

IMPACT OF DIGITAL MARKETING ON IMPULSIVE BUYING BEHAVIOR AMONG UNIVERSITY STUDENTS WITH MEDIATING ROLE OF BUY NOW PAY LATER AND MODERATING ROLE OF PEER INFLUENCE

Syed Abdul Kadir Bin Abdullah^{*1}, Junaid Ahmad², Sawaira Zahid³

^{*1}ICMS international university college of management and sports Research and postgraduate studies department

²University of Cyberjaya Faculty of business and technology

³Bahria University Karachi Institute of Professional Psychology

¹drkadir@icms.edu.com, ²junaidbaba100@gmail.com, ³sawiraz53@gmail.com

DOI: <https://doi.org/10.5281/zenodo.17788076>

Keywords

Digital Marketing, Impulsive Buying Behavior, Peer Influence, Impulsive Buying Behavior

Article History

Received: 09 October 2025

Accepted: 10 November 2025

Published: 29 November 2025

Copyright @Author

Corresponding Author: *

Syed Abdul Kadir Bin Abdullah

Abstract

This research seeks to examine the effect of digital marketing on impulsive buying behavior, mediated by Buy Now Pay Later (BNPL) services and moderated by peer influence among university students in Petaling Jaya and Cyberjaya, Malaysia. Based on the S-O-R model, Social Learning Theory and Behavioral Finance Theory, the proposed model defines digital marketing as an external stimulus for modifying internal psychological orientations which influence impulsive purchase intention. A total of 350 questionnaires were distributed and 325 valid returned for analysis. Using SPSS and Process Macro, the results show that Digital marketing positively impacts impulsive buying behavior. The research concludes that Buy Now Pay Later (BNPL) has a significant mediating influence through reduced immediacy of costs, promoting impulse buying. Furthermore, peer influence plays a significant moderation role of this relationship, which suggest social cues to support students' effectiveness of the digital marketing. All constructs demonstrated reliability statistics above the acceptable limits ($\alpha = 0.823-0.886$). Theoretically, this study extends impulsive buying models by incorporating fintech-supported payment mechanisms and empirically it is the first of showing how social influences can drive digital consumption behavior. Practical implications underscore the importance of ethical digital marketing and financial literacy interventions for universities.

INTRODUCTION

The rapid growth of digital technologies has fundamentally transformed the product purchasing process and experience for the customers. Digital marketing has stepped in to be a key player, as it provides numerous opportunities on how to reach the audience by using social media platform ad networks, personal advertisements, influencer marketing, content marketing and AI-based recommendations (Chondro, 2024). Malaysia has seen an exponential growth in digital adoption with social media user penetration surpassing 160 million total active

accounts, and university students are one of the most digitally active segments (Tajudeen et, al. 2025). Both opportunities and challenges came with this situation. Although digital marketing enhances convenience and offers to businesses potent purchasing and communication tools, it amplifies the consumers' exposure to persuasive stimuli that would prompt them into impulse purchase. It is estimated that 40-80% of online shopping is impulse buying for young customers with limited time offers and social influence digital ad customization was

identified as the main factors influencing impulsive behavior (Yee, & Zainal, 2025).

One emerging pattern in this space has been the widespread uptake of BNPL offerings. Buy now, pay later (BNPL) companies have enabled anyone from students without steady income to consumers to make purchases on the spot and pay later. It minimizes the “pain of paying,” makes it more likely that you will spend more, and can lead to making impulse purchases. Beyond this, peer influence is considerable in the consumption behavior of youth even more, so the social approval, peer recommendations and Digital Peer Interactions are exerting heavy impact on purchase decision (Pepe, 2025).

Despite its importance, the research considering online marketing and BNPL with peer influence and impulsive buying behavior are quite scanty within the context of Malaysian university students (Looi, et, al. 2022). The current study thus seeks to investigate the effect of digital marketing on impulsive buying behavior and further tests the mediating role of BNPL as well as the moderating role peer influence. Internet shopping daily is common for Malaysian university students, driven by constant digital experience, convenience and aggressive online promotional activities. This has led to a generation of impulsive buyers in youth due to lower financial literacy, weaker pressure resistance, and higher wanton immediate self-satisfaction.

Statistically, Malaysia has already commenced a trend of youth over-indebtedness, credit-related bankruptcy, and spending sprees. According to SYOK 2022 report, on average, a surge in the number of Malaysian declared bankrupt occurred between 2020 to 2025. Malaysian Department of Insolvency (Mdi) stated in their report that total of 33,388 individual bankruptcy cases happened between 2019 and Feb 2023. Out of that, 6,361 are below the age of 25 and 25 to 34 years old, accounting for 19.05% of the bankruptcy cases. 8.01% of the total cases are linked to credit card debt, and finally, there was a recent surge in the use of BNPL among young adults. A report from Business Today states: Furthermore, BNPL transactions in the country have almost tripled to over RM9 billion In (Business Today, 2025) While students would be at risk of financial pressure and debt accumulation due to overspending and uncontrolled impulse buying using several different BNPL products available.

However, university students are particularly influenced by their peers with the influence of peers being a major factor in wants and needs of the market, including buying preferences, brand attitudes and shopping behavior.

However, despite the seriousness of this issue, existing literature suffers from several problems:

1. Lack of Malaysian-focused research on digital marketing and impulsive buying among university students.

Most prior studies focus on Western countries, retail shoppers, or general online consumers.

2. Limited research on BNPL as a psychological and financial mediator.

Although BNPL is rapidly growing in Malaysia, its indirect role in increasing impulsive buying is understudied.

3. Insufficient understanding of how peer influence interacts with digital marketing.

Peer influence is known to shape youth behavior, yet its moderating effect in digital consumption contexts is rarely examined.

4. Scarcity of integrated models combining digital marketing, BNPL, peer influence, and impulsive buying.

Most studies examine these variables separately, not as a unified behavioral mechanism. Given these gaps, a rigorous empirical study focusing on Malaysian university students is needed. Understanding how digital marketing triggers impulsive buying and how BNPL and peer influence intensify this behavior is crucial for policymakers, universities, marketers, and consumer protection agencies.

Based on the literature review and problem statement, the study identifies the following gaps:

1. **Contextual Gap:** Lack of empirical evidence on impulsive buying behavior among Malaysian university students in the digital era.

2. **Theoretical Gap:** Limited studies using an integrated S-O-R behavioral model linking digital marketing (stimulus), BNPL/peer influence (organism), and impulsive buying (response).

3. **Mediating Mechanism Gap:** Insufficient research on BNPL as a mediator explaining *how* digital marketing leads to impulsive buying.
4. **Moderating Gap:** A scarcity of studies exploring *when* and *for whom* digital marketing is most powerful, particularly the role of peer influence.
5. **Practical Gap:** No clear insights for Malaysian educators, policymakers, and marketers on how to mitigate impulsive buying risks among youth. This study aims to fill these gaps.

Research Objectives

The study is guided by the following objectives:

Main Objective:

To examine the impact of Digital Marketing on Impulsive Buying Behavior among university students, with the mediating role of Buy Now Pay Later and the moderating role of Peer Influence.

Specific Objectives:

1. To determine the effect of Digital Marketing on Impulsive Buying Behavior.
2. To examine the effect of Digital Marketing on Buy Now Pay Later usage.
3. To investigate the effect of Buy Now Pay Later on Impulsive Buying Behavior.
4. To test whether Buy Now Pay Later mediates the relationship between Digital Marketing and Impulsive Buying Behavior.
5. To examine whether Peer Influence moderates the relationship between Digital Marketing and Impulsive Buying Behavior.

Significance of the Study:

For Academia:

Fills key theoretical and contextual gaps in digital consumer behavior literature and provides an integrated framework combining digital marketing, financial behavior, and social psychology.

For Marketers:

Offers insights on how digital marketing and BNPL shape youth purchasing patterns and help companies design ethical and effective marketing campaigns.

For Policy Makers & Universities:

Supports development of financial education programs and raises awareness about BNPL-related risks among students.

Scope of the Study:

This study focuses on university students located in Petaling Jaya and Cyberjaya, Malaysia. These two cities host a high concentration of higher-learning institutions and represent major academic and technological hubs in the country. Students in these areas are highly active digital users, frequently exposed to online advertisements, BNPL services, and peer-driven consumption trends.

Literature Review:

Digital consumption environments have evolved rapidly, exposing individuals, especially young adults to personalized promotions, flexible payment systems, and socially driven online interactions that shape their buying tendencies. These developments have drawn growing academic interest as scholars attempt to understand the psychological, financial, and social mechanisms that influence unplanned purchasing in digital contexts. Existing research highlights the importance of marketing stimuli, payment structures that alter spending perceptions, and interpersonal dynamics that guide consumer decisions. Building on these insights, the present review examines how digital marketing, Buy Now Pay Later (BNPL), and peer influence contribute to impulsive buying behavior.

Digital Marketing and Impulsive Buying Behavior:

Digital marketing encompasses a wide range of online tools used to reach consumers through personalized, data-driven communication. Modern marketing strategies rely on algorithms that tailor product suggestions, display targeted advertisements, and generate personalized promotional content based on user activity (Gao et al. 2023). These interactions increase consumers' exposure to persuasive stimuli and reduce the time available for thoughtful decision-making.

Empirical studies highlight that visual cues, quick-purchase prompts, and algorithm-based recommendations heighten emotional arousal and minimize rational evaluation. Digital environments frequently present consumers with limited time offers,

countdown timers, and dynamic pricing, all of which encourage spontaneous actions. University students, who form a highly connected and socially active segment, often encounter such cues repeatedly throughout the day, making them particularly sensitive to immediate buying urges (Wang, & Xiao, 2009; Maccarrone-Eaglen, & Schofield, 2020; Urbaz, 2025). The rapid integration of BNPL features into online retail platforms is closely linked to the rise of digital marketing. E-commerce sites and mobile applications frequently highlight flexible payment options at crucial decision points, such as checkout pages or during promotional campaigns. These messages often emphasize affordability, instalment convenience, or interest-free arrangements, making BNPL appear as a risk-free financial tool.

Digital marketing plays a crucial role in shaping attitudes toward BNPL (Fitrisam et al. 2025). Advertisements featuring easy approval, simplified registration procedures, and minimal eligibility requirements make BNPL particularly attractive to younger consumers, including students. The persuasive nature of these digital campaigns promotes the perception that BNPL is a convenient extension of the purchase process rather than a form of debt. Consequently, students who are exposed to such targeted messaging may develop favourable attitudes toward BNPL services and adopt them more readily. BNPL services are designed to provide immediate consumption while delaying financial obligations. This delayed-payment approach reduces psychological resistance associated with spending money. Behavioral finance scholars describe this as a weakening of the “pain of paying,” where consumers discount the financial consequence of a transaction because the cost is not immediate.

BNPL increases purchasing power by allowing users to break payments into smaller instalments, making higher-priced or non-essential items appear more attainable. Numerous studies report that users of BNPL tend to overspend relative to their budget, especially when purchases are emotionally driven rather than planned. This pattern is common among young consumers who may not fully evaluate long-term implications of deferred payments. Because BNPL reduces perceived financial barriers, it often facilitates spontaneous purchases. Students may adopt BNPL not out of necessity but to satisfy short-term

desires, which aligns with typical impulsive buying tendencies.

Research further demonstrates that digital interactions alter the traditional purchase cycle by removing physical constraints and providing instant access to products. This immediacy fosters a purchasing mindset characterized by little pre-planning and high responsiveness to digital stimuli.

H1: Digital Marketing has a significant positive effect on Impulsive Buying Behavior.

BNPL as a Mediator Between Digital Marketing and Impulsive Buying:

The mediating mechanism of BNPL can be understood by examining how digital marketing shapes financial decision-making. When promotional content presents deferred payment options as simple, accessible, and low risk, it encourages consumers to consider BNPL as part of the purchase process. Once BNPL becomes an available option, the likelihood of acting on impulse increases because the financial consequence feels less immediate (Raage, & Lerdsuvankul, 2025). This pathway suggests that digital marketing does not solely influence impulsive buying through psychological triggers; it also exerts its effects through financial facilitation. BNPL effectively bridges the gap between desire created by digital advertisements and the actual purchasing action.

Thus, BNPL serves as a mechanism that translates the persuasive power of digital marketing into concrete buying behavior.

H2: Buy Now Pay Later mediates the relationship between Digital Marketing and Impulsive Buying Behavior.

Peer Influence as a Moderator in the Digital Marketing–Impulsive Buying Link:

Peer influence plays a vital role in shaping day-to-day life of individuals as the self-satisfaction level is closely linked to it (Ahmad et al. 2021). In this research Peer influence reflects the degree to which individuals’ consumption decisions are shaped by their social groups. In university environments, students often look to peers for signals regarding trends, product preferences, and acceptable consumption practices (Roy et al. 2019). Group-based opinions can reinforce perceptions of value, desirability, and social acceptance. Digital spaces further amplify peer influence. Social media platforms display friends’

purchases, reviews, and endorsements, creating environments where consumption becomes socially observable. When peers express interest in products advertised online, individuals may feel compelled to conform, increasing the persuasive impact of digital marketing.

This social reinforcement can magnify the psychological triggers embedded in digital marketing messages. As a result, individuals with stronger peer susceptibility may react more intensely to digital promotions, making them more likely to engage in impulsive behavior.

H3: Peer Influence moderates the relationship between Digital Marketing and Impulsive Buying Behavior such that the relationship is stronger at higher levels of Peer Influence.

Theoretical Underpinning:

The conceptual foundation of this study is supported by three complementary theoretical perspectives that explain how external digital stimuli, internal psychological processes, and social dynamics contribute to impulsive buying behavior. Together, these theories offer a coherent lens through which the relationships among digital marketing, Buy Now Pay Later (BNPL), peer influence, and impulsive consumption can be understood.

Stimulus–Organism–Response (S-O-R) Model:

Stimulus–Organism–Response (S-O-R) Model serves as the primary theoretical anchor. Originally proposed by Mehrabian and Russell, the model posits that environmental cues (stimuli) evoke internal cognitive or affective states (organism), which subsequently lead to behavioral outcomes (responses). In digital marketplaces, marketing messages, online promotions, and algorithm-driven content act as stimuli that capture attention and trigger emotional or psychological reactions (Zimmerman, 2012). Within this study, digital marketing functions as the external stimulus that shapes consumers' internal evaluations, while BNPL and peer influence represent organismic factors that mediate or moderate this internal processing. The resulting behavioral response manifests impulsive buying. This application of the S-O-R model reflects contemporary online environments, where marketing cues are immediate, personalized, and continuous.

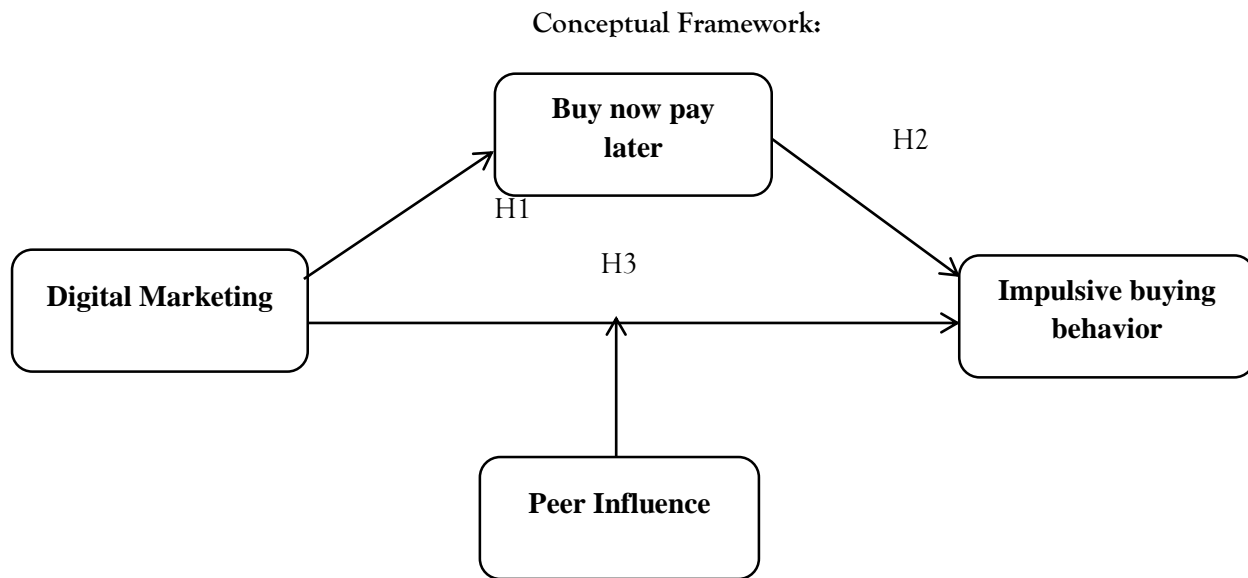
Social Learning Theory:

Social learning theory emphasizes the role of observational learning in shaping individual behavior (Yin et al. 2025). Consumers, particularly young adults, frequently rely on the behaviours, preferences, and feedback of their peers to navigate purchasing decisions. Social interactions both physical and digital serve as influential sources of information and reinforcement. In the context of this study, peer influence shapes how individuals interpret and respond to digital marketing stimuli by reinforcing norms, validating product choices, or generating social pressure to conform. Thus, the theory justifies the moderating role of peer influence by suggesting that individuals with high susceptibility to peer dynamics are more responsive to marketing cues, making them more likely to engage in impulsive purchases.

Behavioral Finance Theory:

Behavioral finance theory explains deviations from rational economic decision-making by focusing on psychological biases and emotional responses (Marchand, 2012). A key concept within this perspective is the “pain of paying,” which refers to the discomfort associated with parting with money. BNPL services mitigate this discomfort by deferring payment and breaking costs into smaller instalments, thereby weakening consumers' perception of financial loss. As a result, BNPL fosters a spending environment in which immediate gratification outweighs long-term considerations. This mechanism supports the mediating role of BNPL in the model by demonstrating how financial structures alter consumers' internal decision processes, ultimately facilitating impulsive behavior triggered by digital marketing stimuli.

Collectively, these theories provide a robust explanatory foundation for the study's proposed relationships. S-O-R clarifies the stimulus-to-behavior pathway, Social Learning Theory explains the social conditions that strengthen or weaken this pathway, and Behavioral Finance Theory elucidates the internal financial reasoning processes that facilitate impulsive outcomes. The integration of these perspectives strengthens the conceptual rationale behind the research framework and supports the hypotheses advanced in this study.



Research Methodology:

This study employed a quantitative, cross-sectional research design to investigate the effect of Digital Marketing on Impulsive Buying Behavior among university students in Petaling Jaya and Cyberjaya, Malaysia, while evaluating the mediating role of Buy Now Pay Later (BNPL) and the moderating role of Peer Influence. A total of 350 questionnaires were distributed, and after data cleaning and screening, 325 responses were deemed complete and suitable for analysis, representing a 92.8% valid response rate. Data was collected using a structured questionnaire (Provided in Appendix A) specifically developed for this research. All measurement items for Digital Marketing, Peer Influence, BNPL, and Impulsive Buying Behavior were drafted and validated for this research by the authors and measured using a five-point Likert scale. A non-probability purposive sampling technique was used to target active university students with prior experience in online shopping and digital payment services. Statistical analyses were conducted using SPSS and the PROCESS Macro (Model 4 for mediation and Model 1 for moderation). Reliability and preliminary validation procedures were performed prior to hypothesis testing, with Cronbach’s alpha values ranging between 0.823 and 0.886, indicating high internal consistency. Ethical considerations,

including informed consent, anonymity, and voluntary participation, were strictly adhered to. This methodological approach ensures robust and reliable estimation of direct, mediating, and moderating relationships within the conceptual model.

Data Analysis:

Data analysis was conducted using SPSS version 26 and the PROCESS Macro to evaluate the direct, mediating, and moderating effects proposed in the conceptual model. The analysis began with data screening, including checks for missing values, outliers, and normality to ensure the dataset met the assumptions for subsequent statistical procedures. Descriptive statistics were computed to summarize the demographic characteristics of respondents and to provide an overview of the central tendency and variability of each construct. Reliability analysis was performed using Cronbach’s alpha to confirm the internal consistency of the measurement scales, with all constructs exceeding the recommended threshold of 0.70 scales are provided in Appendix A. Following reliability assessment, correlation analysis was conducted to examine preliminary associations among Digital Marketing, Peer Influence, BNPL, and Impulsive Buying Behavior. Mediation analysis was carried out using PROCESS Model 4 to determine

whether BNPL accounted for the indirect effect of Digital Marketing on Impulsive Buying Behavior. Moderation analysis was executed using PROCESS Model 1 to test whether Peer Influence altered the strength or direction of the relationship between Digital Marketing and Impulsive Buying Behavior. Bootstrapping with 5,000 resamples was employed to generate bias-corrected confidence intervals for all indirect and interaction effects, ensuring robust significance testing. The combination of descriptive, inferential, and conditional process analysis allowed for a comprehensive evaluation of the proposed hypotheses.

Reliability Analysis

Cronbach’s alpha values for all four constructs exceeded the recommended threshold of 0.70, demonstrating strong internal consistency. Digital Marketing showed $\alpha = 0.823$, Peer Influence $\alpha =$

0.867, BNPL $\alpha = 0.875$, and Impulsive Buying Behavior $\alpha = 0.886$. These results confirm that the measurement items developed by the researchers (Junaid Ahmad & Syed Kadir) are statistically reliable for further analysis.

4.3 Descriptive Statistics and Correlation Matrix

Descriptive statistics indicated that students reported moderate-to-high exposure to digital marketing content, frequent social influence from peers, and regular use of BNPL during online shopping. Correlation analysis revealed significant positive associations among all constructs, indicating theoretical alignment and supporting suitability for mediation and moderation analysis.

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Digital Marketing	325	12.00	48.00	39.7723	5.77167
Peer Influence	325	16.00	76.00	33.3200	8.96163
BNPL	325	18.00	85.00	67.7938	9.74413
IBB	325	22.00	90.00	71.9077	9.50978

Descriptive results from 325 students show high levels of Digital Marketing exposure (M = 39.77), BNPL usage (M = 67.79), and Impulsive Buying Behavior (M = 71.91), indicating strong engagement with online shopping and flexible payment options. Peer

Influence recorded a moderate mean (M = 33.32), suggesting variability in how strongly students rely on peers when making purchase decisions. Overall, the data indicates that respondents are active digital consumers with elevated impulsive buying tendencies.

Correlation

	Digital marketing	Peer-Influence	BNPL	IBB
Digital marketing	1			
Peer_influence	-.764**	1		
BNPL	.601**	-.677**	1	
IBB	.644**	-.615**	.692**	1

** . Correlation is significant at the 0.01 level (2-tailed).

All variables are significantly correlated ($p < .001$). Digital Marketing (DM) shows positive associations with BNPL ($r = .601$) and Impulsive Buying Behavior (IBB) ($r = .644$), indicating that stronger digital marketing exposure increases BNPL usage and impulsive purchasing. DM is negatively correlated with Peer Influence (PI) ($r = -.764$), suggesting that peer reliance weakens digital marketing effects.

Peer Influence shows negative correlations with both BNPL ($r = -.677$) and IBB ($r = -.615$), meaning students influenced by peers engage less in BNPL and impulsive buying. BNPL has the strongest positive correlation with IBB ($r = .692$), confirming its role in encouraging spontaneous purchases.

Regression Analysis:

Regression results demonstrated that Digital Marketing significantly predicted Impulsive Buying

Behavior (IBB). Higher exposure to digital marketing tools such as targeted ads, social media promotions, and online recommendations was associated with

increased impulsive purchasing tendencies among students.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.711 ^a	.505	.500	6.72163

a. Predictors: (Constant), DMxPI, PI_c, DM_c

The model summary indicates that the combined predictors_centered Digital Marketing (DM_c), centered Peer Influence (PI_c), and their interaction term (DM×PI) explain 50.5% of the variance in Impulsive Buying Behavior (IBB) (R² = .505). The Adjusted R² of .500 shows that the model remains stable after adjusting for the number of predictors.

The R value of .711 reflects a strong overall relationship between the predictors and IBB. The standard error of estimate (6.72) indicates acceptable prediction accuracy. Overall, the model demonstrates that Digital Marketing, Peer Influence, and their interaction significantly contribute to explaining impulsive buying tendencies among university students.

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	14798.356	3	4932.785	109.180	.000 ^b
	Residual	14502.874	321	45.180		
	Total	29301.231	324			

a. Dependent Variable: IBB

b. Predictors: (Constant), DMxPI, PI_c, DM_c

The ANOVA results indicate that the overall regression model is statistically significant, F(3, 321) = 109.18, p < .001, demonstrating that the predictors Digital Marketing (DM_c), Peer Influence (PI_c), and their interaction term (DM×PI) jointly explain a significant proportion of variance in Impulsive

Buying Behavior (IBB). The significant F-value confirms that the model provides a better fit than one with no predictors, validating the suitability of the regression approach for examining moderation effects.

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		95.0% Confidence Interval for B		
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	72.896	.409		178.358	.000	72.092	73.700
	DM_c	.217	.128	.132	1.693	.091	-.035	.470

PI_c	-.206	.067	-.194	-3.068	.002	-.338	-.074
DMxPI	.025	.004	.436	5.904	.000	.017	.033

a. Dependent Variable: IBB

The coefficients table shows that Peer Influence (PI_c) has a significant negative effect on Impulsive Buying Behavior (IBB) ($\beta = -.194, t = -3.07, p = .002$), indicating that higher peer influence is associated with lower impulsive buying tendencies. Digital Marketing (DM_c) shows a positive but non-significant direct effect on IBB ($\beta = .132, t = 1.69, p = .091$), suggesting that its influence becomes meaningful only under certain conditions.

The interaction term (DMxPI) is significant and positive ($\beta = .436, t = 5.90, p < .001$), confirming a moderating effect of Peer Influence. This demonstrates that the relationship between Digital Marketing and impulsive buying becomes significantly stronger when peer influence is taken into account. In other words, students exposed to digital marketing are more likely to engage in impulsive purchases when peer influence is also high.

The confidence intervals support these findings, with the interaction term showing a narrow positive range

(0.017 to 0.033), reinforcing the robustness of the moderation effect.

Mediation Analysis (PROCESS Model 4)

The results indicate that decision-making (DM) positively predicts BNPL usage, such that individuals with higher DM scores are more likely to use BNPL ($B = 1.02, p < .001$). DM also has a significant direct effect on impulsive buying behavior (IBB), even after accounting for BNPL ($B = 0.59, p < .001$). Additionally, BNPL usage positively predicts IBB ($B = 0.47, p < .001$). The indirect effect of DM on IBB through BNPL is significant ($B = 0.47, 95\% CI [0.26, 0.64]$), indicating that BNPL partially mediates the relationship between DM and IBB. Overall, this suggests that DM influences IBB both directly and indirectly via BNPL usage.

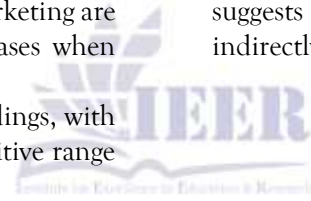


Table 1: Mediation Analysis

Effect Type	Predictor	B	SE	t	p	95% CI Lower	95% CI Upper
Effect on Mediator	DM → BNPL	1.0154	0.0750	13.531	<.001	0.8678	1.1631
Direct Effect	DM → IBB	0.5892	0.0762	7.727	<.001	0.4392	0.7392
	BNPL → IBB	0.4651	0.0452	10.299	<.001	0.3762	0.5539
Total Effect	DM → IBB	1.0614	0.0701	15.137	<.001	0.9235	1.1994
Indirect Effect	DM → BNPL → IBB	0.4723	0.0962	-	-	0.2644	0.6425

Moderation Analysis (PROCESS Model 1)

The results indicate that Peer Influence (PI_c) significantly moderates the relationship between Digital marketing (DM_c) and impulsive buying behavior (IBB). While DM_c alone does not significantly predict IBB ($B = 0.217, p = .092$), the

interaction between DM_c and PI_c is significant ($B = 0.025, p < .001$), indicating that the effect of DM_c on IBB depends on levels of PI_c. Specifically, DM_c has a stronger positive effect on IBB for individuals with higher PI_c, becoming significant when PI_c is at or above 1.17. This suggests that digital marketing influences impulsive buying behavior more strongly among individuals with higher Peer Influence.

Table 2: Moderation analysis

Predictor	B	SE	t	p	95% CI Lower	95% CI Upper
Constant	72.896	0.409	178.358	<.001	72.092	73.700
DM_c	0.217	0.128	1.693	.092	-0.035	0.470
PI_c	-0.206	0.067	-3.068	.002	-0.338	-0.074
DM_c × PI_c	0.025	0.004	5.904	<.001	0.017	0.033

4.7 Summary of Hypotheses Testing

Hypothesis	Statement	Result
H1	Digital Marketing → Impulsive Buying Behavior	Supported
H2	BNPL mediates the DM → IBB relationship	Supported
H3	Peer Influence moderates DM → IBB	Supported

Discussion of Findings

5.2.1 Digital Marketing and Impulsive Buying Behavior

The results affirm that digital marketing significantly increases impulsive buying among university students. High exposure to targeted advertisements, influencer content, personalized recommendations, and 24/7 accessibility intensifies unplanned purchases. This aligns with past studies suggesting digital environments create emotional triggers and instant gratification cues.

5.2.2 Mediating Role of BNPL

BNPL emerged as a significant mediator, indicating that flexible payment systems reduce psychological barriers toward spending. Students are more likely to buy impulsively when immediate payment is not required. This supports the notion that payment convenience, delayed financial consequences, and perceived affordability increase impulsive consumption.

BNPL’s partial mediation suggests that both marketing stimuli and payment mechanisms jointly shape impulsive tendencies.

5.2.3 Moderating Role of Peer Influence

Peer Influence significantly strengthened the relationship between Digital Marketing and Impulsive Buying. Students who seek social approval, follow peer recommendations, or align with group identity are more reactive to online promotional content. This aligns with social comparison theory, which proposes

that individuals rely on peer cues to guide purchase decisions.

Peer dynamics thus amplify consumer susceptibility to marketing tactics in digital environments.

5.3 Theoretical Implications

The findings of this study offer several noteworthy theoretical contributions to the existing body of knowledge on impulsive buying behavior in digital environments.

1. Extends impulsive buying literature:

The study extends the literature by incorporating BNPL as both a psychological and financial mechanism that shapes spontaneous purchasing tendencies. While previous research has primarily focused on emotional triggers, marketing stimuli, or personality-based antecedents of impulsive buying, this study highlights the role of payment flexibility as a distinct cognitive pathway that lowers perceived financial barriers. By demonstrating that BNPL partially mediates the relationship between digital marketing and impulsive buying behavior, the study advances theoretical understanding of how contemporary fintech solutions influence consumer decision-making.

2. Strengthens consumer behavior models:

The results strengthen consumer behavior models by illustrating that social influence significantly moderates digital stimulus-response patterns. Existing theories often conceptualize impulsive

buying as a largely individualistic behavior; however, this study shows that peer norms, approval motives, and social comparison processes can substantially amplify the impact of digital marketing. This deepens the theoretical relevance of social influence within modern digital consumption settings and positions it as a crucial contextual factor influencing how consumers interpret and react to online marketing cues.

3. Provides original measurement scales:

The development of original measurement scales for Digital Marketing, BNPL, Peer Influence, and Impulsive Buying Behavior provides new methodological tools for future research. These context-specific instruments enhance theoretical precision and offer a foundation for subsequent studies exploring consumer responses in digital and fintech-driven marketplaces. By contributing robust, empirically validated scales, the study supports the refinement of future behavioral models and encourages further scholarly exploration of impulsive buying phenomena within evolving digital ecosystems.

5.4 Practical and Managerial Implications

For Marketers

- Personalized ads and social media campaigns strongly influence young consumers—firms should focus on data-driven targeting.
- Integrating BNPL options can increase conversion rates, especially for price-sensitive students.

For BNPL Providers

- Results emphasize the importance of responsible lending, transparent terms, and financial literacy communication.

For Universities and Policy Makers

- Students require financial awareness programs to reduce debt risk associated with BNPL-induced impulsive spending.
- Regulations may be needed to monitor BNPL usage among youth.

5.5 Limitations

1. The study used non-probability sampling, limiting generalizability.

2. Self-reported data may involve bias.
3. Results are cross-sectional and do not capture behavioral changes over time.

5.6 Recommendations for Future Research

- Test the model using longitudinal or experimental designs.
- Explore additional moderators such as personality traits, financial literacy, or self-control.
- Replicate the study in different demographic groups or geographic settings.

5.7 Conclusion

The study demonstrates that digital marketing significantly influences impulsive buying behavior among university students, with BNPL serving as a meaningful psychological and financial mediator. Peer influence further strengthens this relationship, reflecting the powerful interplay between digital stimuli, social factors, and payment innovations. The findings contribute both theoretically and practically to understanding consumer behavior in fast-evolving digital markets.

This study provides empirical evidence that digital marketing plays a central role in shaping impulsive buying behavior among university students in Malaysia. The findings demonstrate that exposure to online promotions, personalized recommendations, and social media-driven content substantially increases students' likelihood of making unplanned purchases. The results further reveal that Buy Now Pay Later (BNPL) schemes partially mediate this relationship, suggesting that flexible payment mechanisms lower psychological resistance and encourage spontaneous spending. In addition, peer influence emerged as a significant moderator, showing that students who are more socially driven or motivated by group norms are particularly susceptible to digital marketing stimuli. The study contributes to theory by integrating marketing stimuli, financial technology, and social dynamics into a single behavioral framework, offering new insights into how digital environments shape consumer decision-making. Practically, the findings underscore the need for responsible marketing, transparent BNPL practices, and financial education initiatives targeted at young consumers. Overall, the study highlights the complex interaction of digital, financial, and social

forces influencing impulsive buying and provides a foundation for future research to explore this behavior across diverse populations and evolving digital contexts.

REFERENCES

- Ahmad, J., Zahid, S., Wahid, F. F., & Ali, S. (2021). Impact of role conflict and role ambiguity on job satisfaction the mediating effect of job stress and moderating effect of Islamic work ethics. *European Journal of Business and Management Research*, 6(4), 41-50.
- Akashah, A. (2025, March 20). *More young Malaysians declared bankrupt from 2020 to 2025, reports reveal*. SYOK. <https://en.syok.my/news/young-malaysians-declared-bankrupt-until-2025>
- Bagniewski, B., Kubiczek, J., & Źuchowska, Z. (2024). BNPL in the Consumerism World: About the Excessive Debt Trap.
- Chondro, J. (2024). AI-DRIVEN INNOVATION IN SOCIAL MEDIA MARKETING. *AIRA (Artificial Intelligence Research and Applied Learning)*, 3(2), 59-75.
- Fitrisam, S. A., Iradat, M. I., Iskandar, R., Utami, A. P., & Rhamadhani, R. F. (2025). Digital natives and deferred payments: A qualitative study of young consumers'e-commerce BNPL behaviors. *Priviet Social Sciences Journal*, 5(9), 47-65.
- Gao, B., Wang, Y., Xie, H., Hu, Y., & Hu, Y. (2023). Artificial intelligence in advertising: advancements, challenges, and ethical considerations in targeting, personalization, content creation, and ad optimization. *Sage Open*, 13(4), 21582440231210759.
- Maccarrone-Eaglen, A., & Schofield, P. (2020). Compulsive buying among young adults: a behavioural segmentation. *Young Consumers*, 21(1), 57-76.
- Malaysia Department of Insolvency. (2023). Bankruptcy Statistic as at February 2023.
- Marchand, M. (2012). Behavioral biases in financial decision making. Bachelor Theses Finance, 8200(21), 1-28.
- Pepe, A. (2025). The Role of Peer Influence on Purchase Decisions among University Students. Available at SSRN 5213437.
- Roy, R., Soo, D., Conroy, D., Wall, C. R., & Swinburn, B. (2019). Exploring university food environment and on-campus food purchasing behaviors, preferences, and opinions. *Journal of nutrition education and behavior*, 51(7), 865-875.
- Shahrizal. (2025, August 26). *BNPL transactions in Malaysia surge to over RM9 billion in six months, youth debt a concern - businessstoday*. Business Today. <https://www.businessstoday.com.my/2025/08/07/bnpl-transactions-in-malaysia-surge-to-over-rm9-billion-in-six-months-youth-debt-a-concern/>
- Tajudeen, F. P., Moghavvemi, S., Thirumoorthi, T., Phoong, S. W., & Bahri, E. N. B. A. (2025). Digital Transformation of Malaysian Small and Medium Enterprises. Emerald Group Publishing.
- Urbaez, L. (2025). The Role of FOMO in Generation Z's Financial Decision Making: how Digital Marketing Strategies Influence Impulsive Spending and Risk Behavior.
- Wang, J., & Xiao, J. J. (2009). Buying behavior, social support and credit card indebtedness of college students. *International Journal of Consumer Studies*, 33(1), 2-10.
- Yee, L. H., & Zainal, N. (2025). Factors Influencing Impulse Buying Behaviour during Online Shopping among Youngsters Consumers, Klang Valley, Malaysia. *INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN BUSINESS AND SOCIAL SCIENCES*, 15(2).
- Yin, Y., Bai, B., & Xu, S. (2025). The role of social community in influencing purchase intention in live-streaming E-commerce: a social learning theory perspective. *Marketing Intelligence & Planning*.
- Zimmerman, J. (2012). *Using the SOR model to understand the impact of website attributes on the online shopping experience*. University of North Texas.

Appendix A: Measurement Items, Constructs, and Reliability Statistics

Likert Scale Used: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

Table A1: Measurement Constructs, Items, and Cronbach’s Alpha

Construct	Number of Items	Cronbach’s α
Digital Marketing	10	0.823
Peer Influence	16	0.867
Buy Now Pay Later	17	0.875
Impulsive Buying Behavior	16	0.886

Table A2: Digital Marketing (DM) Items

Code	Item Statement
DM1	I can find the proper item when I shop online due to digital marketing.
DM2	Digital marketing provides useful information.
DM3	Detailed information is available on social and electronic media during online shopping.
DM4	It is easy to compare products on websites.
DM5	Brand social networking sites facilitate opinion exchange.
DM6	Digital marketing enables 24/7 shopping.
DM7	I prefer digital shopping over physical shopping.
DM8	I intend to purchase online when browsing products.
DM9	Companies send regular updates through email and social media.
DM10	Online marketplaces value the development of long-term relationships.

Table A3: Peer Influence (PI) Items

Code	Item Statement
PI1	I rarely purchase the newest goods unless my friends recommend them.
PI2	It is important that the products and brands I buy are liked by others.
PI3	I frequently pick brands that I believe my friends will like.
PI4	If people expect me to use certain merchandise, I am more likely to buy it.
PI5	I want to know which businesses and products make a good impression on others.

PI6	Buying the same brands as others gives me a sense of belonging.
PI7	If I want to be like someone, I try to buy the same brands.
PI8	I buy the same products as others to be on the same social level.
PI9	I check what others purchase to ensure I make the best choice.
PI10	When I don't understand a product, I ask my friends.
PI11	I often consult others to choose the best option.
PI12	I ask friends or family for information before purchasing.
PI13	I wish I could buy online as frequently as some friends.
PI14	I hope to show the best version of myself by buying similar items as my friends.
PI15	I check the social media profiles of my friends for guidance.
PI16	I buy products that my close friends tell me I should purchase.

Table A4: Buy Now Pay Later (BNPL) Items

Code	Item Statement
BNPL1	Using BNPL makes online shopping more convenient.
BNPL2	BNPL options simplify my purchasing decisions.
BNPL3	I find BNPL services easy to use during checkout.
BNPL4	BNPL helps me manage my monthly budget effectively.
BNPL5	I prefer BNPL because it allows me to buy without immediate payment.
BNPL6	BNPL gives me financial freedom when shopping online.
BNPL7	I am more likely to buy expensive items if BNPL is available.
BNPL8	BNPL encourages purchases I might otherwise postpone.
BNPL9	I choose BNPL even when I can pay upfront.
BNPL10	I trust BNPL providers to secure my financial information.
BNPL11	BNPL services are reliable for transactions.
BNPL12	I feel confident using BNPL for high-value purchases.
BNPL13	I am aware of fees or interest associated with BNPL.

BNPL14	BNPL can lead to overspending if not managed properly.
BNPL15	BNPL feels safer compared to credit cards.
BNPL16	I intend to use BNPL for future online purchases.
BNPL17	I would recommend BNPL to friends and family.

Table A5: Impulsive Buying Behavior (IBB) Items

Code	Item Statement
IBB1	I frequently engage in impulsive buying.
IBB2	I often make purchases without contemplation.
IBB3	Buying now and facing the consequences later describes me.
IBB4	I purchase more than I originally planned.
IBB5	I feel exhilaration while purchasing online.
IBB6	I buy products to enhance my mood.
IBB7	I buy items based on immediate thoughts.
IBB8	Impulsive buying brings me joy.
IBB9	I do not meticulously arrange most of my purchases.
IBB10	Shopping feels like an adventure to me.
IBB11	I buy items online when free gifts are offered.
IBB12	Free services motivate me to buy impulsively.
IBB13	I buy more online when discounts are offered.
IBB14	I often make impulsive purchases at low prices.
IBB15	I generally buy on impulse.
IBB16	Flexible payment options make online shopping comfortable.