

The Influence of Social Media on Student Learning Behavior and Its Effects on Academic Achievement

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Abstract—The advancement of digital technology, particularly social media, has significantly transformed students' learning behavior. The rapid digital transformation has significantly reshaped higher education, particularly in how students engage with academic content. This study aims to examine how social media usage influences students' learning behavior and its impact on academic performance, using a case study at the Institute of Science and Business (ISB) Atma Luhur. A descriptive quantitative approach was adopted, involving 150 students from various study programs. Data was collected through an online questionnaire covering the frequency of social media usage, types of learning activities conducted via social platforms, and students' Grade Point Averages (GPA). The results reveal a significant shift in students' learning patterns, where platforms like WhatsApp, YouTube, and Instagram are utilized for sharing materials, group discussions, and seeking references. However, uncontrolled use negatively affects concentration and time management. Regression analysis shows a moderate positive correlation between academic-oriented social media use and improved performance, while excessive non-academic use correlates negatively with achievement. These findings highlight the importance of digital literacy and time management in optimizing the educational benefits of social media. The study recommends institutional policies that promote productive social media use and digital learning skill development among students. The results of this study obtained an R value of 0.456. This shows that 45.6% has an influence on the use of social media on student learning behavior and its impact on academic achievement, the remaining 54.4% is influenced by other factors not included in this research model.

Keywords—learning behavior, social media, academic performance, ISB Atma Luhur, digital era.

I. INTRODUCTION

The rapid advancement of information technology over the past two decades has reshaped many aspects of life, including the way students learn and interact within the academic environment. One of the most prominent phenomena is the emergence of social media as an inseparable part of student life. Platforms such as Instagram, WhatsApp, Telegram, YouTube, and TikTok are not only sources of entertainment **but also** sources of informal learning that are flexible and easily accessible. This digital era has not only introduced new technologies but also shifted the learning paradigm toward a

more open, collaborative, and online-based model[1].

ISB Atma Luhur, a science and business-based higher education institution located in Pangkalpinang, Bangka Belitung, has also undergone this transformation. Its students come from diverse backgrounds with relatively high access to digital technology, making social media a natural part of their academic lives. However, the extent to which social media use influences students' learning behaviors and academic performance remains an important issue to be examined further[2].

The shift in learning behavior driven by social media may bring both positive and negative impacts. On the one hand, it facilitates access to information, enhances collaboration, and provides inclusive discussion spaces. On the other hand, it also increases the risk of distraction, misinformation, and procrastination. Therefore, a comprehensive understanding of how students adapt to social media in their learning process is necessary for scientific exploration[3].

Learning behavior in the social media era is characterized by a shift from one-way instruction (teacher to student) toward more interactive, two-way communication. Students can access additional information outside the classroom, engage in asynchronous discussions, and consume learning content in the form of videos or infographics. However, this behavior is also vulnerable to multitasking and lack of focus due to constant notifications and non-academic content[4].

Academic achievement is a key indicator of the success of the learning process. As such, changes in learning methods are likely to influence the quality of student outcomes[5]. Previous studies have found that excessive non-academic social media use negatively correlates with students' Grade Point Averages (GPA). In contrast, strategic academic use of social media can enhance comprehension and active participation.

To date, research on the relationship between learning behavior and social media is mostly conducted in generalized contexts. Studies focusing on local institutions such as regional campuses are still limited. This study at ISB Atma Luhur makes a valuable contribution by exploring the dynamics of student learning in a non-metropolitan setting that is also undergoing digital acceleration[6].

This research aims to analyze the transformation of learning behavior among ISB Atma Luhur students in relation to social media usage and assess its impact on academic achievement. The focus includes identifying usage patterns, types of academic-related activities conducted on social media, and their influence on students' academic results. Data was collected through questionnaires and analyzed using a quantitative approach.

The findings of this study are expected to provide insights for university administrators, lecturers, and students regarding the strategic use of social media in academic settings. Moreover, it may serve as a foundation for policy development that is responsive to evolving learning behaviors in the digital era.

II. LITERATUR REVIEW

A. Digital Technology

The development of has significantly transformed the learning behavior of university students. One of the most noticeable changes is the increasing use of social media in academic activities. Platforms such as WhatsApp, YouTube, Instagram, Telegram, and TikTok are no longer used solely for entertainment or communication but have evolved into tools for accessing learning resources and informal academic discussions[7].

According to [7], students frequently use social media to access lecture materials, attend online supplementary classes, and collaborate on group assignments. This highlights the growing role of social media in modern education. However, its impact is not always positive. Uncontrolled or excessive usage may lead to distraction, procrastination, and a decline in learning quality[8].

B. Learning Behavior

This behavioral shift is closely linked to students' digital literacy. Those with strong digital competencies tend to use social media more effectively for academic purposes. In contrast, students with lower digital skills are more vulnerable to misinformation and distractions from non-academic content[9].

Several studies emphasize the importance of distinguishing between academic and non-academic use of social media. When used purposefully for learning, social media can enhance comprehension, increase engagement, and foster critical thinking. Conversely, entertainment-based use during study hours may negatively affect academic performance[10].

C. Social Media

Social media are internet-based platforms that enable users to create, share, and exchange information within virtual communities. In educational settings, social media offers new opportunities for collaborative learning, interactive discussions, and faster information dissemination. According to Susanti and Wijaya (2020), social media can be an effective learning tool if used with clear academic goals, such as sharing course materials, discussing assignments, or accessing additional learning resources[11].

Social media has become an integral part of students' lives,

not only socially but also academically. Platforms such as WhatsApp, YouTube, Telegram, and Instagram are now utilized as supportive tools for learning. According to research by Putri and Saputra (2021), students who use social media for academic purposes demonstrate higher classroom participation compared to those who primarily use it for entertainment[12].

In terms of academic achievement, wise use of social media can enhance material comprehension, accelerate collaboration, and broaden access to learning resources. However, several studies have also found that uncontrolled use of social media, particularly for non-academic activities, leads to decreased concentration and poor time management, which eventually negatively impact academic outcomes[13].

D. Academic Achievement

Academic achievement refers to the learning outcomes attained by students, typically measured through Grade Point Averages (GPA), exam scores, class participation, and competency mastery. It reflects the extent to which students have acquired the knowledge and skills outlined in the curriculum. argue that academic achievement is influenced by internal factors such as learning motivation and time management, as well as external factors like technological support in education[14].

E. Theoretical Framework

The transformation of student learning behavior in the digital era is heavily influenced by social media usage. Social media provides facilities such as instant communication, file sharing, online group discussions, and access to global learning resources.

According to Connectivism Theory, learning in the 21st century occurs through digital information networks, with social media being one of the main channels. Furthermore, Social Cognitive Theory highlights that learning behavior can be shaped through social interaction and observation, including interactions via social media.

Academic achievement reflects the learning outcomes measured through GPA or other academic scores. Based on Self-Regulated Learning Theory, students who manage their technology usage, including social media, productively are more likely to achieve better academic outcomes.

Thus, purposeful social media use can transform students' learning behavior into more adaptive and collaborative forms, eventually enhancing their academic achievement[15].

III. RESEARCH METHODOLOGY

Research methodology is a crucial part in determining the validity and reliability of scientific study[16]. In this research, a quantitative approach was chosen to understand the relationship between social media usage, the transformation of learning behavior, and its impact on students' academic achievement.

A. Type of Research

The research was conducted Atma Luhur, Pangkalpinang. The subjects were active students from various study programs who regularly use social media in their daily academic and non-

academic activities.

B. Research Location and Subjects

The population consisted of all active students at ISB Atma Luhur during the current academic year. The sample was selected using a purposive sampling technique, targeting students who actively use social media for academic and non-academic purposes. The sample size aimed for this study is 150 respondents.

C. Operational Definition of Research

This variable is a definition based on what will be defined against observable or measurable properties.

1) Independent Variable

In Indonesian it is called an independent variable which means a variable that influences or causes its change[17]. This variable is often referred to as a stimulus, predictor and antecedent variable.

In this study, the independent variable is the variable of Social Media Use (X1) and the transformation of learning behavior (X2).

2) Dependent variable

Often referred to as output, criteria, and consequences. namely a variable that is influenced or that is the result of the independent variable[18]. The dependent variable in this study is academic achievement (Y).

TABLE I. OPERATIONAL DEFINITION OF RESEARCH

Variable	Operational Definition	Indicators	Scale
Social Media Usage (X1)	The intensity and purpose of students using social media platforms for academic and non-academic activities.	- Frequency of social media use - Purpose of use (academic/non-academic) - Daily usage duration	Likert Scale
Transformation of Learning Behavior (X2)	Changes in students' learning patterns due to social media use, including methods of accessing materials, discussion styles, and task completion.	- Online-based learning methods - Collaboration through social media - Adaptation to new learning resources	Likert Scale
Academic Achievement (Y)	Students' learning outcomes reflected through their GPA or average academic scores.	- Latest GPA - Academic test/assignment scores	Numeric Data

D. Populations and Sample

The population consisted of all active students at ISB Atma Luhur during the current academic year. The sample was selected using a purposive sampling technique, targeting students who actively use social media for academic and non-academic purposes. The sample size aimed at this study is 150 respondents.

E. Data Collection Techniques

Data were collected through an online questionnaire consisting of three sections: intensity of social media use, transformation of learning behavior, and academic achievement (measured by the latest GPA). The questionnaire utilized a

Likert scale ranging from 1 to 5 to assess respondents' levels of agreement with each statement[19].

F. Data Analysis Techniques

The collected data will be analyzed using simple linear regression analysis to examine the influence of social media use on academic achievement, with learning behavior transformation as an intervening variable. Prior to analysis, validity and reliability tests of the instruments will be conducted.

G. Research Instrument

The research instrument is a structured questionnaire that has been content-validated by experts in the fields of education and information technology.

H. Research Hypotheses

In this study there are 3 research hypotheses which can be seen below:

H1: Social media usage has a positive effect on the transformation of students' learning behavior.

H2: The transformation of learning behavior positively affects students' academic achievement.

H3: Social media usage indirectly influences academic achievement through the transformation of learning behavior as a mediating variable.

I. Conceptual Model

The conceptual model in this research can be described as below:

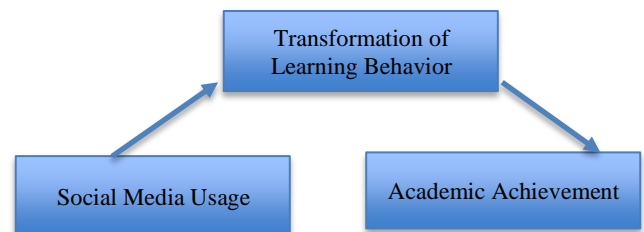


Fig. 1. Conceptual Model

IV. RESULTS AND DISCUSSION

A. Research Results

The findings of this study indicate that social media usage significantly influences the transformation of students' learning behavior. Most students use social media not only for social communication but also to support academic activities, such as sharing learning materials, participating in discussions, and accessing additional learning resources.

Data collected through questionnaires reveal that the intensity of academic-oriented social media use is positively correlated with changes in learning behavior. Students become more proactive in seeking information, more collaborative in group assignments, and more independent in managing learning resources. This suggests that social media has facilitated students' adaptation to digital learning models.

Moreover, the transformation of learning behavior positively impacts academic achievement. Students who utilize social media productively for academic purposes tend to

achieve higher GPA scores compared to those who primarily use social media for entertainment. Statistical analysis supports this finding, showing a positive and significant relationship between transformed learning behavior and academic performance.

Thus, it can be concluded that social media usage directed toward supporting the learning process has the potential to enhance students' adaptive and effective learning behaviors, ultimately contributing positively to their academic success.

1) Respondent Characteristics

Based on the results of the questionnaire distributed to students of the Atma Luhur Institute of Science and Business, the author obtained data on respondent characteristics consisting of respondent gender, respondent age, respondent level as follows:

- a.) *Gender: the number of respondents based on "gender" is 70 male respondents (46.66%) and 80 female respondents (53.33%).*
- b.) *Age: most respondents aged 18-20 years as many as 55 people (36.6%), respondents aged 21-23 years as many as 70 people (46.6%), respondents aged 24-26 years as many as 15 people (10%) and respondents aged >27 years as many as 10 people (6.67%). This shows that the dominant age of Instagram and WhatsApp users at the ISB Atma Luhur of Pangkalpinang is between 21 and 23 years.*
- c.) *Semester level: of the 150 respondents, the majority of respondents had a level IV background, there were 91 people (60.67%), respondents who had a level II background, there were 27 people (18%), respondents who had a level VI background, there were 18 people (12%), and respondents who had a level VIII background, there were 14 people (9.3%).*

B. Validity and Reliability Test

The validity and reliability tests were distributed to 20 operator respondents in elementary schools.

1) Validity Test

The data obtained from the collection of questionnaires, validity testing was carried out, the total score at a significant level of 0.05 with the Pearson Product Moment Correlation formula. The instrument can be said to be valid if it has a calculated r value $>$ r table. The r table value obtained is $df = n - 2$ ($150 - 2$) = 148, then the r table at number 148 Product Moment is 0.251.

TABLE II. VALIDITY TEST

variabl e	Statemen t	r_{count}	r_{table}	informat ion
social Media Usage (X1)	X1.1	0,412	0,251	Valid
	X1.2	0,333	0,251	Valid
	X1.3	0,515	0,251	Valid
	X1.4	0,626	0,251	Valid
	X1.5	0,438	0,251	Valid

Transfo rmation of Learnin g Behavi or (X2)	X2.1	0,859	0,251	Valid
	X2.2	0,859	0,251	Valid
	X2.3	8,859	0,251	Valid
	X2.4	0,355	0,251	Valid
	X2.5	0,610	0,251	Valid
Acade mic Achiev ement (Y)	X3.1	0,472	0,251	Valid
	X3.2	0,655	0,251	Valid

2) Reliability Test

Reliability Test is useful to show the consistency of measurement results when re-measurement is carried out on the same object[20]. Reliability measurement is carried out using Cronbach's Alpha. If the value of a variable has a Cronbach's Alpha $>$ 0.60 then the variable is said to be reliable.

TABLE III. RELIABILITY TEST

Variable	$R_{critical}$	Cronbach's Alpha	Alpha $>$ 0.251
Social Media Usage (X1)	0,60	0,805	Reliable
Transformation of Learning Behavior (X2)	0,60	0,713	Reliable
Academic Achievement (Y)	0,60	0,453	Reliable

From the table above, the alpha value after the reliability test is carried out is the value of variable X1 0.805, variable X2 0.713 and the value of variable Y is 0.453. The value obtained for all items is greater than 0.60 r -critical value. So, it can be stated that all items are reliable.

C. Multiple Linnear Regression Analysis Test

The multiple linear regression equation in this research is:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + e \quad (1)$$

1) Regression Coefficients and Significance

Based on the output table above, the value of a is 2.328 and the coefficient of the social media influence variable is 0.180. Thus, the regression equation can be determined as follows:

$$Y = 2,328 + 0,180$$

Model	Unstandardized Coefficients		Standardized Coefficients	t
	B	Std. Error	Beta	
1	(Constant)	2.328	.441	5.277
	Media sosial Instagram	.180	.025	.456

Fig. 2. Coefficient Regression Test

The interpretation of each variable, based on the simple linear regression results, is presented below:

- a.) The constant value (a) is 2.328, meaning that if

there is academic achievement at ISB Atma Luhur assumed to be zero (0), then the influence of social media is worth 2.328 units.

- b.) The regression coefficient value of academic achievement is 0.180. This means that the formation of academic achievement by one unit will increase the influence of social media by 0.180.

D. Correlation Coefficient

The correlation level is seen from the R value which is 0.456. This shows that the level of relationship between the independent variable and the dependent variable is moderate[21].

TABLE IV. GUIDELINES FOR CORRELATION COEFFICIENT VALUES

coefficient interval	Relationship Level
0,00	there is no correlation
>0,00 - 0,199	Very low
0,20 - 0,399	Low
0,40 - 0,599	Currently
0,60 - 0,799	Strong
0,80 - 0,999	Very strong
1,00	perfect correlation

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	2.328	.441		5.277
	Media sosial Instagram	.180	.025	.456	7.323

Fig. 3. Coefficient Regression Test

The analysis shows that the t-count is 4.356, while at a 5% significance level with 148 degrees of freedom, the t-table value is ± 1.976 . Since the t-count is greater than the t-table, H_0 is rejected and H_a is accepted, thus demonstrating that social media use has a significant impact on academic achievement among ISB Atma Luhur students.

E. Coefficient of Determination Test (R^2)

In this study, an R value of 0.456 was produced. As much as 45.6% of changes in students' academic achievement can be explained by the transformation of learning behavior due to the use of social media, while the remaining 54.4% is influenced by other factors not included in this research model.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.456 ^a	.208	.204	1.239

Fig. 4. Coefficient of Determination Test

The findings of this study indicate that social media usage significantly influences the transformation of students' learning behaviour. Most students use social media not only for social communication but also to support academic activities, such as sharing learning materials, participating in discussions, and accessing additional

learning resources[22].

Data collected through questionnaires reveal that the intensity of academic-oriented social media use is positively correlated with changes in learning behaviour[23][24]. Students become more proactive in seeking information, more collaborative in group assignments, and more independent in managing learning resources. This suggests that social media has facilitated students' adaptation to digital learning models.

Moreover, the transformation of learning behavior positively impacts academic achievement. Students who utilize social media productively for academic purposes tend to achieve higher GPA scores compared to those who primarily use social media for entertainment. Statistical analysis supports this finding, showing a positive and significant relationship between transformed learning behavior and academic performance[25].

Thus, it can be concluded that social media usage directed toward supporting the learning process has the potential to enhance students' adaptive and effective learning behaviors, ultimately contributing positively to their academic success.

V. CONCLUSION

Based on the results of the study, it can be concluded that social media usage positively influences the transformation of students' learning behaviour. Social media facilitates students in actively seeking information, collaborating, and developing independent learning patterns. This transformation of learning behaviour significantly impacts academic achievement, as reflected by the higher-Grade Point Averages (GPA) among students who use social media for academic purposes compared to those who primarily use it for entertainment.

This research confirms that social media, when used productively, can be an effective tool in supporting the learning process in the digital era. Adaptive learning behaviour emerges as a key factor in enhancing students' academic performance.

It is recommended that students use social media more purposefully, prioritizing academic content and limiting entertainment-related usage to maintain focus on their studies. Institutions should develop digital literacy programs that guide students in leveraging social media as an effective learning resource. It is suggested to broaden the scope of future research by considering additional factors such as learning motivation, individual learning styles, and the use of other digital platforms beyond social media.

The results of this study obtained an R value of 0.456. This shows that 45.6% has an influence on the use of social media on student learning behavior and its impact on academic achievement, the remaining 54.4% is influenced by other factors not included in this research model.

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