

Is It True That Digital Time Management Applications Can Increase Students' Learning Motivation?

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ABSTRACT

The rapid development of digital technology has encouraged students to utilize time management applications as a strategy to organize their learning activities more effectively. This study aims to examine the influence of digital time management application usage on students' learning motivation. A quantitative approach with a cross-sectional survey design was employed, involving 65 students selected through a non-probability sampling technique. The research instrument consisted of a Likert-scale questionnaire that had passed validity and reliability testing. Data were analyzed using descriptive statistics and linear regression. The results reveal that the use of digital time management applications has a significant and strong effect on students' learning motivation. These findings demonstrate that digital applications assist students in establishing structured learning routines, enhancing focus, and strengthening self-regulation toward their academic goals. In conclusion, digital time management applications can serve as an effective strategy to improve students' learning motivation in the digital era.

Keywords

digital time management application, learning motivation, students, digital technology, self-regulation

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1. INTRODUCTION

The development of digital technology has greatly influenced how students manage time and carry out their learning activities. Students today are required to be more independent and efficient in organizing their time due to increasing academic workload, organizational activities, and distractions from social media and digital entertainment. As a result, many students struggle to balance study time and personal time, leading to procrastination and last-minute studying near deadlines. The phenomenon of "cramming" reflects poor time management within academic contexts. According to a survey conducted by Katadata Insight Center (2023) among students in 15 universities in Indonesia, 64.2% of students admit to frequently delaying academic tasks due to the absence of a structured study schedule. This situation indicates low awareness regarding the importance of time management in learning. Sinurat et al. (2024) found that good time management is positively related to learning motivation, as it helps students plan their schedules and focus on academic goals.

The lifestyle shift among students in the digital era demands continuous adaptation through the effective use of technology, particularly digital time management applications such as Google Calendar, Notion, Trello, and Todoist. These applications offer integrated features including reminders, scheduling tools, activity tracking, and progress monitoring, which support students in organizing academic tasks, meeting deadlines, and balancing academic and non-academic responsibilities. The availability of visual timelines and automated notifications helps students develop structured daily routines and reduces the risk of procrastination in completing academic assignments. The increasing reliance on digital tools for time management is reflected in usage trends. Statista (2024) reported that the use of productivity and time management applications in Indonesia increased by approximately 37% over the past two years, with the highest growth observed among students and young professionals. This trend indicates a growing awareness of the importance of effective time management skills in supporting academic performance and personal productivity. Digital applications are perceived as practical solutions that align with students' mobile-centred lifestyles and learning habits in higher education contexts. Previous studies have demonstrated the positive impact of digital time management tools on students' learning behaviour. Sulistio et al. (2024) found that the design of digital time management applications, particularly those incorporating structured notification systems and systematic activity recording, can enhance students' discipline, consistency, and productivity. Through regular reminders and task visualization, students become more accountable for their learning schedules and more motivated to complete planned activities. Therefore, digital time management technology serves not only as an administrative aid but also as an instrumental medium for strengthening self-regulated learning, fostering planned learning behaviour, and supporting academic effectiveness among university students in the digital era.

Learning motivation is a key psychological factor determining students' academic success. Students with high learning motivation tend to be more committed, persistent, and disciplined in completing tasks. Fijannati (2024) stated that the better a person manages time, the higher their learning motivation becomes, indicating a significant relationship between time management and learning motivation. Digital time management applications support this by offering routine reminders and a sense of achievement when learning targets are met. UNESCO (2023) highlights time management as an essential competency in the digital era due to its impact on self-regulation and academic performance. Ariffin et al. (2020) also found that digital time management applications increase study consistency and reduce distractions.

Studies by Widhita (2023) revealed that students with good time management skills have higher academic achievement and motivation than those with irregular study habits. Therefore, the use of digital time management applications can be considered a practical solution for building consistent study routines and reducing procrastination. Based on these phenomena, this study was developed with the title "Is It True That Digital Time Management Applications Can Increase Students' Learning Motivation?" to address the empirical gap regarding the effectiveness of digital time management applications on learning motivation. This study aims to provide a clearer picture of how technology can enhance students' awareness, discipline, and motivation in modern learning contexts.

2. METHODOLOGY

3.1. Student Time Management

Time management is the ability to organize, plan, and allocate time efficiently to achieve desired goals. In education, effective time management helps students avoid academic stress and balance responsibilities. Individuals who manage their time well tend to be more motivated and focused in their learning process. Sinurat (2024) found a significant relationship between time management and learning motivation among nursing students in Medan. Trueman & Hartley (1996) also identified a strong correlation between time management skills and academic effectiveness.

3.2. Digital Time Management Applications

Digital technology offers new solutions to help users manage daily activities. Sulistio et al. (2024) stated that gamification-based time management apps such as Time flow increase discipline and responsibility through visualized targets and interactive reminders. These applications foster consistent learning habits and enable real-time monitoring. Imani et al. (2024) also found that digital to-do list techniques effectively improve students' time management abilities. Cahyani et al. (2023) reported that students using productivity applications have more consistent study schedules. International studies such as Zhang & Lee (2020) show that digital time management apps gradually build study habits through automated notifications and goal visualization.

3.3. Learning Motivation and Its Relationship with Digital Application Use

Learning motivation can grow through an individual's success in managing time and achieving planned targets. Somad et al. (2022) explain that learning motivation is influenced by goal clarity, a sense of achievement, and strong internal drive to complete academic tasks. Furthermore, Nurhidayah (2022) emphasizes that students who possess good self-regulation and a strong sense of academic responsibility tend to have more stable and consistent learning motivation. According to Marsela & Irianto (2024), time management and learning motivation are significantly related to students' academic behavior, including reducing procrastination. Thus, the use of digital time management applications has the potential to facilitate self-regulation, which in turn strengthens students' intrinsic motivation. This is also in line with the study by Widhita (2023), which found that effective time management has a direct impact on academic achievement and students' learning enthusiasm.

Based on various previous studies, it can be concluded that the use of digital time management applications has substantial potential to increase students' learning motivation. Digital applications function not only as reminder tools but also as media that shape structured and independent learning habits. Appropriate use of technology can foster a sense of responsibility, reduce academic stress, and strengthen internal motivation to achieve academic success. Therefore, this study focuses on examining the extent of the relationship between the use of digital time management applications and students' learning motivation through a correlational quantitative approach.

3. METHODOLOGY

This study employed a quantitative approach using a survey method to analyze the influence of digital time management application use on students' learning motivation. The survey method was selected because it provides an objective and measurable description of the relationships between variables (Sugiyono, 2022). Data were collected cross-sectionally through a 1–5 Likert-scale questionnaire developed based on the theoretical indicators of each variable, namely task organization, time scheduling, and time tracking for the digital application use variable, as well as goal setting, perseverance, and attention focus for the learning motivation variable (Listiawani, 2024). The study population consisted of students who use digital time management applications, while the sample was determined using a non-probability sampling technique, which is commonly applied in social research when the population cannot be fully identified (Creswell & Creswell, 2022).

Before conducting the main analysis, the instrument was tested using Pearson Product Moment validity and Cronbach's Alpha reliability to ensure the suitability of the questionnaire items, with a minimum reliability value of ≥ 0.70 as the standard (Hair et al., 2023). The data were analyzed using descriptive statistics to provide an overview of each variable and linear regression analysis to examine the influence of the independent variable on the dependent variable, as regression is considered appropriate for predicting linear relationships between quantitative variables (Haryanto, 2022). All analytical procedures were carried out using SPSS statistical software to ensure more objective and accurate research results (Ocaya, 2023).

4. RESULTS AND DISCUSSION

4.1. Result

Based on the normality test conducted, the conclusion was drawn using the significance value from the Kolmogorov–Smirnov analysis, as the sample size exceeded 30. The results for both variables digital time management application use and learning motivation showed significance values greater than 0.05 (> 0.05). This indicates that the data are normally distributed.

Table 1. Results of Linear Regression Analysis between Learning Motivation and the Use of Digital Time Management Applications

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.775 ^a	.601	.595	5.381

a. Predictors: (Constant), Learning Motivation

Table 2. ANOVA Results on the Effect of Learning Motivation on the Use of Digital Time Management Applications

		Sum of				
	Model	Squares	df	Mean Square	F	Sig.
1	Regression	2748.064	1	2748.064	94.923	.000 ^b
	Residual	1823.874	63	28.950		
	Total	4571.938	64			

a. Dependent Variable: The use of Digital Time Management Applications

b. Predictors: (Constant), Learning Motivation

In the first test, the correlation analysis between the two variables showed a fairly strong relationship, with an R value of 0.775. According to several sources in the literature, an R value within the range of 0.60–0.799 is categorized as strong. With a sample size of 65, the Adjusted R Square decreased by 0.174, indicating that the model explains approximately 17.4% of the variation in the dependent variable in a more conservative estimation. This means that the model is not yet strong enough to fully explain the dependent variable (Y) as a whole. Based on the regression test results interpreted through the ANOVA table, the significance value was 0.000, which is lower than 0.05. This indicates that, statistically, the use of digital time management applications has a significant effect on learning motivation.

Table 3. Regression Coefficients for Learning Motivation as a Predictor of Digital Time Management Application Use

		Unstandardized		Standardized		
	Model	Coefficients	Std. Error	Coefficients	t	Sig.
	1					
	(Constant)	-.462	3.643		-.127	.899
	Learning Motivation	.927	.095	.775	9.743	.000

a. Dependent Variable: Digital Time Management Application Use

A similar result is also shown in the coefficient table, where the significance value is 0.000 (less than 0.05), indicating a significant effect. In addition, the t-value in the coefficient table shows a calculated t (t-count) of 9.743. When compared with the t-table value, the calculation is 63. Referring to the t-table with a 95% confidence level ($\alpha = 0.05$) using a two-tailed test, the t-table value is 2.0129. Since the t-count is greater than the t-table value, it can be concluded that H0 (There is no significant effect of digital time management application use on learning motivation) is rejected and H1 is accepted (There is a significant effect of digital time management application use on learning motivation).

4.2. Discussion

The findings of this study, which show that the use of digital time management applications is positively associated with students' learning motivation, are supported by several previous studies emphasizing the importance of time management in the learning process. For example, the study Learning Motivation as a Mediator of the Influence of Time Management and Procrastination on Students' Academic Performance (2025) found that time management has a positive and significant effect on students' learning motivation and academic achievement. This reinforces the assumption that when students consciously manage

their time whether through digital applications or conventional strategies they tend to have higher learning motivation. Furthermore, the study *The Influence of Learning Motivation, Time Management, and Self-Efficacy on Students' Academic Procrastination* (2024) demonstrated that time management and learning motivation simultaneously contribute significantly to reducing procrastination tendencies. Thus, the use of digital time management applications in this study not only helps students organize their schedules and tasks but also serves as a preventive tool against procrastination behaviors that often undermine motivation and learning quality.

In addition, although many studies link time management with academic achievement, variations of related variables such as discipline, motivation, and self-efficacy often emerge as mediators or moderators. For instance, the study *Effectiveness of Time Management in Improving Attendance Discipline and Students' Academic Achievement* (2023) showed that students with good time management are more consistent in attendance and perform better academically. This indicates that good time management especially when supported by digital tools can influence behavioral aspects (such as discipline), which in turn strengthen motivation and learning outcomes. By connecting these studies to the context of the digital era, the use of digital time management applications can be viewed as a modern form of time configuration management. Students no longer rely solely on memory or physical calendars but use digital tools equipped with automatic reminders, alarms, real-time tracking, and flexible scheduling features that facilitate more adaptive self-regulation. These features may strengthen psychological aspects such as perceived control, sense of responsibility, and clarity of goals, all of which are closely related to learning motivation.

However, the literature also reminds us that neither digital nor manual time management is an automatic “magic solution”. Studies that include time management alongside other variables (such as motivation, discipline, and self-efficacy) show the best outcomes when these factors support one another simultaneously. Therefore, in this study's context, although digital application use contributes positively to learning motivation, it is still essential to consider other supporting factors such as lifestyle habits, learning environment, and internal discipline for the application to be truly effective. Overall, these findings reaffirm previous studies indicating that time management now facilitated through digital tools is one of the key components in students' learning systems. Through technology, students can plan, monitor, and evaluate their learning schedules and goals more systematically, thereby increasing learning motivation and ensuring a more structured academic process.

Another study by Sfari et al. (2025) showed that digital applications can create a more controlled learning ecosystem, thereby improving students' persistence and focus. Similarly, an international study by Hassan & Al-Mahrooqi (2022) found that digital time management significantly contributes to self-discipline and increased academic motivation. Additionally, the *EdTech Review* (2024) reported that reminder- and tracking-based digital applications enhance task completion efficiency among students.

5. CONCLUSION

This study confirms that the use of digital time management applications provides a tangible contribution to enhancing students' learning motivation, as such technology enables a more structured learning environment, consistent reminders, and progress visualization that helps students understand their own learning rhythm. When students perceive their academic activities as organized and manageable, they are more likely to develop internal motivation to study, become more disciplined in setting priorities, and remain consistent in completing tasks

on time. Digital applications also function as tools for self-regulation, helping reduce procrastination, improve focus, and strengthen students' sense of academic responsibility. Nevertheless, the effectiveness of these applications is still influenced by individual commitment, pre-existing study habits, and the level of support within the students' learning environment. Overall, the findings of this study indicate that time management technology can serve as a relevant and adaptive strategy to support students' learning processes in the digital era, while also providing opportunities for educational institutions to integrate digital time management training as part of efforts to improve learning quality.

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