

A Model for Strengthening Learning Achievement Through an Approach to the Use of Social Media and Learning Motivation

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ABSTRACT

Purpose: Student learning achievement is the output of an educational institution. Achievement of learning achievement is determined by external and internal factors of students. Therefore, the learning achievement of each student varies. This phenomenon prompted this research to examine the influence of the use of social media as an external factor in learning achievement and learning motivation as an internal factor in learning achievement on learning achievement using empirical data.

Design/methodology/approach: The research was conducted on 146 cadets of the Semarang Maritime Science Polytechnic (PIP) which was carried out through interviews using a questionnaire. The data obtained was then analyzed using the Structural Equation Modeling (SEM) approach.

Findings: From the results of this research it can be proven that social media is statistically proven to have a significant positive effect on learning motivation and learning achievement and learning motivation is statistically proven to have a significant positive effect on learning achievement

Research limitations/implications: This research has not categorized internal and external factors.

Practical implications: Based on the results of this research, to improve student learning achievement, it can be done through two approaches. First, learning achievement can be improved by increasing students' learning motivation. The second approach to improving learning achievement is through the use or utilization of social media.

Originality/value: This research focuses on vocational education.

Paper type: Research Paper

Keyword: Social Media, Learning Motivation, Learning Achievement.

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I. INTRODUCTION

Based on a survey by the Asosiasi Penyelenggara Jasa Internet (APJII) (APJII) Indonesia in 2019, it was stated that in 2017 the penetration rate of internet users in Indonesia increased by around 8 percent to 143.26 million people, which is equivalent to 54.68 percent of the entire population in Indonesia. It turns out that in 2019, the penetration rate of internet users in Indonesia increased again by around 10.12 percent to 171.17 million people. This figure is equivalent to 64.8 percent of the entire population, namely 264 million people. The survey results show that the largest users are people aged 15 to 19 years. This means that children and teenagers are still the largest internet users since 2017, at which time the results (APJII Survey, 2017) stated that the penetration of internet users based on age, including those aged 13-18 years, was 75.50 percent.

This case of low learning achievement can be caused by various factors. In the journal Use of Social Media and its Impact on Academic Performance, Acheaw and Larson (2015) explain that, social media among students is increasingly popular, so that researchers from economists and professors continue to question whether student learning achievement can be affected by a lot of time spent students and high concentration in using social media.

One of the internal factors that influences student learning achievement is learning motivation. Motivation to learn is an impulse that comes from within or outside a person so that it can lead to learning activities. The role of motivation is very important to encourage students to obtain good achievement results. The existence of learning motivation can raise students' enthusiasm for learning which will ultimately achieve optimal learning achievement. However, during learning, each student's motivation for taking lessons is different. There are some students who have high enthusiasm for learning as shown by their enthusiasm for practicing typing, there are also those who have low motivation and complain when given assignments by the teacher.

Students are the output or product of an educational institution, the good and bad will be shown in their learning achievements, so that the input process from the educational institution itself (teachers, school environment, etc.) will greatly influence the student's own success process as the output. The problems with student achievement vary from students who are only able to get grades below the completion standard and have to do remedial work to fulfill graduation requirements, but it cannot be denied that there are also some students who actually achieve well. From the explanation that has been presented, the author wants to conduct a study on the influence of the use of social media on student learning motivation and student achievement.

II. METHODS

A. Population

The population used in this study was the cadets and cadets of the Semarang Maritime Science Polytechnic (PIP), totaling 827 people.

Table 1 Population Distribution

	<i>Nautical</i>	<i>Technica</i>	<i>KPN</i>	
<i>Cadet Level I</i>	81	88	102	
<i>Cadet Level II</i>	89	89	108	
<i>Cadet Level III</i>	87	81	102	
<i>Total</i>	257	258	312	827

Source: Secondary Data Processed, 2022

B. Sample

Determination of the sample size is determined using the following formula, number of indicators x 5 to 10 (Ferdinand, 2005). Because in this study there were 17 indicators, the number of samples used was 85 – 170 samples. Furthermore, Hair, et al in Ferdinand (2005) stated that the appropriate sample size for SEM is between 100 - 200 samples.

C. Sampling Technique

The sampling technique was carried out using a Simple Random Sampling approach where each member of the population had the same opportunity to become a research sample.

D. Variable Measurement

The measuring instruments developed to measure research variables are presented in the following table:

Table 2 Development of Research Variable Indicators

<i>Variables</i>	<i>Indicators</i>	<i>Sources</i>
<i>Social Media Use</i>	<i>Allocate time to access social media</i>	

	<i>Have more than one social media account</i>	<i>Rasyidah (2017), Irfan, Nursiah & Rahayu (2019)</i>
	<i>Using more than one social media</i>	
	<i>Actively improve status or content on social media</i>	
	<i>Actively respond or respond to comments on social media</i>	
	<i>Actively increase friendships</i>	
<i>Learning motivation</i>	<i>Desire to know</i>	<i>Hanafti (2016), Sardiman (2005)</i>
	<i>Encouragement or desire to progress</i>	
	<i>Encouragement or desire to get sympathy/appreciation/praise from parents</i>	
	<i>Encouragement or desire to get sympathy/appreciation/praise from friends</i>	
	<i>Encouragement or desire to get sympathy/appreciation/praise from other people</i>	
	<i>The desire to correct past failures</i>	
	<i>Encouragement or desire to feel secure in mastering knowledge</i>	
	<i>Encouragement of reward or punishment for failure</i>	
<i>Prestasi Belajar</i>	<i>Pass the theory course (cognitive domain)</i>	<i>Suprijono (2010)</i>
	<i>Passed practical courses (psychomotor domain)</i>	
	<i>Cumulative assessment exceeds minimum criteria</i>	

Source: Secondary Data Processed, 2022

E. Data Collecting

Data collection was carried out through interviews with respondents using a questionnaire. The questionnaire consists of statements developed from indicators adopted from previous research. The statements composed in the questionnaire are closed in nature where the respondent provides the answers that have been provided. Alternative answers provided use the Agree Disagree Scale approach in the range 1-10.

F. Analysis Technique

The use of causality/influence relationship models in this research, while SEM (Structural Equation Modeling) analysis with the AMOS (Analysis Moment Structure) program.

III. RESULTS AND DISCUSSION

A. Research Result

1. Confirmatory Factor Analysis

Confirmatory factor analysis is the measurement stage of the indicators that form latent variables in the research model. The results of confirmatory factor analysis for each variable were carried out by analyzing standardized regression weight values, discriminant analysis as well as variance extracted and construct reliability values. The following is a description of the confirmatory analysis carried out in this research.

The following are the results of the analysis of the Standardized Regression Weight values for each research variable.

Table 3 Standardized Regression Weight Analysis for Research Variables

			<i>Std Estimate</i>	<i>Estimate</i>	<i>S.E.</i>	<i>C.R.</i>	<i>P</i>
X1	<---	<i>Social Media Use</i>	.423	.555	.114	4.856	***
X2	<---	<i>Social Media Use</i>	.785	1.000			
X3	<---	<i>Social Media Use</i>	.778	.964	.103	9.375	***
X4	<---	<i>Social Media Use</i>	.809	1.077	.110	9.761	***
X5	<---	<i>Social Media Use</i>	.714	.932	.110	8.490	***
X6	<---	<i>Social Media Use</i>	.228	.330	.130	2.539	.011
X7	<---	<i>Learning Motivation</i>	.811	1.000			
X8	<---	<i>Learning Motivation</i>	.756	.812	.086	9.451	***
X9	<---	<i>Learning Motivation</i>	.785	.868	.086	10.143	***
X10	<---	<i>Learning Motivation</i>	.857	.918	.082	11.168	***
X11	<---	<i>Learning Motivation</i>	.090	.136	.133	1.023	.306
X12	<---	<i>Learning Motivation</i>	-.028	-.041	.129	-.319	.750
X13	<---	<i>Learning Motivation</i>	.022	.019	.076	.247	.805
X14	<---	<i>Learning Motivation</i>	.019	.018	.087	.209	.834
X15	<---	<i>Learning Achievement</i>	.885	1.000			
X16	<---	<i>Learning Achievement</i>	.843	.988	.087	11.388	***
X17	<---	<i>Learning Achievement</i>	.785	.899	.084	10.661	***

Source: Primary Data Processed, 2022

The social media use variable is measured using six indicators adopted from research by Rasyidah (2017), Irfan, Nursiah & Rahayu (2019). The results of the confirmatory analysis show that for indicators X1 and social media.

The learning motivation variable is measured using eight indicators which are the result of adoption from research conducted by Hanafi (2016), Sardiman (2005). From the results of the confirmatory analysis of the eight indicators, it is known that there are four indicators, namely X11, X12.

The measurement of learning achievement variables was carried out by adopting the indicators in Supriyono's (2010) research which used three indicators. The results of the confirmatory analysis of these three indicators show that these indicators have a standardized regression weight value of > 0.6, which shows that these three indicators are appropriate measuring tools for measuring learning achievement variables.

2. Model Feasibility Testing (Goodness of Fit)

After analyzing the level of unidimensionality of the dimensions/indicators forming the latent variables which were tested using confirmatory factor analysis, the next analysis was a full model Structural Equal Modeling (SEM) analysis. The results of data processing for full SEM model analysis are explained below.

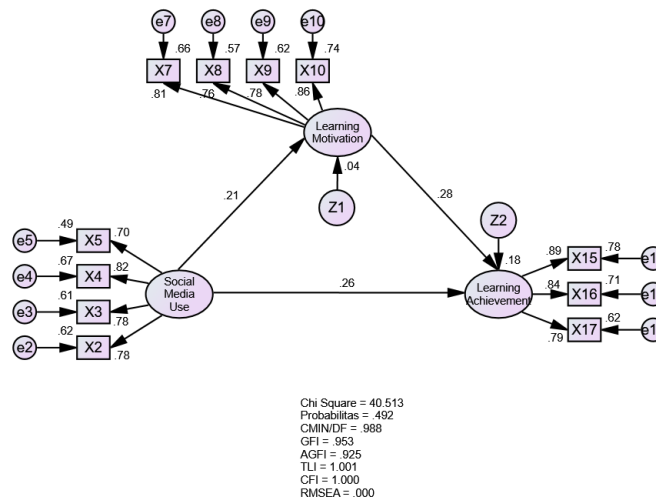


Figure 1 Research Model Testing

Source: Primary Data Processed, 2022

The results of feasibility testing on the research model developed in this research are presented in the following table.

Table 4 Research Model Feasibility Test Results

Goodness of Fit Indeks	Cut off Value	Result	Model Evaluation
Chi-Square (df = 41)	< 56,942	40,513	Good
Probability	≥ 0,05	0,492	Good
CMIN/DF	≤ 2,00	0,988	Good

<i>GFI</i>	$\geq 0,90$	0,953	<i>Marginal</i>
<i>AGFI</i>	$\geq 0,90$	0,925	<i>Marginal</i>
<i>TLI</i>	$\geq 0,95$	1,001	<i>Good</i>
<i>CFI</i>	$\geq 0,95$	1,000	<i>Good</i>
<i>RMSEA</i>	$\leq 0,08$	0,000	<i>Good</i>

Source: Primary Data Processed, 2022

Testing the research model developed in this study using empirical data produced a calculated Chi-Square value of 40.513 with a probability value of 0.492. The Chi Square table value for this research at a df of 41 is 56.942. Because the calculated Chi-Square value (40.513) is smaller than the critical/table value (56.942), it can be concluded that the empirical model regarding marketing performance developed in this study is no different from the estimated population or in other words, the model is considered good (accepted).

3. Hypothesis Testing

After assessing the assumptions in SEM, hypothesis testing will be carried out as proposed in the previous chapter. Testing of the four hypotheses proposed in this research was carried out by analyzing the Critical Ratio (CR) value and the probability of a causal relationship.

Table 5 Hypothesis Testing

			<i>Std Estimate</i>	<i>Estimate</i>	<i>S.E.</i>	<i>C.R.</i>	<i>P</i>
<i>Learning Motivation</i>	<---	<i>Social Media Uses</i>	.210	.261	.119	2.192	.028
<i>Learning Achievement</i>	<---	<i>Learning Motivation</i>	.280	.309	.102	3.017	.003
<i>Learning Achievement</i>	<---	<i>Social Media Uses</i>	.262	.359	.128	2.801	.005

Source: Primary Data Processed, 2022

- a. Testing the Effect of Using Social Media on Learning Motivation
This study carries out empirical testing on the variables of social media use and learning motivation. Testing these two variables produces a CR value of 2.192 with a probability value of 0.028. Because the CR value = 2.192 is greater than the critical value = 1.980 (at $\alpha = 5\%$) it can be concluded that the alternative hypothesis developed in this study can be accepted and proven statistically. This means that the use of social media has actually been proven to have a positive effect on changes in students' learning motivation.
- b. Testing the Effect of Social Media Use on Learning Achievement
This study carries out empirical testing on the variables of social media use and learning achievement. Testing these two variables produces a CR value of 2.801 with a probability value of 0.005. Because the CR value = 2.801 is greater than the critical value = 1.980 (at $\alpha = 5\%$) it can be concluded that the alternative hypothesis developed in this study can be accepted and proven statistically. This means that the use of social media has actually been proven to have a positive effect on changes in student learning achievement.
- c. Testing the Effect of Learning Motivation on Learning Achievement
This study carries out empirical testing on the variables of learning motivation and learning achievement. Testing these two variables produces a CR value of 3.017 with a probability value of 0.003. Because the CR value = 3.017 is greater than the critical value = 1.980 (at $\alpha = 5\%$) it can be concluded that the alternative hypothesis developed in this study can be accepted and proven statistically. This means that

learning motivation has actually been proven to have a positive effect on changes in student learning achievement.

B. Discussion

1. The Effect of Using Social Media on Learning Motivation

Testing the variables of social media use and learning motivation gave positive and significant results. This means that the use of social media statistically influences changes in learning motivation. The results of this study strengthen previous studies, such as Syaifudin & Elmasari (2020), Irfan, Nursiah & Rahayu (2019), Hanafi (2016), and Sahid (2020) which also show that the use of social media has been proven to have a significant positive effect on learning motivation.

2. The Effect of Using Social Media on Learning Achievement

Testing on the variables of social media use and learning achievement gave positive and significant results. This means that the use of social media statistically influences changes in learning achievement. The results of this study are in line with previous studies which also examined the variables of social media use and learning achievement, namely Esto, Daud & Ilyas (2019), Tifani (2019) and Naimawati, Tellu & Tureni (2018) that statistically proven to have a significant positive effect on learning achievement.

3. The Effect of Learning Motivation on Learning Achievement

Testing on the variables of learning motivation and learning achievement gave positive and significant results. This means that learning motivation statistically influences changes in learning achievement. The results of this study certainly strengthen previous studies which were used as references in this study, namely Soewono (2018), Prayogo (2018), Susilo (2016), Unneputty (2021), Mismiaty (2017), Makatita & Azwan (2021) and Musakkir (2015) whose research also shows that learning motivation has actually been proven to have a significant positive influence on learning achievement.

IV. CONCLUSION

Result and discussion must be written in the same part. They should be presented continuously start from the main result to the supporting results and equipped with a discussion. Unit of measurement used should follow the prevailing international system. All figures and tables placed separately at the end of manuscript pages and should be active and editable by editor.

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