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The Effect of Doom Scrolling and Digital Advertising on Purchase Decisions Through Impulsive Buying, with Self-Control as a Moderating Variable Among Social Media Users

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Abstract

This study aims to analyze the effect of doom scrolling and digital advertising on purchase decisions mediated by impulsive buying, and to examine the moderating role of self-control among social media users. A quantitative approach with a survey design was employed. Data were collected using a structured Likert-scale questionnaire (1–5) distributed to 105 respondents selected via purposive sampling. Data analysis involved multiple regression, Baron and Kenny mediation testing, and moderated multiple regression (MMR) with interaction terms. Results indicate: (1) doom scrolling positively and significantly affects impulsive buying ($\beta = 0.341$; $p < 0.001$); (2) digital advertising positively and significantly affects impulsive buying ($\beta = 0.284$; $p < 0.001$); (3) impulsive buying positively and significantly affects purchase decisions ($\beta = 0.483$; $p < 0.001$); (4) impulsive buying fully mediates the relationship between doom scrolling and purchase decisions; (5) impulsive buying partially mediates the relationship between digital advertising and purchase decisions; and (6) self-control negatively and significantly moderates the effect of impulsive buying on purchase decisions (B = -0.043; p = 0.026). These findings offer theoretical and managerial implications for digital marketing practitioners and consumers in the social media economy era.

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1. Introduction

Advances in information and communication technology have brought about a fundamental transformation in consumer behavior, particularly through the increasingly widespread adoption of social media platforms. Data from We Are Social & Meltwater (2024) shows that the number of active social media users in Indonesia has reached 167 million or about 60.4 percent of the total population with an average daily usage of 3 hours and 18 minutes. This high intensity of use has created a new phenomenon in digital consumption behavior, one of which is "doom scrolling."

Doom scrolling refers to the behavior of continuously scrolling through content on social media platforms, often without a clear purpose and for extended periods, even though the content displayed is not always relevant or interesting to the user (Ytre-Arne & Moe, 2021). This behavior is exacerbated by platform algorithms designed to maximize user screen time through artificial intelligence-based recommendation systems. As a result, users are unconsciously exposed to thousands of pieces of content and digital ads every day, which directly influences their online shopping experience.

Digital ads have become an increasingly dominant marketing tool within the social media ecosystem. Platforms such as TikTok, Instagram, and YouTube leverage user behavior data to display highly targeted, personalized ads. An eMarketer report (2024) states that digital ad spending in Indonesia is projected to exceed Rp100 trillion by 2025, reflecting the strong confidence businesses have in the effectiveness of digital ads in influencing consumer purchasing decisions.

Among the most significant impacts of the combination of doom scrolling and digital advertising is the emergence of impulsive buying—purchase decisions made spontaneously, without prior planning, and driven by an emotional response to visual stimuli (Rook, 1987; Chan et al., 2022). Singh's (2023) research confirms that exposure to advertisements on social media significantly increases the tendency toward impulsive buying among young consumers. Furthermore, impulsive buying triggered by digital stimuli ultimately leads to actual purchasing decisions made by consumers.

However, not all consumers are equally vulnerable to the effects of doom scrolling and digital advertisements. Self-control is a psychological construct that refers to an individual's ability to regulate their thoughts, emotions, and behavior in order to achieve long-term goals (Tangney et al., 2004). Individuals with high self-control tend to be better able to resist impulsive urges and make more rational and planned purchasing decisions (Baumeister, 2002; Nyrhinen et al., 2022).

Although numerous studies have examined each of these variables individually, research integrating all five variables doom scrolling, digital advertising, impulsive buying, purchasing decisions, and self-control into a single comprehensive research model remains very limited, particularly in the context of social media users in Indonesia. This research gap serves as the primary motivation for conducting this study.

Based on the background described above, this study has several objectives: (1) to analyze the effect of doom scrolling on impulsive buying; (2) to analyze the effect of digital advertising on impulsive buying; (3) to analyze the effect of impulsive buying on purchase decisions; (4) to test the mediating role of impulsive buying in the relationship between doom scrolling and purchase decisions; (5) to test the mediating role of impulsive buying in the relationship between digital advertising and purchasing decisions; and (6) to test the moderating role of self-control in the relationship between impulsive buying and purchasing decisions.

2. Research Methodolgy

Research Design and Approach

This study employs a quantitative approach using an explanatory survey design. The quantitative approach was chosen because the study aims to test hypotheses regarding causal relationships among variables formulated based on theory (Creswell & Creswell, 2018). The survey design was chosen as the data collection strategy because it allows for the efficient and systematic collection of data from a large number of respondents.

Population and Sample

The population of this study consists of all active social media users who have ever purchased a product through a social media platform or an e-commerce platform integrated with social media. Given the infinite population, the sample size was determined using the formula by Hair et al. (2019), which recommends a minimum ratio of 5:1 between the number of respondents and the number of indicators. With a total of 20 indicators used, the minimum sample size is 100 respondents. This study successfully collected data from 105 respondents, thereby meeting the criteria for sample adequacy.

The sampling technique used was purposive sampling with the following criteria: (1) active users of at least one social media platform (Instagram, TikTok, YouTube, or Facebook); (2) having made a product purchase driven by content or advertisements viewed on social media; and (3) aged 17 years or older.

Research Instrument and Variable Measurement

Data were collected using a structured questionnaire with a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). Each variable was measured using four items, resulting in a total of 20 items across five variables. The instrument was developed based on adaptations of scales validated in previous literature: doom scrolling (Ytre-Arne & Moe, 2021; Sharma et al., 2022), digital advertising (Nyrhinen et al., 2024; Shareef et al., 2019), impulsive buying (Kaur & Dhir, 2024; Chan et al., 2022), purchase decision (Kotler & Keller, 2021), and self-control (Tangney et al., 2004).

Validity and Reliability Tests

Validity testing was conducted using the Pearson Product-Moment correlation technique. A statement item was deemed valid if the calculated r value was greater than the table r value at a 5% significance level. With N = 105 (df = 103), the table r value used was 0.192. The validity test results showed that all 20 items across the five variables had correlation values ranging from 0.683 to 0.754, all of which were above the table r value and significant at the 0.01 level (two-tailed). The reliability test used Cronbach's Alpha, with a minimum standard of $\alpha > 0.60$ (Nunnally, 1978, as cited in Ghozali, 2021). All variables showed α values between 0.756 and 0.803, indicating good to very good reliability.

Table 1. Summary of Validity and Reliability Test Results

Variables	Range of r (Calculated)	r Table	Cronbach's α	Description
Doom Scrolling (X1)	0,701 – 0,745	0,192	0,781	Valid & Reliable
Digital Advertising (X2)	0,693 – 0,754	0,192	0,803	Valid & Reliable
Impulsive Buying (M)	0,685 – 0,725	0,192	0,769	Valid & Reliable
Purchase Decision (Y)	0,697 – 0,741	0,192	0,794	Valid & Reliable
Self-Control (Z)	0,683 – 0,727	0,192	0,756	Valid & Reliable

Data Analysis Techniques

Data analysis employed three approaches. First, multiple regression analysis was used to test the direct effects between variables. Second, a mediation test was conducted using the procedure proposed by Baron and Kenny (1986), which involved comparing the coefficients of the independent variables' effects on the dependent variable before and after the mediator was included in the model. Third, a moderation test using Moderated Multiple Regression (MMR) by including an interaction term (the product of the predictor and moderator variables) in the regression model (Hayes, 2018). All statistical analyses were conducted using IBM SPSS software, version 26.

3. Results And Discussions

Descriptive Analysis

The study's respondents consisted of 105 active social media users. Most respondents were aged 18–25 (67.6%), indicating the dominance of Gen Z and young millennials in the sample. The most widely used social media platform was TikTok (42.9%), followed by Instagram (31.4%) and YouTube (18.1%). The average daily social media usage duration among respondents was 4.2 hours, exceeding the national average reported by We Are Social (2024).

Multiple Regression Test Results

Regression analysis was conducted using two models. The first model tested the effects of doom scrolling (X1) and digital advertising (X2) on impulsive buying (M). The second model tested the combined effects of the three predictors (X1, X2, and M) on purchasing decisions (Y). A summary of the

results is presented in Table 2 and Table 3.

Table 2. Regression Results for Model 1: The Effects of X1 and X2 on Impulsive Buying (M)

Variable	B	Std. Error	Beta	t	Sig.
(Constant)	3,214	1,487	-	2,161	0,033
Doom Scrolling (X1)	0,387	0,092	0,341	4,207	0,000***
Iklan Digital (X2)	0,312	0,089	0,284	3,506	0,001***
R = 0,592; R^2 = 0,350; Adjusted R^2 = 0,337; F = 26,773; Sig. = 0,000					

****p < 0,001. Sumber: Output SPSS diolah (2024).*

Based on Table 2, the first model yielded an R^2 value of 0.350, meaning that doom scrolling and digital advertising together explain 35.0% of the variance in impulsive buying. The model was found to be statistically significant simultaneously (F = 26.773; p < 0.001). Partially, doom scrolling has a positive and significant effect on impulsive buying (β = 0.341; t = 4.207; p = 0.000), and digital advertising also has a positive and significant effect on impulsive buying (β = 0.284; t = 3.506; p = 0.001). H1 and H2 are supported.

Table 3. Regression Results for Model 2: The Effects of X1, X2, and M on Purchase Decisions (Y)

Variabel	B	Std. Error	Beta	t	Sig.
(Constant)	2,148	1,312	-	1,637	0,105
Doom Scrolling (X1)	0,189	0,098	0,162	1,929	0,056 (ns)
Iklan Digital (X2)	0,241	0,094	0,214	2,564	0,012**
Impulsive Buying (M)	0,512	0,087	0,483	5,885	0,000***

R = 0,738; R^2 = 0,545; Adjusted R^2 = 0,533; F = 40,702; Sig. = 0,000

***p < 0,01; ***p < 0,001; ns = tidak signifikan. Sumber: Output SPSS diolah (2024).*

Based on Table 3, the second model yields an R^2 value of 0.545, indicating that the three predictors (X1, X2, M) collectively explain 54.5% of the variance in purchase decisions. The increase in R^2 from Model 1 (0.350) to Model 2 (0.545) confirms the significant contribution of impulsive buying in explaining purchase decisions. Impulsive buying is the strongest predictor (β = 0.483; t = 5.885; p = 0.000). H3 is supported.

Mediation Test Results

The mediation test used the Baron and Kenny (1986) procedure by comparing the direct effects of doom scrolling and digital advertising on purchase decisions before and after the mediator was included. The results are presented in Table 4.

Table 4. Summary of the Mediation Test Results for Impulsive Buying

Jalur Mediasi	X→M (Sig.)	M→Y (Sig.)	X→Y Langsung (Sig.)	Jenis Mediasi
X1 → M → Y	Sig. (p=0,000)	Sig. (p=0,000)	Tidak Sig. (p=0,056)	Mediasi Penuh
X2 → M → Y	Sig. (p=0,001)	Sig. (p=0,000)	Sig. (p=0,012)	Mediasi Sebagian

Sumber: Output SPSS diolah (2024).

Table 4 shows that impulsive buying fully mediates the relationship between doom scrolling and purchase decisions. This is indicated by the fact that the direct effect of X1 on Y becomes insignificant (p = 0.056 > 0.05) after the mediator is included, even though the effects of X1 on M and of M on Y are both significant. H4 is supported.

On the other hand, impulsive buying partially mediates the relationship between digital advertising and purchase decisions. The direct effect of X2 on Y remains significant (p = 0.012) after the mediator is included, indicating that digital advertising operates through two pathways: an indirect

pathway via impulsive buying, and a direct pathway leading to purchase decisions. H5 is supported.

Results of the Self-Control Moderation Test

The moderation test was conducted using Moderated Multiple Regression (MMR), by including predictors M (Impulsive Buying), Z (Self-Control), and the interaction term MZ into the regression model with the dependent variable Y (Purchase Decision). The results are presented in Table 5.

Table 5. Results of the Self-Control Moderation Test (Dependent: Purchase Decision)

Variabel	B	Std. Error	Beta	t	Sig.
(Constant)	4,372	1,654	-	2,644	0,009
Impulsive Buying (M)	0,614	0,112	0,579	5,482	0,000***
Self-Control (Z)	-0,287	0,098	-0,246	-2,929	0,004**
MZ (Interaction Term)	-0,043	0,019	-0,214	-2,263	0,026*

$R = 0{,}647$; $R^2 = 0{,}419$; Adjusted $R^2 = 0{,}402$; $F = 24{,}555$; Sig. = 0,000

**p < 0,05; **p < 0,01; ***p < 0,001. MZ = Interaction Term (M × Z). Sumber: Output SPSS diolah (2024).*

Table 5 shows that the MZ interaction term has a coefficient of B = -0.043 with a t-value of -2.263 and a significance level of 0.026 ($p < 0.05$), demonstrating that self-control significantly moderates the relationship between impulsive buying and purchasing decisions. H6 is supported.

A negative interaction coefficient indicates that self-control functions as a weakening (or buffering) moderator. The higher a person's self-control, the weaker the influence of impulsive buying on purchasing decisions. The moderation equation obtained is: $Y = 4.372 + 0.614M - 0.287Z - 0.043MZ$. The effect of M on Y can be expressed as: $dY/dM = 0.614 - 0.043Z$, which means that the effect of impulsive buying on purchasing decisions decreases as self-control increases.

The first finding—that doom scrolling has a positive and significant effect on impulsive buying—is consistent with the results of studies by Ytre-Arne and Moe (2021) and Sharma et al. (2022). The underlying mechanism can be explained through two pathways: first, through the incidental exposure effect, in which repeated exposure to a product increases familiarity and interest; second, through cognitive resource depletion, in which the cognitively taxing activity of scrolling reduces consumers' capacity to rationally evaluate purchasing decisions (Hughes et al., 2024). These findings are supported by research by Hughes et al. (2024), which found that excessive screen time is consistently correlated with impulsive tendencies.

The positive and significant influence of digital ads on impulsive buying supports the findings of Shareef et al. (2019) and Barta et al. (2023). Personalized digital ads operate through peripheral route processing, which leverages visual appeal and emotional relevance to evoke a spontaneous desire to buy. Specifically, within the context of the TikTok platform—which dominated this study's sample (42.9%)—in-feed ads that blend seamlessly with organic content have proven highly effective in triggering affective responses and impulsive purchases (Barta et al., 2023).

Nevertheless, it should be noted that studies by Leong et al. (2020) and Redine et al. (2023) offer a critical perspective: not all digital exposure automatically drives impulsive buying; engagement levels and content relevance are key moderators that determine the magnitude of the effect. A limitation of this study is that it did not measure respondents' engagement levels with the content they viewed; thus, the homogeneity of the effect was assumed, even though it may vary in reality.

The finding of full mediation of impulsive buying along the doom scrolling → purchase decision pathway makes a significant theoretical contribution. This finding implies that doom scrolling per se does not directly drive purchase decisions; an intermediate psychological mechanism—the triggering of impulsivity—is required. This is consistent with the S-O-R (Stimulus-Organism-Response) model, which positions internal psychological states as mediators between external stimuli (doom scrolling) and behavioral responses (purchase decisions) (Mehrabian & Russell, 1974). The finding of partial mediation in the digital advertising → purchasing decision pathway, on the other hand, indicates that digital advertising has the ability to influence purchasing decisions through both the affective-impulsive and cognitive-rational pathways simultaneously.

The significant and negative moderating role of self-control supports self-regulation theory (Baumeister, 2002) and the findings of Nyrhinen et al. (2022). Individuals with high self-control are better able to activate the cognitive braking mechanism, which prevents the conversion of purchasing impulses into actual purchasing actions. These findings have important practical implications: interventions to enhance consumer self-control—for example, through financial and digital literacy programs—have the potential to effectively reduce the negative impacts of impulsive consumption behavior triggered by social media use.

It is important to note that Nyrhinen et al. (2022) provide a more in-depth perspective on the role of self-control; under certain conditions, individuals with high self-control actually allow themselves to make impulsive purchases as a reward for their previous self-control efforts. This phenomenon of moral licensing was not detected in this study, likely because the cross-sectional survey design was unable to measure the temporal dynamics of self-control over a specific period.

4. Conclusion

Based on the results of the data analysis and the discussion, several conclusions can be drawn. First, doom scrolling has a positive and significant effect on impulsive buying among social media users ($\beta = 0.341$; $p < 0.001$), proving that excessive content scrolling is one of the main drivers of impulsive buying tendencies. Second, digital advertising has a positive and significant effect on impulsive buying ($\beta = 0.284$; $p < 0.001$), confirming the effectiveness of personalized ads in triggering affective purchasing responses. Third, impulsive buying has a positive and highly significant effect on purchase decisions ($\beta = 0.483$; $p < 0.001$), making it the strongest predictor in the model. Fourth, impulsive buying fully mediates the relationship between doom scrolling and purchase decisions, indicating that the mechanism of impulsivity is an indispensable psychological pathway in the transmission of doom scrolling's influence on purchase decisions. Fifth, impulsive buying partially mediates the relationship between digital advertising and purchase decisions, suggesting that digital advertising operates through two influence pathways simultaneously—the affective and cognitive pathways. Sixth, self-control was found to significantly and negatively moderate the relationship between impulsive buying and purchase decisions ($B = -0.043$; $p = 0.026$), such that the higher an individual's self-control, the weaker the influence of impulsive buying on purchase decisions.

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