The Fifth International Conference on Government Education Management and Tourism
(ICOGEMT-5)
Bandung, Indonesia, January, 24th, 2026

THE INFLUENCE OF SOCIAL MEDIA ALGORITHMS (TIKTOK, INSTAGRAM, YOUTUBE) ON CONSUMPTION BEHAVIOR AND BRAND LOYALTY OF GENERATION Z

[1]Nabila Eka Septiawati,[2]Fitri Laisa,[3]Mira, [4]Vivy Kristinae
[5]Berta Margareta Agustin Wijaya

[1,2,3]Jurusan Manajemen, Fakultas Ekonomi dan Bisnis, Universitas Palangka Raya
Palangka Raya, Indonesia
[4,5]Fakultas Ekonomi dan Bisnis, Universitas Palangka Raya
Palangka Raya, Indonesia

Authors' email:
[1]nabilaeka625@gmail.com; [2]fitrilaisa201@gmail.com; [3]mirandaaa479@gmail.com [4]vivykristinae84@gmail.com;
[5]berta.margaretaagustinwijaya@feb.upr.ac.id

**Corresponding author: nabilaeka625@gmail.com*

Abstract. *The development of social media platforms such as TikTok, Instagram, and YouTube has introduced algorithms that can personalize content based on user preferences. Generation Z is the group most affected by these digital recommendations, leading to changes in consumption behavior and brand loyalty. This study aims to analyze the influence of social media algorithms on Generation Z's consumption behavior and brand loyalty. The research method used a quantitative approach with a survey technique, involving 50 respondents selected using purposive sampling. The research instrument consisted of an online questionnaire with a total of 11 statements based on the indicator variables of social media algorithms, consumption behavior, and brand loyalty. Data analysis was conducted using validity and reliability tests, classical assumption tests, linear regression tests, t-tests, and F-tests. The results show that social media algorithms have a positive and significant effect on consumption behavior and brand loyalty among Generation Z. The influence on consumption behavior is stronger than on brand loyalty, with R-square values of 25.2% and 15.2%, respectively. This finding confirms that algorithmic social media is more effective in triggering short-term consumption behavior, but still contributes to building brand loyalty among younger users.*

Keywords: *Brand Loyalty; Consumer Behavior; Generation Z; Social Media Algorithms.*

1. INTRODUCTION

The development of information and communication technology has made social media a central pillar of modern social, economic, and marketing interactions. This digital disruption has transformed the way consumers receive information and make purchasing decisions. Social media is no longer simply a communication tool but has evolved into a hub of market influence where brands and products are introduced directly and tailored to user preferences. This change is particularly pronounced among Generation Z, the digital native group that uses the digital space most intensively. For Gen Z, platforms like Instagram, YouTube, and TikTok serve as sources of information, entertainment, and even lifestyle references, so their consumption patterns are heavily influenced by the content they view.

The primary power of social media in shaping consumption behavior lies in the algorithms behind each platform. Algorithms personalize content based on user activity—from views, likes, comments, to watch duration—creating a "filter bubble" that continuously exposes users to content tailored to their interests. This makes Gen Z more susceptible to viral trends, product recommendations, and consumer behaviors like impulse buying and the Fear of Missing Out (FOMO).

From a practical perspective, changing Gen Z behaviors are driving companies to adapt their marketing strategies through collaboration with digital influencers and content creation that aligns with trends and algorithmic platforms. Gen Z brand loyalty is also becoming more dynamic, influenced by personalized digital experiences. Academically, there has been a wealth of research on social media marketing. However, research specifically examining how

algorithmic platforms like TikTok, Instagram, and YouTube influence Gen Z's consumption behavior and brand loyalty remains limited.

Therefore, this research is crucial to analyze the role of social media algorithms in shaping Generation Z's consumption behavior and brand loyalty, both separately and simultaneously, to fill this remaining research gap.

2. LITERATURE REVIEW

2.1 Digital Disruption and Social Media Transformation

The development of digital technology has changed the way humans interact, access information, and conduct economic activities. Social media has evolved into a strategic marketing channel in the digital era. Tuten and Solomon (2021) explain that social media functions as an interactive marketing channel enabling brands to increase engagement, build relationships, and create dynamic experiences for consumers through visual content and digital interactions. This transformation positions social media beyond interpersonal communication roles, developing into an economic platform that accelerates information flow and shapes consumer tendencies and choices.

2.2 Generation Z as Dominant Social Media Users

Generation Z is the group that uses social media most intensively compared to other generations. Pew Research Center (2022) shows that adolescents and young adults belonging to Gen Z use platforms such as TikTok, Instagram, and YouTube most frequently, positioning them the group with the highest exposure to digital marketing content. According to Yadav and Rai (2017), this group leverages social media not only for entertainment but also for social interaction, lifestyle inspiration, identity formation, and emotional needs fulfillment. Dependence on social media makes Gen Z very responsive to trends and recommendations rapidly spread through the digital environment.

2.3 Social Media Algorithms and Content Personalization

Algorithms are the core experience of social media. Fardoun, Alghazzawi, and Al Hammadi (2018) explain that algorithms utilize user behavior data, such as watch duration, search history, responses, and interaction patterns, to serve the most relevant content. This process creates a filter bubble, a condition where users mostly see content aligned with their preferences. The concept was first introduced by Pariser (2011), stating that algorithm personalization on digital platforms potentially limits information diversity received by users. In his latest publications and interviews (2021), Pariser emphasized that algorithms increasingly strengthen the formation of narrow information spaces, where users tend to be locked into certain mindsets and interests. For Gen Z, this personalization has significant impacts. McCain and Campbell (2018) show that repeated exposure to content deemed relevant by algorithms can increase impulsive buying tendencies and trigger the fear of missing out (FOMO) phenomenon, especially on platforms prioritizing visual content.

2.4 Impact of Social Media on Consumer Behavior

Various empirical research show that social media substantially influences consumer behavior. According to Kim and Ko (2012), interactivity, visual strength, and digital experience offered by social media contribute to increased consumer experiential value, which subsequently affects purchase intention. From the social commerce perspective, Hajli (2018) states that user interaction, online trust, and computer-based recommendations play important roles in encouraging purchase decisions. Digitally shared information—especially from fellow users or influencers—is often more persuasive than traditional promotions.

2.5 Brand Loyalty in the Digital Era

Brand loyalty is classically explained through three main stages: cognitive, affective, and conative (Oliver, 1999), covering the formation of beliefs about brand quality, emotional attachment, and

consumer commitment to repurchase. In the digital context, brand loyalty is influenced by the level of content authenticity presented. Gensler, Völckner, Liu-Thompkins, and Wiertz (2013) state that social media plays a crucial role in creating authenticity perceptions, especially through natural and consistent content, including user-generated content. Additionally, Lorache, Habibi, Richard, and Sankaranarayanan (2012) show that interactions within online brand communities can strengthen emotional bonds and increase loyalty. Continuous exposure to brand content recommended by algorithms can accelerate loyalty formation, especially among Gen Z who are highly active on social media.

3. RESEARCH METHODS

The selection of an appropriate research method is the essence of a study. This research applied a quantitative approach because this method allows the researcher to objectively test relationships among variables by collecting numerical data and performing statistical analysis. Creswell (2014) explains that the quantitative approach is oriented toward theory testing by using empirically measurable variables through statistical analysis to explain research phenomena. Therefore, this approach was considered suitable to analyze the effect of social media algorithms (X) on consumer behavior (Y_1) and brand loyalty (Y_2) among Generation Z. This research involved three main variables:

a. Independent Variable (X): Social Media Algorithm
b. Dependent Variable (Y_1): Consumer Behavior
c. Dependent Variable (Y_2): Brand Loyalty

The indicators for each variable are as follows:

Table 1. Indikator Variabel

No	Variabel	Definisi Variabel	Indikator
1.	Social Media Algorithm	Digital mechanisms regulating the content displayed to users based on their activity, preferences, and interactions on social media platforms.	1. Content personalization 2. Product recommendations 3. Repeated ad exposure 4. Ease of product discovery
2.	Consumer Behavior	Individual actions and decisions in searching for, selecting, and purchasing products online	1. Frequency of online shopping 2. Impulsive buying 3. Interest in viral products 4. Response to promotional content
3.	Brand Loyalty	Consumer commitment to repurchase and remain loyal to a brand despite available alternatives.	1. Repurchase behavior 2. Willingness to recommend 3. Preference for one brand 4. Consistency in choice

Source: Processed by researcher

A survey technique was used to collect data, as it allows gathering information from a relatively large number of respondents in a short time and captures perceptual data effectively.

Yin (2018) explains that online surveys are efficient data collection methods, especially when researchers deal with geographically dispersed populations. This design was selected because it aligns with the characteristics of Generation Z, who are accustomed to digital technology.

The research was conducted in Indonesia through an online survey without requiring a specific physical location. Data collection lasted 14 days from November 13, 2025, to November 27, 2025. The population comprised Indonesian individuals categorized as Generation Z who have experience using social media and making online purchases. The sampling technique was purposive sampling, selecting samples based on specific criteria deemed able to provide relevant data. This technique refers to Miles & Huberman's (2014) view that purposive sampling allows selecting participants who have a thorough understanding of the researched phenomenon.

The study involved 50 respondents aged between 15 and 27 years, actively using social media in the last three months, and having made at least one online purchase during that period. These respondents were considered capable of providing accurate information regarding digital consumption behavior.

The data collection instrument was an online questionnaire developed based on the indicators of each research variable. The questionnaire was distributed via Google Form through digital platforms such as Instagram, WhatsApp, and Telegram. All statements were measured using a five-point Likert scale ranging from 1 "strongly disagree" to 5 "strongly agree." This scale was selected because it is easy for respondents to understand and allows comprehensive statistical interpretation.

After data collection, the researcher conducted data screening and processing, including editing to check for completeness, coding to classify responses numerically, and data entry into SPSS software. Data cleaning was performed to ensure no duplications, input errors, or outliers that could disrupt analysis results.

Data analysis employed multiple linear regression to determine the extent of the influence of the independent variable, social media algorithm, on the two dependent variables: consumer behavior and brand loyalty. Before conducting regression, validity and reliability tests, as well as classical assumption tests—normality, linearity, multicollinearity, and heteroscedasticity—were carried out to ensure the statistical model's feasibility prior to interpreting results. Final analysis used SPSS outputs such as ANOVA, coefficients, and model summaries to evaluate relationship strength, significance, and effect size among variables. The questionnaire items used in this research are as follows:

Table 2. Kuisioner Pernyataan

No	Pertanyaan	SD	D	N	A	SA
1	Content appearing on the "For You Page" (FYP) or "Explore" often prompts me to seek more information about the product.					
2	I am more easily influenced to buy products frequently recommended repeatedly by social media algorithms.					
3	I find the personalized recommendations by algorithms very relevant to my current needs and interests.					
4	If I see an interesting product on social media, I tend to make a purchase decision within 24 hours.					
5	I prioritize buying goods because of the emotional appeal created by the content, even if the product is not my priority need.					
6	Content highlighting limited-edition or sold-out products makes me panic and want to buy					

	immediately.					
7	When viewing product content, I focus more on lifestyle or story presented rather than product technical features.					
8	I often feel compelled to buy a product after its content evokes joy, curiosity, or admiration in me.					
9	I actively recommend a brand to friends or family because of its interesting social media content.					
10	Even if cheaper offers exist, I still choose to buy from this brand.					
11	I believe the product information I get from this brand's social media content is accurate and not exaggerated.					

4. RESULTS AND DISCUSSION

The development of social media in recent years has brought significant changes in the patterns of interaction and consumption behavior of society. Exposure to digital content regulated by algorithms makes the information received by users increasingly personal, targeted, and aligned with their individual preferences. This condition makes social media not only a communication space but also a strategic marketing channel capable of influencing purchasing decisions and shaping consumer loyalty to a brand. This phenomenon is important to study because social media algorithms work dynamically to filter and display content that potentially increases consumer interest through repeated exposure.

The data analysis was conducted using a quantitative approach with the assistance of the Statistical Package for the Social Sciences (SPSS) software, ensuring that the results could be presented objectively and measurably. The presentation of results includes respondent profiles, instrument tests, classical assumption tests, and hypothesis testing through regression analysis.

4.1 Respondent Profile

This research involved 50 respondents selected using purposive sampling based on criteria that they are active social media users who have made purchases influenced by digital content. According to demographic characteristics, the majority of respondents were female, totaling 45 individuals (90%), and male respondents were 5 individuals (10%). This indicates that women have a higher level of engagement in digital consumption.

In terms of age, respondents ranged from 15 to 27 years old, with the majority in the 18 to 21 age category, which is part of Generation Z—the most active and responsive group to digital content on social media. Regarding occupation, 37 respondents (74%) were university students, 6 respondents (12%) were high school students, and the remaining 14% were workers in various sectors, such as teachers, cashiers, administrative staff, and service workers.

There was also regional diversity, with the majority of respondents residing in Palangka Raya city, while others came from cities such as Banjarmasin, Semarang, Jakarta, Muara Teweh, and South Tangerang. This shows that although respondents come from different regions, their consumption behavior patterns are similar. Overall, the respondent profile reflects an active, technologically adaptive digital consumer group relevant for illustrating consumer behavior phenomena in the digital era.

4.2 Questionnaire Instrument Test

4.2.1 Validity Test

The validity test is used to determine the accuracy level of the questionnaire items in measuring the intended research variables. An instrument is considered valid if the correlation

value between each item and the total score is greater than the r-table value at a certain significance level. The following are the validity test results for each statement item.

Table 3. Validity Test Results

No	Item	r count	r table	Description
1	X.1	0,715	0,279	VALID
2	X.2	0,877	0,279	VALID
3	X.3	0,801	0,279	VALID
4	Y_1.1	0,679	0,279	VALID
5	Y_1.2	0,761	0,279	VALID
6	Y_1.3	0,711	0,279	VALID
7	Y_1.4	0,581	0,279	VALID
8	Y_1.5	0,780	0,279	VALID
9	Y_2.1	0,722	0,279	VALID
10	Y_2.2	0,725	0,279	VALID
11	Y_2.3	0,817	0,279	VALID

Source: processed by the researcher

Based on the calculations, the r-table value was determined at a 5% significance level with degrees of freedom (df) of 50-2=48, resulting in a value of 0.279. The test results show that all items for the variables Social Media Algorithm (X), Consumption Behavior (Y_1), and Brand Loyalty (Y_2) have r-count values greater than the r-table value (r-count > 0.279) and significance values less than 0.05. Therefore, all items are declared valid.

4.2.1 Reliability Test

The reliability test is used to determine the consistency level of the research instrument, that is, the extent to which the questionnaire can produce stable and trustworthy data when used under relatively similar conditions. A reliable instrument indicates that respondents provide consistent answers without extreme variations. The reliability test is conducted using the Cronbach's Alpha coefficient, with the criteria that an instrument is considered reliable if the Cronbach's Alpha value is greater than 0.60.

Table 4. Reliability Test Results

Variabel	Croncbach's Alpha	N of items	d Description
Social Media Algorithm (X)	0,718	3	Reliable
Consumption Behavior (Y_1)	0,744	5	Reliable
Brand Loyalty (Y_2)	0,613	3	Reliable

Source: processed by the researcher

Based on the test results, all variables in this research have Cronbach's Alpha values above 0.60, specifically (0.718 > 0.60), (0.744 > 0.60), and (0.613 > 0.60), indicating that the research instruments are reliable and suitable for further data analysis. Therefore, the questionnaire used in this research is capable of measuring the variables Social Media Algorithm (X), Consumption Behavior (Y_1), and Brand Loyalty (Y_2).

4.3 Classical Assumption Test

4.3.1 Normality Test

The normality test aims to determine whether the research data have a normal distribution,

making them suitable for analysis using parametric statistical techniques, such as linear regression. Data are considered normally distributed if the skewness and kurtosis values fall within the range of -1.96 to +1.96. In this research, the normality test was conducted by analyzing the ratio between the skewness and kurtosis values and their respective standard errors (SE).

Table 5. Normality Test Results

Variabel	N	Skewness		Kurtosis	
		Statistic	Std. Error	Statistic	Std. Error
X dan Y_1	50	-0,073	0,337	-0,079	0,662
		0,217		0,119	
X dan Y_2	50	0,308	0,337	-0,295	0,662
		0,914		-0,446	

Source: processed by the researcher

Based on the normality test calculations in this research, the skewness and kurtosis ratios for variables X and Y_1 are 0.217 and 0.119, respectively. For variables X and Y_2, the skewness and kurtosis ratios are 0.914 and -0.446, respectively. All ratio values fall within the required range of -1.96 to +1.96, thus it can be concluded that the data are normally distributed.

5. Linearity Test

The linearity test is used to ensure that the relationship between the independent variable and the dependent variable forms a linear pattern, making it suitable for analysis using linear regression. In this research, the linearity test was conducted by analyzing the significance value in the Deviation from Linearity section of the ANOVA table. The testing criterion states that the relationship between variables can be considered linear if the significance value of the Deviation from Linearity is greater than 0.05 (Sig. > 0.05), indicating no significant deviation from the linear pattern.

Table 6. Linearity Test Results

Variabel X dan Y_1	Sig.
Deviation from Linearity	0,253

Variabel X dan Y_2	Sig.
Deviation from Linearity	0,293

Source: processed by the researcher

Based on the test results, the relationship between the Social Media Algorithm variable (X) and Consumption Behavior (Y_1) shows a significance value greater than 0.05, specifically 0.253 > 0.05. This indicates that the relationship between X and Y_1 is linear and meets the assumptions for linear regression. Furthermore, the relationship between Social Media Algorithm (X) and Brand Loyalty (Y_2) shows a significance value of 0.293 > 0.05, thus it can be concluded that the relationship between these two variables is linear.

6. Multicollinearity Test

The multicollinearity test is conducted to ensure there is no high correlation among the independent variables in the regression model. The presence of multicollinearity can cause instability in regression coefficients, increased standard errors, and reduced accuracy in interpreting the analysis results. A good regression model requires no strong linear relationship

between independent variables so that the effect of each variable on the dependent variable can be analyzed independently. The multicollinearity test is performed by examining the Tolerance and Variance Inflation Factor (VIF) values in the regression output. A model is considered free from multicollinearity if the Tolerance value is greater than 0.10 and the VIF value is less than 10.

Table 7. Multicollinearity Test Results

Variabel	Telorance	VIF
X dan Y_1	1,000	1,000
X dan Y_2	1,000	1,000

Source: processed by the researcher

Based on the multicollinearity test results in this research, the Tolerance value was 1.000 and the Variance Inflation Factor (VIF) value was 1.000 for all tested regression models. These values meet the decision criteria, namely Tolerance > 0.10 and VIF < 10, thus it can be concluded that there is no indication of multicollinearity between the Social Media Algorithm variable (X) and Consumption Behavior (Y_1) and Brand Loyalty (Y_2).

7. Heteroscedasticity Test

The heteroscedasticity test is conducted to determine whether there is inequality of residual variance in the regression model. A good regression model requires no signs of heteroscedasticity, because if the residual variance is not constant, the estimation of regression coefficients can become biased and the interpretation of results less accurate. In this study, the heteroscedasticity test was performed using the Glejser test approach by observing the significance values in the residual regression results. The decision criterion states that if the significance value is greater than 0.05, it can be concluded that there is no heteroscedasticity in the model.

Table 8. Heteroscedasticity Test Results

Variabel	Sig.
X dan Y_1	0,669
X dan Y_2	0,332

Source: processed by the researcher

Based on the test results, the Social Media Algorithm variable (X) in relation to Consumption Behavior (Y_1) shows a significance value of 0.669 > 0.05. This indicates that the independent variable does not influence the absolute residual values, so the model is declared free from heteroscedasticity. Meanwhile, the relationship between Social Media Algorithm (X) and Brand Loyalty (Y_2) has a significance value of 0.332 > 0.05, confirming that there is no significant disparity in residual variance.

8. Regression Analysis

4.4.1 Regression Equation

Linear regression analysis is used to determine the direction and magnitude of the influence of the independent variable on the dependent variable through a mathematical regression equation. This regression model explains the changes that occur in the dependent variable when the independent variable increases by one unit. The regression equations obtained from data processing in this research illustrate the relationship between the Social Media Algorithm (X) and two variables: Consumption Behavior (Y_1) and Brand Loyalty (Y_2).

Table 9. Regression Equation Results

X and Y_1

Model	Unstandardized Coefficients	
	B	**Std. Error**
(Constant)	4,583	2,081
Social Media(X)	0,805	0,200

X and Y_2

Model	Unstandardized Coefficients	
	B	**Std. Error**
(Constant)	6,631	1,083
Social Media (X)	0,305	0,104

Source: processed by the researcher

Based on the analysis results, the regression equation for the first model is as follows:

$$Y_1 = 4.583 + 0.805X + e$$

This equation indicates that if the Social Media Algorithm variable (X) increases by one unit, then Consumption Behavior (Y_1) will increase by 0.805 units. The positive regression coefficient shows that the higher the influence of social media algorithms on users, the more the tendency for consumption behavior to increase. The constant value of 4.583 means that when the Social Media Algorithm (X) equals zero (0), the baseline level of Consumption Behavior (Y_1) is 4.583.

Furthermore, for the model relating Social Media Algorithm (X) and Brand Loyalty (Y_2), the regression equation is:

$$Y_2 = 6.631 + 0.305X + e$$

This equation shows that for every one-unit increase in the Social Media Algorithm (X), Brand Loyalty (Y_2) increases by 0.305 units. The positive regression coefficient indicates a positive influence, but with a relatively smaller magnitude compared to the influence of X on Y_1. This suggests that although social media algorithms contribute to building brand loyalty, their impact is not as strong as their effect on consumption behavior. The constant value of 6.631 represents the baseline level of brand loyalty when the variable X equals zero (0).

Overall, the regression analysis results indicate that the Social Media Algorithm variable (X) positively influences both dependent variables, but the effect is stronger on Consumption Behavior (Y_1) than on Brand Loyalty (Y_2). This suggests that social media algorithms are more effective in encouraging consumptive actions than in fostering emotional attachment and long-term commitment to a brand.

4.4.1 Coefficient of Determination Test (R Square)

The coefficient of determination test (R Square) is used to measure how much the independent variable can explain the variation in the dependent variable. The R Square value reflects the proportion of the influence of the independent variable on the dependent variable within the regression model. The higher the R Square value, the stronger the model's ability to explain the studied phenomenon, while a lower R Square indicates the presence of other variables outside the

model that contribute to the dependent variable.

Table 10. R Square Test Results

Item	R	R Square	Adjusted R Square	Std. Error of the Estimate
X dan Y_1	0,502[a]	0,252	0,236	2,887
X dan Y_2	0,389[a]	0,152	0,134	1,502

Source: processed by the researcher

Based on the regression calculation results, the coefficient of determination (R Square) value is 0.252 for the model testing the effect of the Social Media Algorithm (X) on Consumption Behavior (Y_1). This means that the Social Media Algorithm variable explains 25.2% of the variation in Consumption Behavior, while the remaining 74.8% is influenced by other factors outside this research, such as promotions, product quality, market trends, and psychological factors of consumers.

Furthermore, the R Square value for the model relating the Social Media Algorithm to Brand Loyalty (Y_2) is 0.152, meaning that the Social Media Algorithm variable contributes 15.2% in explaining the variation in Brand Loyalty. The remaining 84.8% is influenced by variables not included in this study, such as user experience with the product, service quality, customer satisfaction, emotional attachment, and brand image.

Thus, the coefficient of determination test results show that the Social Media Algorithm has a stronger contribution in influencing Consumption Behavior compared to forming Brand Loyalty. This finding indicates that social media algorithms are more effective in encouraging short-term consumptive actions than in building long-term commitment and attachment to a brand.

4.4.1 Hypothesis Testing

Hypothesis testing was conducted to determine whether the Social Media Algorithm variable (X) truly influences Consumption Behavior (Y_1) and Brand Loyalty (Y_2), both partially (t-test) and simultaneously (F-test). This section directly follows the regression analysis, so the interpretation of the hypothesis tests reinforces the conclusions of the regression model presented in the previous subsection.

a. Partial Hypothesis

Test (t-test)The t-test, or partial test, is used to determine the individual influence of the independent variable on the dependent variable. The test is conducted by comparing the calculated t-value with the t-table value at a 5% significance level ($\alpha = 0.05$). Additionally, the significance value (Sig) is used as the basis for decision-making, where a variable is declared to have a significant effect if Sig < 0.05 or the calculated t-value is greater than the t-table value. In this research, the t-table value was determined at degrees of freedom (df) = 50-2 = 48, resulting in a value of 2.01063.

Table 11. t-test Results

X and Y1

Model	**Unstandardized Coefficients**		**Standardized Coefficients Beta**	**t**	**Sig.**
	B	**Std. Error**			
(Constant)	4,583	2,081		2,202	0,033
Social Media (X)	0,805	0,200	0,502	4,016	<0,001

X and Y_2

Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
	B	Std. Error			
(Constant)	6,631	1,083		6,124	<0,001
Social Media (X)	0,305	0,104	0,389	2,929	0,005

Source: processed by the researcher

Based on the first t-test, the calculated t-value was 4.016 with a significance level of < 0.001 in the model testing the effect of Social Media Algorithm (X) on Consumption Behavior (Y_1). The calculated t-value is greater than the t-table value (4.016 > 2.01063), and the significance value is much smaller than 0.05. Therefore, it can be concluded that the Social Media Algorithm variable (X) has a positive and significant influence on Consumption Behavior (Y_1). This means that the higher the influence of social media algorithms, the greater the tendency for consumptive behavior among users.

In the model testing the relationship between Social Media Algorithm (X) and Brand Loyalty (Y_2), the calculated t-value was 2.929 with a significance value of 0.005. This value is greater than the t-table (2.929 > 2.01063), and the significance is less than 0.05, indicating that the Social Media Algorithm (X) variable positively and significantly influences Brand Loyalty (Y_2). This finding shows that as users interact more frequently with content recommended by the algorithm, their attachment to a brand increases, although the effect is lower compared to its influence on Consumption Behavior.

Therefore, the overall results of the t-test confirm that the Social Media Algorithm variable (X) has a significant effect on both Consumption Behavior (Y_1) and Brand Loyalty (Y_2), but with different magnitudes of influence. Social media algorithms are proven to be more effective in driving consumptive actions than in building long-term loyalty to a brand.

a. Simultaneous Hypothesis Test (F-test)

The F-test, or simultaneous test, is used to determine whether the independent variables together have a significant influence on the dependent variable in the regression model. The test is conducted by comparing the calculated F-value with the F-table value at a 5% significance level (α = 0.05). Additionally, the significance value (Sig) is used as the basis for decision-making, where a model is declared significant if Sig < 0.05 or the calculated F-value is greater than the F-table value. In this research, the F-table value was determined to be 4.04.

Table 12. F-test Results

Item	Model	F
X dan Y1	Regression	16,129
X dan Y2	Regression	8,576

Source: processed by the researcher

Based on the F-test results for the first regression model testing the influence of the Social Media Algorithm (X) on Consumption Behavior (Y1), the calculated F-value was 16.129 with a significance value of < 0.001. This value is greater than the F-table value (16.129 > 4.04), so it can be concluded that the regression model is significant. Therefore, the Social Media Algorithm (X) simultaneously has a significant influence on Consumption Behavior (Y1).

Furthermore, in the second regression model, the calculated F-value was 8.576 with a significance value of < 0.001. This value is also greater than the F-table (8.576 > 4.04), indicating that the second regression model is significant. This means the Social Media Algorithm (X) variable simultaneously influences Brand Loyalty (Y2) significantly.

Thus, the overall F-test results show that the regression models used in this research are suitable for hypothesis testing and reliable in explaining the influence of independent variables

on dependent variables. These results also reinforce the partial or t-test findings, confirming that the Social Media Algorithm plays an important role in influencing Consumption Behavior and the formation of Brand Loyalty among respondents.

CONCLUSION.

The research confirms that social media algorithms significantly influence consumption behavior and brand loyalty among Generation Z, with distinct characteristics for each aspect. The impact of algorithms on consumption behavior is clearly evident through exposure to highly personalized content and frequent product recommendations on platforms like TikTok, Instagram, and YouTube. This condition encourages increased consumer behavior, including impulse purchases and enthusiasm for viral products, supported by a t-value of 4.016 and a 25.2% contribution from the algorithm to the variation in consumption behavior. Meanwhile, the effect on brand loyalty is also positive and significant but relatively smaller in effect size. Brand loyalty is formed through trust in digital information and the consistency of the recommendation content provided by the algorithm, supported by a t-value of 2.929 and a 15.2% contribution from the algorithm.

Furthermore, social media algorithms proved more effective in driving short-term consumption responses than in building long-term emotional bonds with brands. This suggests that while algorithms can strengthen loyalty, their primary impact is seen in accelerating instant or impulsive purchasing behavior. The regression analysis used in this study is valid and reliable, supported by classical assumption tests such as normality, linearity, multicollinearity, and heteroscedasticity, which meet the criteria, as well as an F-test that demonstrates the overall significance of the model.

Overall, these findings illustrate that social media algorithms are a crucial strategic factor capable of influencing consumption patterns and brand loyalty among Generation Z. Therefore, companies must optimize the use of algorithms and develop digital content strategies that sustainably maintain consumer interest, trust, and engagement, creating relevant and engaging digital experiences while strengthening the brand's position in the market.

REFERENCES

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage Publications.

Fardoun, H. M., Alghazzawi, D. M., & Al Hammadi, H. S. (2018). Algoritma media sosial dan personalisasi konten. *Jurnal Teknologi Informasi*.

Gensler, S., Völckner, F., Liu-Thompkins, Y., & Wiertz, C. (2013). Managing brands in the social media environment. *Journal of Interactive Marketing, 27*(4), 242-256. https://doi.org/10.1016/j.intmar.2013.07.004

Hajli, N. (2018). The role of social support on relationship quality and social commerce. *Technological Forecasting and Social Change, 87*, 17-27. https://doi.org/10.1016/j.techfore.2014.05.012

Kim, A. J., & Ko, E. (2012). Do social media marketing activities enhance customer equity? An empirical study of luxury fashion brand. *Journal of Business Research, 65*(10), 1480-1486. https://doi.org/10.1016/j.jbusres.2011.10.014

Miles, M. B., & Huberman, A. M. (2014). *Qualitative data analysis: An expanded sourcebook* (2nd ed.). Sage.

Oliver, R. L. (1999). Whence consumer loyalty? *Journal of Marketing, 63*(4_suppl1), 33-44. https://doi.org/10.1177/00222429990634s106

Pariser, E. (2011). *The filter bubble: What the internet is hiding from you*. Penguin Press.pen.docx

Pew Research Center. (2022). *Teens, social media and technology 2022*. https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/

Tuten, T. L., & Solomon, M. R. (2021). *Social media marketing* (3rd ed.). Sage.pen.docx

Yadav, M., & Rai, A. (2017). Understanding Gen Z consumer behavior in digital era. *Journal of Consumer Marketing*.

Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). Sage.