) rate for PayLater services reached 9.7% in April 2023, exceeding the regulator's alert threshold of 5% (Fernandez, 2023). Indonesians' arrears on PayLater services reached IDR 3.28 trillion by mid-2023, with the 20–30 age group contributing the majority of the NPL ratio.



Picture 1. Composition of Non-Performing Loans in

Generation Z, generally defined as individuals born between 1997 and 2012, is both the most active and financially vulnerable segment of BNPL users. Jakarta, the center of Indonesia's digital economy and the city with the highest internet and smartphone penetration in the country, provides a highly conducive environment for intensive BNPL adoption. Continuous exposure to social media content through platforms such as Instagram, TikTok, and various marketplaces creates normative pressure toward a consumptive lifestyle that often exceeds the financial capacity of young users. In this environment, BNPL serves as a bridge between consumptive desires and financial constraints, while also potentially becoming a source of long-term financial stress. Donou-Adonsou and Leslie-Piper (2026), using a nationally representative household dataset, found that the interaction between BNPL use and social media engagement significantly increased financial distress. Meanwhile, Mappadang et al. (2025) identified a significant negative correlation between impulsive BNPL use and subjective financial well-being among Indonesian accounting students.

Several empirical studies have attempted to explore the impact of BNPL on consumer financial behavior. Raj et al. (2024) found a significant effect of BNPL on impulsive buying ($\beta = 0.358$, $t = 3.731$, $p < 0.001$) in India. Schomburgk and Hoffmann (2023) explored the role of mindfulness as a moderator in the relationship between BNPL and financial stress. Powell et al. (2023) confirmed the negative impact of irresponsible BNPL use on financial well-being in Australia. However, a systematic review by Nusir, Che Wel, Ab Hamid, Al-Zoubi, and Al-

Adwan (2026) of ten empirical BNPL studies published from 2018 to 2025 identified three consistently unaddressed research gaps.

The first gap concerns the absence of personal financial distress as a stand-alone dependent variable measured using validated psychometric instruments. Most studies use proxies such as "subjective financial well-being" or "financial security," which do not precisely capture the dimensions of active financial distress experienced by individuals. The second gap is the lack of research that simultaneously tests two mediating mechanisms, namely impulsive buying and financial management behavior, in a single integrated model. Previous studies either tested a single mediator or did not include financial management behavior as a relevant mediating pathway at all (Raj et al., 2024; Schomburgk & Hoffmann, 2023). The third gap is the limited context-based research on Generation Z in DKI Jakarta that considers the unique socio-digital pressures, demographic heterogeneity, and intensity of exposure to the digital marketplace ecosystem that characterize this generation. Most Asian BNPL studies originate from India (Raj et al., 2024; Kumar & Nayak, 2024) or use student samples with homogeneous financial profiles that underrepresent the heterogeneity of Generation Z in Jakarta (Mappadang et al., 2025).

From a theoretical perspective, the aforementioned gaps are further exacerbated by the tendency of BNPL research to rely on a single theory, typically the Theory of Planned Behavior, without integrating deeper psychological mechanisms such as Cognitive Dissonance Theory or Mental Accounting Theory. No existing model fully connects Behavioral Finance Theory, Mental Accounting Theory, Impulsive Buying Theory, and Financial Management Behavior to explain the causal chain from BNPL usage to personal financial distress, particularly among Generation Z in Jakarta.

Based on these gaps, this study aims to test a model of the influence of BNPL usage on personal financial distress through impulsive buying and financial management behavior as chain mediators among Generation Z in DKI Jakarta. Specifically, this study tests seven hypotheses: (1) the direct influence of BNPL usage on personal financial distress, (2) the influence of BNPL usage on impulsive buying, (3) the influence of impulsive buying on financial management behavior, (4) the influence of financial management behavior on personal financial distress, (5) the single mediating role of impulsive buying, (6) the single mediating role of financial management behavior, and (7) the chain mediating role of both variables. This study provides a dual contribution: theoretically, it enriches the behavioral finance literature by developing an integrated chain mediation model in the context of Generation Z in Indonesia; practically, it provides an empirical basis for digital financial literacy policies and the design of more protective BNPL regulations.

METHOD

This study used a quantitative approach with a cross-sectional survey design. The approach was used to statistically test seven hypotheses developed from the theoretical framework. Data were collected through a structured questionnaire using a 5-point Likert scale, covering four main variables: BNPL usage (X), impulsive buying (M1), financial management behavior (M2), and personal financial distress (Y). The indicators for each variable were adapted from validated instruments in previous studies, including Rook and Fisher (1995),

Badgaiyan, Verma, and Dixit (2016), Garman and Forgue (2018), Prawitz et al. (2006), and Donou-Adonsou and Leslie-Piper (2026).

The study population consisted of Generation Z individuals aged 17 to 27 years who lived or worked in DKI Jakarta and had used at least one BNPL service within the past year. The sampling technique combined purposive sampling and snowball sampling. The inclusion criteria were respondents who were aged 17 to 27 years, lived or worked in DKI Jakarta, had used a BNPL service at least once in the past 12 months, and had their own income or regular allowance. Based on Hair, Risher, Sarstedt, and Ringle (2019), the minimum required sample size was 60 respondents. However, to improve representativeness and statistical power, this study targeted at least 250 valid respondents. After data screening, 264 valid responses were obtained and included in the analysis.

Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4. The analysis was conducted in two stages. First, the measurement model was evaluated by examining factor loadings, composite reliability, Cronbach's alpha, Average Variance Extracted (AVE), and discriminant validity using the Heterotrait-Monotrait ratio (HTMT). Second, the structural model was evaluated by testing path coefficients, R-squared values, f-squared effect sizes, model fit indicators, and hypotheses through a bootstrapping procedure with 5,000 subsamples. A post-hoc statistical power analysis was also conducted to help interpret paths with small effect sizes. Mediation testing for H5, H6, and H7 was performed using the Product of Coefficients method with 95% bias-corrected confidence intervals. This study did not involve animals. All human participants provided voluntary consent, and the data were collected anonymously in accordance with applicable institutional research ethics standards.

RESULTS AND DISCUSSION

This section is structured into two distinct subsections. The Results subsection presents the empirical findings factually, including respondent characteristics, descriptive statistics at the variable and indicator levels, measurement model evaluation, and structural model evaluation, including mediation testing. The Discussion subsection critically interprets the findings by linking them to the theoretical foundation and previous studies, and outlines the theoretical implications, practical implications, international relevance, and limitations of the study. The analysis was conducted on 264 valid respondents using *Partial Least Squares Structural Equation Modeling* (PLS-SEM) in SmartPLS 4, following a two-stage procedure: *outer model evaluation followed by inner model* evaluation.

Respondent Characteristics

The data screening process resulted in 264 valid respondents who met all inclusion criteria, exceeding the minimum target of 250 respondents. The respondent profile is shown in Table 1. Respondents were predominantly female (59.8%) and aged 17 to 22 (61.7%), with the majority being students (62.9%) and having a high school diploma or equivalent (52.7%). Shopee PayLater was the most widely used platform (58.0%). A total of 18.6% of respondents allocated more than 30% of their income to installments, and only 37.5% stated that they had never been late in paying.

Table 1. Respondent Characteristics (n = 264)

Characteristics	Category	n	%
Gender	Woman	158	59.8
	Man	105	39.8
Age	17–19 years	80	30.3
	20–22 years	83	31.4
	23–25 years	53	20.1
	26–27 years old	48	18.2
Education	High school / vocational school / equivalent	139	52.7
	Bachelor degree)	81	30.7
	Diploma (D1/D2/D3)	28	10.6
	Postgraduate (S2/S3)	7	2.7
Status (dual)	Students	166	62.9
	Employees / Staff	97	36.7
	Entrepreneur / Freelancer	32	12.1
Income / Month	< Rp. 1,000,000	68	25.8
	Rp1,000,000–Rp2,999,999	56	21.2
	Rp3,000,000–Rp4,999,999	65	24.6
	Rp5,000,000–Rp7,999,999	41	15.5
	≥ Rp8,000,000	32	12.1
Platform (dual)	Shopee PayLater / SPinjam	153	58.0
	GoPay PayLater	100	37.9
	OVO PayLater	69	26.1
	Kredivo	55	20.8
6 Month Frequency	1 time	84	31.8
	2–3 times	96	36.4
	4–5 times	47	17.8
	> 5 times	35	13.3
Installment Portion	Less than 10%	108	40.9
	10% – 20%	63	23.9
	21% – 30%	43	16.3
	More than 30%	49	18.6
Delay	Never	99	37.5
	1 time	51	19.3
	2–3 times	69	26.1
	More than 3 times	43	16.3

Source: Processed data, 2026. The percentage of dual status characteristics was calculated for 264 respondents.

Descriptive Statistics of Variables

Descriptive statistics at the variable level are presented in Table 2. The highest average value is found in *Financial Management Behavior* (FMB) at 3.876, which is classified as high, while BNPL (3.394), *Impulsive Buying* (3.260), and *Personal Financial Distress* (3.494) are in the medium category. The largest standard deviation is found in *Impulsive Buying* (1.025), which indicates the widest diversity of responses among the four variables.

Table 2. Descriptive Statistics of Variables (n = 264)

Variables	Mean	Median	Elementary School	Min	Max
BNPL	3,394	3,625	0.975	1,000	5,000
Impulsive Buying (IB)	3,260	3,571	1,025	1,000	5,000
Financial Management Behavior (FMB)	3,876	4,000	0.766	1,000	5,000
Personal Financial Distress (PFD)	3,494	3,714	1,012	1,000	5,000

Source: Processed data, 2026. Scale 1 (strongly disagree) to 5 (strongly agree).

Details at the indicator level are presented in Table 3 to provide a more detailed picture of the response patterns. In the BNPL construct, the indicator with the highest average score was BNPL3, which concerns purchases of goods that cannot be paid for in cash (3.746), while BNPL5, which concerns dependency, had the lowest average score (3.189). In the *Impulsive Buying construct*, indicator IB1, which concerns unplanned purchases, had the lowest average score (3.030) and indicator IB7, which concerns the future, had the highest average score (3.432). All FMB indicators were in the high category, ranging from 3.788 to 4.049. Meanwhile, the affective *Personal Financial Distress indicators*, namely PFD1, which concerns feelings of pressure (3.697) and PFD7, which concerns the future (3.614), had the highest average scores in their constructs.

Table 3. Descriptive Statistics per Indicator (n = 264)

Indicator	Mean	Elementary School	Indicator	Mean	Elementary School
BNPL1	3,598	1,293	FMB1	3,803	1,044
BNPL2	3,148	1,434	FMB2	3,799	1,095
BNPL3	3,746	1,209	FMB3	3,856	1,122
BNPL4	3,330	1,323	FMB4	3,788	1,194
BNPL5	3,189	1,470	FMB5	4,049	1,016
BNPL6	3,580	1,241	FMB6	3,962	1,097
BNPL7	3,367	1,356	PFD1	3,697	1,196
BNPL8	3,193	1,413	PFD2	3,402	1,296
IB1	3,030	1,390	PFD3	3,610	1,468

Indicator	Mean	Elementary School	Indicator	Mean	Elementary School
IB2	3,205	1,353	PFD4	3,265	1,429
IB3	3,284	1,456	PFD5	3,489	1,294
IB4	3,121	1,436	PFD6	3,383	1,309
IB5	3,409	1,264	PFD7	3,614	1,274
IB6	3,337	1,367			
IB7	3,432	1,361			

Source: Processed data, 2026.

Evaluation of Measurement Model (Outer Model)

Outer loading values of all indicators are presented in Table 4. Most indicators meet the 0.70 threshold. Indicators that fall below the threshold are BNPL3 (0.515), BNPL6 (0.656), IB5 (0.522), PFD1 (0.611), and five of the six FMB indicators, with FMB5 having the lowest value (0.253) and only FMB3 having a high loading (0.942). In accordance with research procedures, all indicators were retained to maintain the conceptual scope of the construct.

Table 4. Outer Loading Indicators

Indicator	Loading	Indicator	Loading
BNPL1	0.782	IB7	0.732
BNPL2	0.737	FMB1	0.495
BNPL3	0.515	FMB2	0.562
BNPL4	0.737	FMB3	0.942
BNPL5	0.816	FMB4	0.509
BNPL6	0.656	FMB5	0.253
BNPL7	0.766	FMB6	0.481
BNPL8	0.745	PFD1	0.611
IB1	0.747	PFD2	0.710
IB2	0.791	PFD3	0.826
IB3	0.762	PFD4	0.829
IB4	0.825	PFD5	0.778
IB5	0.522	PFD6	0.789
IB6	0.802	PFD7	0.763

Source: Processed data, 2026.

Table 5 presents *cross-loadings* as an additional check of discriminant validity at the indicator level. Each indicator has the highest loading on its respective parent construct compared to other constructs, thus meeting the *cross-loading criterion. It's important to note that the Impulsive Buying and BNPL* indicators both have relatively high cross-loadings within their respective pairs, consistent with the large correlation between the two constructs.

Table 5. Cross-Loading Indicators

Indicator	BNPL	FMB	IB	PFD
BNPL1	**0.782**	0.072	0.550	0.504

Indicator	BNPL	FMB	IB	PFD
BNPL2	**0.737**	0.018	0.609	0.540
BNPL3	**0.515**	0.120	0.326	0.277
BNPL4	**0.737**	0.112	0.618	0.494
BNPL5	**0.816**	0.113	0.702	0.586
BNPL6	**0.656**	0.142	0.487	0.376
BNPL7	**0.766**	0.081	0.679	0.480
BNPL8	**0.745**	0.086	0.660	0.525
FMB1	0.029	**0.495**	0.017	0.023
FMB2	0.010	**0.562**	-0.064	0.014
FMB3	0.130	**0.942**	0.098	0.150
FMB4	0.002	**0.509**	-0.015	0.009
FMB5	-0.034	**0.253**	-0.017	-0.045
FMB6	0.016	**0.481**	-0.046	-0.020
IB1	0.656	0.060	**0.747**	0.523
IB2	0.634	0.075	**0.791**	0.573
IB3	0.627	0.100	**0.762**	0.543
IB4	0.654	0.011	**0.825**	0.552
IB5	0.381	-0.010	**0.522**	0.329
IB6	0.663	-0.002	**0.802**	0.536
IB7	0.601	0.093	**0.732**	0.523
PFD1	0.330	0.195	0.335	**0.611**
PFD2	0.501	0.130	0.474	**0.710**
PFD3	0.682	0.060	0.721	**0.826**
PFD4	0.575	0.088	0.623	**0.829**
PFD5	0.443	0.042	0.461	**0.778**
PFD6	0.471	0.117	0.503	**0.789**
PFD7	0.438	0.164	0.448	**0.763**

Source: Processed data, 2026. Bold numbers indicate loads on the parent construct.

Construct-level reliability and convergent validity are shown in Table 6. The BNPL, *Impulsive Buying*, and *Personal Financial Distress constructs* meet all reliability criteria and have an AVE above 0.50. The FMB construct has *a Cronbach's alpha* of 0.789, but *the composite reliability* rho_A is only 0.547 and the AVE is only 0.334, below the established threshold.

Table 6. Reliability and Convergent Validity

Construct	Cronbach's α	rho_A	rho_C	AVE
BNPL	0.868	0.883	0.897	0.525
FMB	0.789	0.547	0.724	0.334
IB	0.864	0.876	0.896	0.557

Construct	Cronbach's α	rho_A	rho_C	AVE
PFD	0.879	0.900	0.905	0.580

Source: Processed data, 2026. Reliability threshold = 0.70; AVE = 0.50.

The Fornell-Larcker criterion in Table 7 completes the discriminant validity check. The square root of the AVE on the diagonal for BNPL (0.725) and *Impulsive Buying* (0.746) is smaller than the correlation between them (0.817), so the Fornell-Larcker criterion is not met for this pair. This is consistent with the HTMT value, which also exceeds the threshold and is publicly reported as part of the findings.

Table 7. Fornell-Larcker Criteria

Construct	BNPL	FMB	IB	PFD
BNPL	**0.725**			
FMB	0.123	**0.578**		
IB	0.817	0.066	**0.746**	
PFD	0.666	0.138	0.693	**0.761**

Source: Processed data, 2026. Bold numbers on the diagonal are the square roots of AVE.

Discriminant validity was also tested using the *Heterotrait-Monotrait Ratio* (HTMT) with a threshold of 0.85 (Table 8). Five of the six construct pairs met this threshold, while *the Impulsive Buying* and BNPL pair had an HTMT of 0.921, exceeding the threshold.

Table 8. Heterotrait-Monotrait Ratio (HTMT)

Construct Pair	HTML	Information
IB ↔ BNPL	0.921	Beyond the threshold
PFD ↔ IB	0.764	Fulfil
PFD ↔ BNPL	0.728	Fulfil
PFD ↔ FMB	0.144	Fulfil
IB ↔ FMB	0.131	Fulfil
FMB ↔ BNPL	0.106	Fulfil

Source: Processed data, 2026. HTMT threshold = 0.85.

The collinearity check in Table 9 shows that all VIF values between *the outer model indicators* are below the threshold of 5, with the highest value in PFD4 (2,400). In *the inner model*, the VIF values are also all below 5, namely BNPL to PFD at 3,050, BNPL to FMB and *Impulsive Buying* to FMB each at 3,006, and *Impulsive Buying* to PFD at 3,017. Thus, there is no indication of collinearity that interferes with the model estimation.

Table 9. Collinearity Statistics (VIF) Outer Model

Indicator	VIF	Indicator	VIF
BNPL1	2,029	IB7	1,724
BNPL2	1,974	FMB1	1,325
BNPL3	1,298	FMB2	1,457
BNPL4	1,779	FMB3	1,397

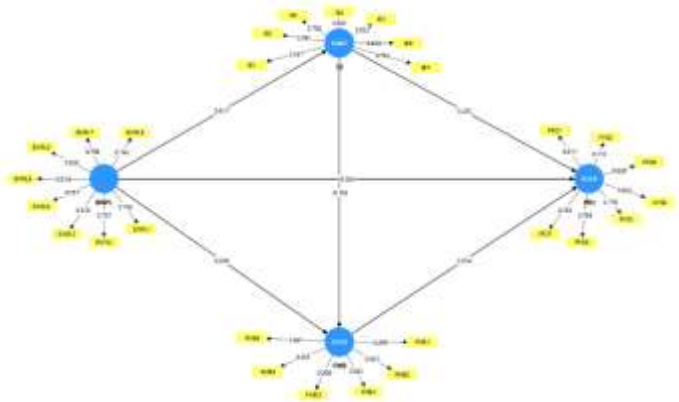
Indicator	VIF	Indicator	VIF
BNPL5	2,138	FMB4	1,560
BNPL6	1,535	FMB5	1,491
BNPL7	1,876	FMB6	1,424
BNPL8	1,913	PFD1	1,475
IB1	1,734	PFD2	1,742
IB2	2,037	PFD3	2,296
IB3	1,924	PFD4	2,400
IB4	2,340	PFD5	2,017
IB5	1,242	PFD6	2,155
IB6	2,172	PFD7	2,006

Source: Processed data, 2026. VIF threshold = 5.

Structural Model Evaluation (Inner Model)

Before presenting the path coefficients, it is important to clarify that two structural paths, namely BNPL to *Financial Management Behavior* and *Impulsive Buying* to *Personal Financial Distress*, are still estimated as supporting structural paths. These two paths are necessary components to calculate the mediation effect in H5, H6, and H7, so they must be estimated even though they are not positioned as the main direct hypotheses. Therefore, these two paths are reported without hypothesis numbering, and the overall model still consists of seven hypotheses, namely H1 to H7, as formulated in the hypothesis development.

Structural model testing was conducted through a *bootstrapping procedure* with 5,000 subsamples. The path coefficient results for the direct influence hypothesis and its supporting paths are presented in Table 10, with significance criteria of p-value less than 0.05 and t-statistic above 1.96. Hypotheses H1 and H2 are supported, while H3 and H4 are not supported. Two supporting paths, namely *Impulsive Buying* to *Personal Financial Distress* ($\beta = 0.455$; $p < 0.001$) and BNPL to FMB ($\beta = 0.208$; $p = 0.245$), are significant and insignificant, respectively.



Picture 3. PLS-SEM Model Estimation Results

Table 10. Direct Influence Path Coefficients and Hypothesis Decisions

Hip.	Track	β (O)	t	p	Decision
H1	BNPL → PFD	0.285	3,129	0.002	Significant positive; supported

Hip.	Track	β (O)	t	p	Decision
H2	BNPL → IB	0.817	37,697	0,000	Significant positive; supported
H3	IB → FMB	-0.104	0.531	0.596	Not significant; rejected
H4	FMB → PFD	0.074	1,023	0.306	Not significant; rejected
–	IB → PFD	0.455	5,282	0,000	Significant positive (supporting path)
–	BNPL → FMB	0.208	1,162	0.245	Not significant (supporting path)

Source: Processed data, 2026. β = original sample; p-value H2 and path IB → PFD < 0.001.

The coefficient of determination and effect size are shown in Table 11. BNPL explains 66.7% of the variance in *Impulsive Buying* (R-square = 0.667) and the model explains 51.6% of the variance in *Personal Financial Distress* (R-square = 0.516), while the variance in FMB is barely explained (R-square = 0.019). The largest effect size is found in the BNPL path to *Impulsive Buying* (f-square = 2.006), which is classified as very large, followed by the *Impulsive Buying path* to *Personal Financial Distress* (f-square = 0.142) which is classified as small to medium, while all paths involving FMB have f-square close to zero.

Table 11. Coefficient of Determination (R-square) and Effect Size (f-square)

Endogenous Variables	R-square	R-square Adj.	f-square path
Impulsive Buying (IB)	0.667	0.666	BNPL → IB = 2,006
Personal Financial Distress (PFD)	0.516	0.510	IB → PFD = 0.142; BNPL → PFD = 0.055; FMB → PFD = 0.011
Financial Management Behavior (FMB)	0.019	0.011	BNPL → FMB = 0.015; IB → FMB = 0.004

Source: Processed data, 2026. SRMR model = 0.074; NFI = 0.773; predictive relevance is indicated by the R-square value of the main endogenous construct.

As a complement, the post-hoc statistical power analysis in Table 12 evaluates the adequacy of the test power for each path. The significant paths, namely BNPL to *Impulsive Buying*, BNPL to *Personal Financial Distress*, and *Impulsive Buying* to *Personal Financial Distress*, have power approaching 1.000 at the 5% level. In contrast, the paths involving FMB have low power, namely FMB to *Personal Financial Distress* only 0.326 and *Impulsive Buying* to FMB only 0.519, with a minimum sample size requirement much larger than 264.

Table 12. Post-hoc Statistical Power Analysis

Track	Power (α=5%)	Power (α=1%)	Min. sample (α5%, power 80%)
BNPL → IB	1,000	1,000	10
BNPL → PFD	0.999	0.990	76
IB → PFD	1,000	1,000	30

Track	Power (α=5%)	Power (α=1%)	Min. sample (α5%, power 80%)
BNPL → FMB	0.958	0.853	144
IB → FMB	0.519	0.263	571
FMB → PFD	0.326	0.129	1,145

Source: Processed data, 2026. The last column is the minimum sample size required to achieve 80% power.

The mediation test is presented in Table 13. Only the BNPL → *Impulsive Buying* → *Personal Financial Distress path* is significant (β = 0.372; t = 5.026; p < 0.001), thus H5 is supported. The single mediation path through FMB (H6) and the chain mediation path (H7) are not significant. The total indirect effect of BNPL on financial distress of 0.381 is also significant.

Table 13. Mediation Test Results (Indirect Effects)

Hip.	Mediation Path	β (O)	t	p	Decision
H5	BNPL → IB → PFD	0.372	5,026	0,000	Supported
H6	BNPL → FMB → PFD	0.015	0.877	0.381	Rejected
H7	BNPL → IB → FMB → PFD	-0.006	0.429	0.668	Rejected
–	Total indirect BNPL → PFD	0.381	5,152	0,000	Significant

Source: Processed data, 2026. β = original sample; 95% CI of significant path does not encompass zero.

As a summary of the overall influence, the total effects between constructs are presented in Table 14. The total effect of BNPL on *Personal Financial Distress* of 0.666 is the largest total effect in the model, formed from the combination of direct effects (0.285) and indirect effects (0.381). This confirms that the overall impact of BNPL on financial distress is largely channeled through indirect channels, especially impulsive shopping. The total effect of BNPL on *Impulsive Buying* remains at 0.817 because it does not have an indirect channel

Table 14. Total Effects Between Constructs

Track	Total Effect (O)	Information
BNPL → PFD	0.666	Direct + indirect
BNPL → IB	0.817	Direct
IB → PFD	0.448	Direct + indirect
BNPL → FMB	0.123	Direct + indirect
FMB → PFD	0.074	Direct
IB → FMB	-0.104	Direct

Source: Processed data, 2026.

The model fit indices are presented in Table 15. The SRMR value of 0.074 is below the 0.08 threshold, indicating acceptable model fit. The NFI value of 0.773 is close to, but does not

reach the ideal threshold of 0.90, so the model fit is reported as adequate with caveats. These values are identical between the saturated and estimated models.

Table 15. Model Fit Index

Criteria	Mark	Information
SRMR	0.074	≤ 0.08 (fulfilled)
d_ULS	2,249	–
d_G	0.597	–
Chi-square	856,824	–
NFI	0.773	approaching 0.90

Source: Processed data, 2026. Identical values for saturated and estimated models.

As the basis for all structural estimations, the correlations between latent variables are summarized in Table 16. The strongest correlation is between BNPL and *Impulsive Buying* (0.817), followed by *Impulsive Buying* with *Personal Financial Distress* (0.693) and BNPL with *Personal Financial Distress* (0.666). In contrast, all correlations involving FMB are very weak, with the highest value being only 0.138, which from the outset suggests a weak relationship between this construct and the other variables in the model.

Table 16. Correlation between Latent variables

Construct	BNPL	FMB	IB	PFD
BNPL	1,000			
FMB	0.123	1,000		
IB	0.817	0.066	1,000	
PFD	0.666	0.138	0.693	1,000

Source: Processed data, 2026.

The empirical findings show an internally consistent pattern, with three hypotheses supported (H1, H2, and H5) and four hypotheses rejected (H3, H4, H6, and H7). These rejections are concentrated across all pathways involving *Financial Management Behavior* , thus focusing on three main axes: the psychological mechanisms of BNPL use, the anomalies in the role of financial management behavior, and the methodological significance of discriminant validity and statistical power.

The effect of BNPL on impulsive buying is the strongest finding in this study (β = 0.817; H2 supported), with a very large f-square effect size of 2.006 and near-perfect statistical power. This value far exceeds the findings of Raj et al. (2024) who recorded an effect of BNPL on impulsive buying of β = 0.358 in the Indian context. This difference in magnitude cannot be viewed simply as sample variation, but rather indicates that among Generation Z in DKI Jakarta, BNPL use and impulsive urges are almost fused as a single behavioral mechanism. The theoretical explanation stems from the concept of *pain of payment* (Prelec & Loewenstein, 1998), namely, BNPL reduces the pain of paying by delaying and breaking payments into installments, thereby weakening negative normative evaluations of impulsivity (Rook & Fisher, 1995). This mechanism is strengthened by *mental accounting* (Thaler, 1985), when installments are placed in a separate mental category from cash expenditures, thus blurring the total financial commitment.

BNPL was also shown to directly increase financial distress (β = 0.285; H1 supported), in line with the findings of Donou-Adonsou and Leslie-Piper (2026) and Schomburgk and Hoffmann (2023) who linked BNPL use to increased *financial distress* . However, the most important contribution of this study lies in the comparison of the direct and indirect pathways. The indirect effect of BNPL on financial distress through impulsive buying (β = 0.372; H5 supported) was found to be greater than the direct effect. Because the direct effect remained significant, the role of *impulsive buying* was a partial mediator. This finding broadens our understanding of the mechanisms of BNPL harm, suggesting that most financial distress is not caused by the credit instrument itself, but rather by the impulsive behavior it triggers. This implies that interventions that simply restrict credit access without addressing impulsiveness are potentially ineffective.

This pattern of financial stress is also reflected in the descriptive data at the indicator level. Anticipatory financial stress indicators, namely feeling pressured (PFD1 = 3.697) and worry about the future (PFD7 = 3.614), obtained the highest average constructs, while the majority of respondents, namely 62.5%, had been late with payments at least once. This pattern indicates that the distress experienced by Generation Z is not only in the form of current cash difficulties, but also anxiety about accumulating obligations. This understanding is consistent with the conceptualization of financial stress as a condition that includes an affective dimension, as underpinning the development of the financial stress instrument by Prawitz et al. (2006), and strengthens the argument that BNPL acts as a trigger for long-term financial stress, not just a temporary transaction facility.

Opposite patterns emerged across all paths involving *Financial Management Behavior* . The effect of *Impulsive Buying* on FMB (H3) and the effect of FMB on financial stress (H4) were both insignificant, with the direction of the H4 coefficient being opposite to the hypothesis. Consequently, single mediation through FMB (H6) and chain mediation (H7) were also discontinued. Theoretically, Festinger (1957) predicted that cognitive dissonance following an impulsive purchase would lower financial management standards, while Darie et al. (2023) confirmed the link between financial behavior and financial well-being. However, these data do not support either proposition. The most plausible explanation stems from the quality of FMB measurement, with an AVE of only 0.334, a low square root of AVE of 0.578, and an R-square approaching zero (0.019), indicating this construct is weak in capturing its own variance and being influenced by other predictors. There are indications of normative responses, namely the gap between the high mean FMB (3.876) and the high proportion of late payments. Referring to *the Theory of Planned Behavior* (Ajzen, 1991), the gap between good intentions to manage finances and actual behavior is a common phenomenon and is an important methodological note for similar research.

The explanation for the FMB anomaly requires a reading of statistical power. Post-hoc analysis indicates that the FMB-to-financial-stress path has a power of only 0.326 and the *Impulsive Buying*- to-FMB path only 0.519, well below the conventional threshold of 0.80. In other words, the failure of these paths does not completely prove the absence of a relationship, but rather partly reflects insufficient test power due to the very small effect sizes. To detect such a small effect significantly, a much larger sample size would be required, approximately 1,145 respondents for the FMB-to-financial-stress path. This reading maintains interpretive caution, namely that the negative finding for FMB is more appropriately interpreted as a

weakening of the construct's role in the model, rather than as a complete refutation of financial management theory (Hilgert et al., 2003; Garman & Forgue, 2018).

The third aspect that requires interpretation is the discriminant validity between BNPL and *Impulsive Buying* . Both the HTMT ratio (0.921) and the Fornell-Larcker criterion, where the interconstruct correlation (0.817) exceeds the square root of their AVEs, indicate very high empirical closeness. However, *cross-loading examination* shows that each indicator still loads highly on its parent construct, so that the two constructs can still be distinguished at the indicator level. This seemingly contradictory finding should not be read simply as a measurement flaw, but rather as a substantive reflection that in Generation Z's financial behavior, the decision to activate the *paylater option* and the urge to purchase immediately often occur at the same moment on the *checkout page* . This closeness actually strengthens the study's core argument, namely that BNPL and impulsivity constitute a single, integrated behavioral mechanism.

The broken chain mediation pathway (H7) has its own theoretical significance. The initial model of this study proposed a chain of BNPL transactions leading to impulsive spending, then to financial management behavior, and ultimately to financial distress. However, the data show that the chain breaks at two links involving FMBs, while the short path through impulsivity is robust. The implication is that the mechanism of BNPL harm among Generation Z is direct and concise, rather than layered through financial competence degradation as hypothesized. This finding corrects the serial assumption common in the literature and suggests that a more parsimonious model, with impulsivity as the sole mediator, is more representative in this context.

A closer look at the demographic profile reveals who is most vulnerable. 18.6% of respondents allocated more than 30% of their income to installments, and 62.5% had experienced late payments, even though most respondents were new users with a usage period of less than six months. The combination of high installment allocation intensity and short usage experience indicates that financial vulnerability emerges quickly, rather than waiting for long-term accumulation. This pattern reinforces the structural finding that the primary trigger is not a long-term inability to manage finances, but rather impulsive urges that immediately translate into installment commitments. In other words, the highest-risk group is not only long-term users, but also young users who have recently been exposed but are already engaging in impulsive behavior.

From a measurement perspective, the weakness of *the Financial Management Behavior construct* also raises questions about the appropriateness of the reflective specification. The FMB indicator, which strongly loads on only one item (FMB3 = 0.942), while the other items have low loadings, suggests that financial management behavior might be more appropriately treated as a formative construct, a combination of practices that are not necessarily highly correlated, such as budgeting, saving, and recording expenses. If so, evaluations based on AVE and internal consistency reliability become less appropriate, and the failure of the FMB pathway may stem in part from a mismatch in the measurement model, rather than simply the absence of substantive relationships. This observation reinforces the need for further research to revise the operationalization of this construct.

Theoretical Implications

This study enriches the behavioral finance literature (Kahneman & Tversky, 1979; Thaler, 1980) by empirically proving a multi-layered mediation model that positions impulsive buying as the primary pathway of transmission of BNPL influence towards financial distress in the Indonesian Gen Z context. The main novelty lies not in confirming the relationship between BNPL and impulsivity, but rather in the evidence that the indirect pathway exceeds the direct pathway, so that Impulsive Buying needs to be positioned as a core mechanism, not just an intervening variable. In addition, the empirical failure of the FMB pathway provides a reflective contribution, namely that the construct of financial management behavior based on self-report is prone to capturing ideal self-perceptions rather than actual behavior, so the integration of Cognitive Dissonance Theory into the BNPL model requires a more valid behavioral instrument.

Practical Implications

For the Financial Services Authority (OJK), the finding that 18.6% of respondents allocate more than 30% of their income to installments provides an empirical basis for considering limiting the installment-to-income ratio of young users, given that PayLater's NPL ratio has exceeded the alert threshold. For BNPL platform providers, the identified pain of payment mechanism demands more responsible design, such as a pause before checkout and reminders of accumulated installments across platforms. For financial literacy program organizers, this finding suggests that the focus needs to shift from savings knowledge to psychological awareness at the moment of transaction, as the most vulnerable point lies in impulsive behavior, not a lack of financial knowledge.

For educational institutions, these results suggest the need for interventions that train self-control during transactions, rather than simply conveying budget concepts that tend to be normative. For Generation Z users, the awareness to delay decisions before activating the paylater option and monitoring total installments across platforms are the most practical forms of defense within their own control. This series of implications emphasizes that protecting young consumers in the digital credit era requires an approach that simultaneously combines regulation, responsible product design, and strengthening individual self-control capacity.

International Relevance of Findings

The psychological mechanisms discovered in this study are cross-border and enrich the international discourse on digital consumer credit regulation . Evidence from the Gen Z context in Jakarta complements findings from other markets, namely India, Australia (Powell et al., 2023), and the United States (Donou-Adonsou & Leslie-Piper, 2026), while also confirming the universality of a key driver of financial vulnerability: the interaction between payment designs that minimize pain of payment and consumer impulsivity. What distinguishes and contributes to the cross-cultural impact is the significantly greater magnitude of BNPL's influence on impulsivity in the Indonesian context compared to India. This difference suggests that emerging markets with rapid e-commerce penetration and intense social media exposure, as Mappadang et al. (2025) emphasized in the Indonesian context, may amplify BNPL's effect on consumer behavior. Thus, these findings provide an empirical basis for suggesting that an effective BNPL regulatory framework in developing economies cannot simply adopt developed country approaches but instead needs to take into account the intensity of the local digital ecosystem.

This relevance is increasingly evident amidst global policy convergence, as several jurisdictions begin to tighten oversight of BNPL by placing it within a more stringent consumer credit framework. This research contributes to this discourse by demonstrating that the most important vulnerability indicator worthy of monitoring is not simply transaction volume or frequency, but rather the link between BNPL use and impulsive behavior. Findings from the Gen Z context in Jakarta can serve as a comparative reference for regulators in other emerging markets facing similar demographic and digital characteristics, thereby enriching cross-cultural approaches to digital financial consumer protection.

Overall, the findings of this study address three gaps identified at the beginning of the manuscript. First, this study positions Personal Financial Distress as a stand-alone dependent variable with an instrument that demonstrates high reliability (rho_C = 0.905) and adequate AVE (0.580), rather than as a proxy for financial well-being. Second, this study tests two mediating mechanisms simultaneously in a single integrated model, finding that only the impulsivity pathway is functional, while the financial management behavior pathway is not. Third, this study provides specific evidence from the demographically heterogeneous context of Gen Z in DKI Jakarta, thus complementing the predominance of India-based studies and homogeneous student samples (Nusir et al., 2026; Raj et al., 2024; Mappadang et al., 2025).

Research Limitations

This study has several limitations. First, all data are self-reported and therefore susceptible to normative response bias, as seen in the FMB construct. Second, the low AVE of FMB (0.334) limits the strength of conclusions across all pathways involving it, and the low statistical power of these pathways raises caution in interpreting negative findings. Third, the HTMT ratio and Fornell-Larcker criterion between BNPL and Impulsive Buying exceeding the threshold, indicating a high conceptual closeness between the two constructs. Fourth, the cross-sectional design and limited coverage of respondents to Gen Z in DKI Jakarta require caution in causal inference and generalization of findings. Future research is recommended to use a longitudinal design, expand the region and sample size to ensure adequate testing power, and refine the Financial Management Behavior instrument to better capture actual behavior.

CONCLUSION

This study examines the effect of BNPL usage on personal financial distress through impulsive buying and financial management behavior as chain mediators among 264 Generation Z respondents in DKI Jakarta. The results show that three hypotheses are supported: the direct effect of BNPL usage on personal financial distress (H1), the effect of BNPL usage on impulsive buying (H2), and the mediating role of impulsive buying in the relationship between BNPL usage and personal financial distress (H5). Meanwhile, four hypotheses are rejected: the effect of impulsive buying on financial management behavior (H3), the effect of financial management behavior on personal financial distress (H4), single mediation through financial management behavior (H6), and chain mediation (H7).

The main findings confirm that BNPL usage affects Generation Z's financial well-being primarily through impulsive spending, whose effects extend beyond the direct influence of BNPL usage itself. However, financial management behavior was not shown to function as either a buffer or mediator in this dataset, partly due to limitations in measurement quality and statistical power. Theoretically, this study offers a multilayered mediation model that positions

impulsivity as a core mechanism in the transmission of financial distress. Practically, these findings guide financial literacy and regulatory policies to target impulsive triggers at the point of transaction. Further research is recommended to use longitudinal designs, expand the scope and sample size, and refine financial management behavior instruments to capture actual behavior more accurately rather than self-perception.

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