The Effect of Digitalization of Learning Media on Motivation and Online Learning Style of Office Administration Education Students Universitas Negeri Jakarta

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Abstract

This study aims to determine the influence of digitization of learning media on the motivation and online learning style of Office Administration Education students at the Universitas Negeri Jakarta. In the increasingly developing digital era, the use of digital learning media has become an important element in the educational process. This study uses a quantitative method with a sample of 100 student respondents who have used digital learning media during lectures, both inside and outside the campus. Data was collected through the distribution of questionnaires and analyzed using the SmartPLS (Partial Least Squares) approach. The results of this study show that the influence of digitalization and learning media has a positive and significant value on students' motivation and online learning style, then the online learning style of students also shows a positive and significant value on learning motivation. Meanwhile, digitalization has a significant indirect influence on learning motivation through its role in influencing students' online learning styles and learning media has a significant positive influence on students' learning motivation through online learning styles. These findings show that the influence of digitalization on learning media can provide good continuity to increase the motivation and online learning style of Office Administration Education students, Universitas Negeri Jakarta.

Keyword: the influence of digitalization; learning media; learning motivation; online learning style, education.

1. Introduction

Nowadays the world is developing rapidly and rapidly all the time. This development cannot be separated from digitalization which is the process of transitioning from print, audio, and video media to digital forms. In recent years, the presence of digitalization has impacted the world of education, which is now evolving into digital-based education. As stated by (Hidayah & Syahrani, 2022) that in the 21st century, education is required to be able to develop and be accessed by various parties, such as the creation of the "Industrial Revolution 4.0" or it can also be said to be a digital-based era. This is being felt in education in Indonesia where many educators are competing to create technological breakthroughs in learning and create new teaching media that can perfect effective, active, and innovative learning activities, so as to produce competent human resources.

Learning media is a tool that can prove the realization of facts, concepts, principles and practices to be more concrete. The use of this tool aims to motivate and improve comprehension and memory skills and provide a real learning style experience. To complement the learning media to make it more interesting, the teaching media is packaged based on technology. Technology-based learning media is also categorized into three different types, namely: audio media, visual media, and audiovisual media. According to (Devi & Bayu, 2020) visual media are messages or what will be conveyed to students through various forms of media, such as photographs, drawings/illustrations, sketches/drawings. Audio media is a teaching aid used in conveying messages by hearing (Ifadah et al., 2020). While audiovisual media is a combination of the previous two media or said to be audio-visual media.

In my view as a writer, in this era, Learning media today acts as a major catalyst for change in higher education. The use of technology in the context of learning is no longer limited to the simple use of PowerPoint presentations or static websites. Instead, digitalization has brought about innovations that include interactive simulations, learning games, AI-based learning platforms, and more. With the increasing access of students to digital devices and fast internet connectivity, the use of online learning media is becoming increasingly integrated with their learning experience. However, the influence of digitization of learning media on the motivation and learning style of Office Administration Education students is still a topic that needs to be better understood. In the context of office administration, where practical skills and concept understanding are key, it is important to understand how the digitization of learning media can affect students' motivation to be actively involved in learning and how individual learning styles can be effectively accommodated through different types of online learning media. With the digitization of learning media, Office Administration Education students are faced with various challenges and opportunities. On the one hand, the use of learning technology can increase student engagement through a more interactive and enjoyable learning experience. However, on the other hand, college students may also face difficulties in navigating various new platforms and technologies, which can affect their level of motivation and learning effectiveness.

The digitization of learning media can also provide convenience for educators to drive the learning process carefully and carefully in conveying the content of the material. According to Sanaky (2013), students' motivation will also increase because of the variety of learning that makes it easier for them to learn. Learning motivation is one of the key elements in learning dynamics, where every student is expected to have a strong drive to follow the learning process effectively. Online learning media has the potential to increase students' learning motivation because of its ability to provide easy access to learning materials and allow students to repeat the material indefinitely. Thus, this is expected to improve the competence and abilities of students compared to conventional (face-to-face) learning methods (Setyadi, 2023).

2. Literature Review

2.1 Digitization

According to Jacques Ellul in Muntaqo (2017), technology is defined as a collection of methods that are rationally directed and have efficient properties in every human activity (Mulyani & Haliza, 2021). Digitalization is a process of transformation from physical or analog

form to digital form, which involves the use of information and communication technology (ICT) for the storage, management, and transmission of information in digital format.

Advances in digital technology are the fruit of ergonomics, thinking, and intelligence that reflect the development of science, providing benefits in various aspects of human life (Muhasim, 2017). Sukmana in Erwin (2020) states that digitization is the process of converting media from print, audio, and video formats into digital formats (Raza, 2020). According to (Deegan & Tanner, 2002) in the book Digital Fitures: Strategies For The Information Age, it is also revealed that digitization is the process of changing the form of printed documents into digital form. Meanwhile, according to Brennen & Kreiss (2016), digitization is the increase in computerized information, made possible by advances in the creation, transfer, storage, and analysis of computerized information. This process has the potential to shape, structure, and influence the modern world (Purbasari et al., 2023). According to (Utami, 2020) these digitalization indicators include:

1. The ability of individuals to use tools and software related to information technology, such as computers and software.
2. The ability to process data using information technology.
3. The ability of individuals to send and receive information through computer networks and communication technology in operating information systems.
4. The ability of individuals to use the internet network and digital technology to access information and interact with others.
5. The ability of individuals to use digital-based applications, such as data processing applications, financial management applications, and learning applications.
6. An individual's ability to operate networks and communications, such as internet networks, local networks, and Wi-Fi networks.

2.2 Learning Media

The word “media” comes from the Latin “medius,” meaning “intermediary” or “connector.” In Arabic, the term "medium" means "intermediary" which conveys messages from the sender to the recipient (Arsyad, 2015). Learning is an effort to provide encouragement, guidance, direction, and motivation to students so that the learning process occurs (Chauhan, 1979). From this, we can conclude that learning media is a tool used to interact with people that occur in a place and bring changes from the unknown to the known (Sunhaji, 2014). According to (Ani Daniyati et al., 2023) learning media is anything that can be used to convey messages through various methods, such as stimulating and encouraging the will of students to create an effective learning process in filtering new information. In the book Learning Media by (Syarifuddin & Eka Dewi Utari, 2022), it is stated that learning media is a tool in the educational process that can stimulate students' thoughts, feelings, attention and abilities, thereby encouraging the learning process.

There are various types of learning media that can be used, each with different characteristics. Here are some types of learning media (Mochamad Arsad Ibrahim et al, 2022):

- Visual Media: are media that can only be seen, such as paintings and posters, which are enjoyed as sights without movement or sound.
- Audio Media: are media that can only be listened to, such as voice messages, radio, and music.

- Audio-Visual Media: is a media that can be consumed through sight and sound, such as videos, short films, slideshows, and others.

In the context of modern education, learning media is often integrated into holistic learning design, which includes the use of digital technology to create a more dynamic, flexible, and adaptive learning environment. Through learning media, teachers can create a more diverse and interesting learning experience, while students can access learning materials more easily and have the opportunity to be actively involved in the learning process. Indicators that can support learning media, including (Pratiwi & Meilani, 2018):

1. Relevance: the learning media must be relevant to the material to be explained, so that students can understand and remember the material explained.
2. Suitability: learning media must be in accordance with the level of education and skill level of students, in order to facilitate the learning process.
3. Interactive: learning media must have easy and interesting interactions, so that students can follow the material explained more easily.
4. Multimedia: learning media must use multimedia, such as images, videos, and audio, so that students can understand the material explained more easily.
5. Teacher ability: learning media must have the ability of teachers to use it well, so that it can facilitate the learning process.
6. Effective: learning media must be effective in collecting information, so that students can understand the material explained more easily.
7. Interactive: learning media must have easy and interesting interactions, so that students can follow the material explained more easily.
8. Usability: learning media must be able to be used practically in the learning process, so that students can understand the material explained more easily.

2.3 Learning Motivation

Motivation is one of the things that affects human behavior. According to (Uno, 2019) learning motivation is a student's internal and external encouragement to learn to do a behavior, which is generally accompanied by several indicators or supporting factors. According to Sadirman A.M. (2018) in the book "Interaction & Motivation of Learning to Teach", learning motivation is a factor that moves students, ensures smoothness, and gives direction to the learning activities desired by students to achieve certain goals. According to Noviarti (2015), learning motivation is an important element in the teaching and learning process in an educational environment, which is an encouragement possessed by students. The indicators of learning motivation stated by Hamzah B. Uno are:

1. Desire and motivation to achieve success.
2. The drives and needs that drive the learning process.
3. Rewards as a form of results from the learning process.
4. Interesting and exciting learning activities.
5. A supportive and conducive learning environment.
6. Tenacity and perseverance in undergoing the learning process.

2.4 Online Learning Style of Universitas Negeri Jakarta Office Administration Education Students

According to (Ika Suci Cahyani, 2017) learning style is the fastest and most effective method owned by individuals to receive, absorb, organize, and process the information they receive. According to (Prof. Dr. S. Nasution, 2017) in the book Various Approaches in the Learning and Teaching Process, learning style is a consistent way that students use to obtain stimuli and information in remembering, thinking, and solving problems during the learning process. Students with an independent learning style are characterized by thinking for their own progress and learning according to their own pace and ability. According to (Marpaung, 2016) learning style is the result of a combination of individual ways of absorbing, organizing, and processing information, including responses to the learning environment and the use of the left and right brains. Meanwhile (Asriyanti & Janah, 2019) reveals that learning styles are assumed to refer to the personality, beliefs, choices, and behaviors used by a person to help in the learning process.

3. Material and Method

3.1 Design Study

This research uses a quantitative method, as explained by (Sugiyono, 2019), this method observes a population or sample randomly, collects data through instruments, and analyzes it statistically. The instrument chosen to collect data is a questionnaire prepared via Google Form using a 5 point Likert Scale, which will be answered by respondents. The data collection process began in April and ended in May 2024, carried out online. To analyze the data, PLS software with Smart-PLS version 4.0 was used, which tested 5 variables: digitalization, learning media, learning motivation, and students' online learning styles.

The population of this study includes Office Administration Education students at Jakarta State University who have participated in online learning with digital media, both on and off campus. The research sample consisted of 100 students who met the specified criteria.

3.2 Data Analysis

The data analysis technique used is statistical analysis with the SmartPLS (Partial Least Squares) application with version 4. SmartPLS analysis is a multivariate statistical technique that compares dependent variables independently. The analysis using SmartPLS consists of 2 stages, namely, measurement testing and structural testing (Outher Model and Inner Model).

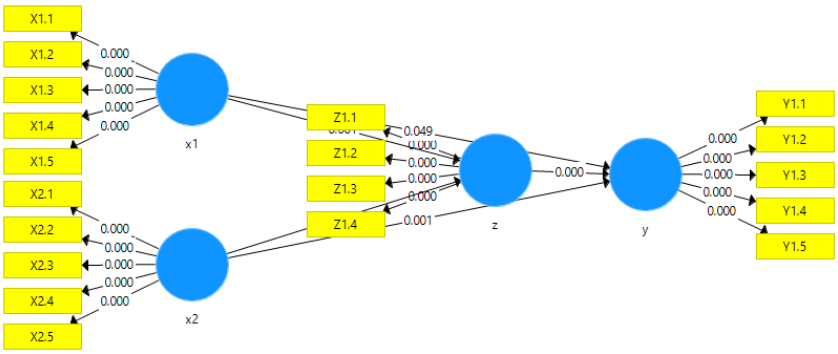

Figure 1. Research Model

4. Result

The reliability test is another important stage in the evaluation of the outer model after the validity test. Reliability refers to the consistency and stability of the measurement of a construct. In other words, reliability indicates the extent to which a measurement can be trusted and provides consistent results if repeated measurements are made. In PLS-SEM analysis, there are two main criteria used to assess reliability, namely composite reliability and cronbach's alpha. composite reliability is considered superior to cronbach's alpha in measuring the internal consistency of a construct. The expected value for both criteria is greater than 0.7. Reliability evaluation is very important to verify that the indicators used are able to consistently and precisely measure the intended construct.

Table 1. Composite Reability

Table Composite Reability	
The Impact of Digitalization (X1)	0.881
Learning Media (X2)	0.900
Motivation (Y)	0.929
Online Learning Style (Z)	0.933

It can be seen that the composite reliability value for each latent variable exceeds 0.7. This indicates that the indicators used in this study are reliable and consistent in measuring the intended construct.

Cronbach's alpha is also used as a reliability evaluation criterion in PLS-SEM analysis. cronbach's alpha measures the internal consistency of an indicator in measuring a construct, although it has disadvantages compared to composite reliability. However, an adequate cronbach's alpha value must also be more than 0.7 in order to be considered reliable. The higher the cronbach's alpha value (closer to 1), the more consistent the indicator is in measuring the construct. Evaluation of cronbach's alpha values provides additional information about model reliability apart from composite reliability.

Table 2. Cronbach's Alpha

Table Cronbach's Alpha	
The Impact of Digitalization (X1)	0.830
Learning Media (X2)	0.861
Motivation (Y)	0.904
Online Learning Style (Z)	0.903

In addition to using composite reliability, reliability in this study is also evaluated through cronbach's alpha value on each latent variable. This can be seen from all variables that have a cronbach's alpha value exceeding the threshold of 0.7. This indicates that the indicators used have adequate internal consistency in measuring the construction in question.

R-square is an indicator that describes how much of the influenced variable can be explained by the influencing variables in a structural model. In other words, R-square shows the percentage of variation in the influenced variables that can be explained by the influencing

variables. The R-square value ranges from 0 to 1, where higher values indicate better model quality.

Table 3. R-Square

Variable	R Square	R Square Adjusted
Online Learning Style (Z)	0.835	0.830
Motivation (Y)	0.709	0.703

The R-square value is used to measure how much the endogenous variables can be explained by the exogenous variables in this research model. The R-square value for online learning style is 0.835, which means that 83.5% of the variation in online learning style can be explained by the predictor variables in the model. Meanwhile, the R-square value for motivation is 0.709, indicating that 70.9% of the variation in motivation can be explained by the explanatory variables in the model.

Path coefficient is an important result in Partial Least Squares-Structural Equation Modeling (PLS-SEM) analysis, which indicates the strength of the relationship between two constructs in a structural model. Path coefficient values range from -1 to +1, where values closer to +1 or -1 indicate a stronger relationship. A positive sign indicates a unidirectional relationship, while a negative sign indicates an opposite relationship. In addition to the coefficient value, the significance of the relationship is also evaluated through the t-statistic and p-value. A t-statistic value above 1.96 or a p-value below 0.05 is generally considered statistically significant.

Table 4. Path Coefficients

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
X1 → Y	0.189	0.192	0.096	1.973	0.049
X1 → Z	0.385	0.386	0.111	3.459	0.001
X2 → Y	0.392	0.377	0.115	3.403	0.001
X2 → Z	0.494	0.496	0.109	4.529	0.000
Z → Y	0.392	0.406	0.101	3.867	0.000

Based on the calculations that have been made, below are the results and discussion of each hypothesis, namely:

H1: The Effect of Digitalization (X1) on Learning Motivation (Y)

Based on the results of the analysis described, it shows that digitization has a significant positive impact on learning motivation, as reflected in the path coefficient of 0.189 with a t-statistic of 1.973 and a p-value of 0.049. Although the effect is considered relatively small (F-

square of 0.102), this finding indicates that the higher the level of digitization in the learning process, the higher the level of student learning motivation.

H2: The Influence of Learning Media (X2) on Learning Motivation (Y)

Based on the results of the analysis described, it shows that learning media has a significant positive effect on student learning motivation. This is reinforced by the path coefficient value of 0.392, t-statistic of 3.403, and p-value of 0.001, which shows that the better and more effective the learning media used, the higher the level of student learning motivation. The effect of learning media on learning motivation is moderate, with an F-square value of 0.226.

H3: The Effect of Digitalization (X1) on Online Learning Style of Office Administration Education Students at Universitas Negeri Jakarta (Z)

Based on the results of the analysis described, it shows that digitalization has a significant positive impact on the learning style of Office Administration Education students at State University of Jakarta. The path coefficient of 0.385 with a t-statistic of 3.459 and a p-value of 0.001 indicates that the increasing level of digitization in the learning process, the more effective the online learning style of students. The effect of digitalization on online learning styles is considered moderate, with an F-square value of 0.154.

H4: The Effect of Learning Media (X2) on Online Learning Style of Office Administration Education Students at Universitas Negeri Jakarta (Z)

Based on the results of the analysis described, it shows that learning media had a significant positive influence on students' online learning styles. The path coefficient value of 0.494, the t-statistical value of 4.529, and the p-value of 0.000 indicate that the better and more effective the learning media used, the more effective the online learning style owned by students. The influence of learning media on online learning styles is relatively large, with an F-square value of 0.255.

H5: The Effect of Online Learning Style of Office Administration Education Students at Universitas Negeri Jakarta (Z) on Learning Motivation (Y)

Based on the results of the analysis described, it shows that online learning style has a significant positive effect on students' learning motivation. With a path coefficient of 0.392, a t-statistic of 3.867, and a p-value of 0.000, the conclusion is that the more effective the online learning style of students, the higher the learning motivation they have. The impact of online learning styles on learning motivation is significant, as evidenced by the F-square value of 0.271.

Table 5. Spesific Indirect Effects

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
X1 → Z → Y	0.151	0.156	0.059	2.568	0,011
X2 → Z → Y	0.193	0.203	0.203	2.630	0.009

H6: The Effect of Digitalization (X1) Through Online Learning Style of Office Administration Education Students at Universitas Negeri Jakarta (Z) Affects Learning Motivation (Y)

Based on the results of the analysis described, it shows that digitalization has a significant indirect influence on learning motivation through its role in influencing online learning styles. The path coefficient value of 0.385, t-statistical value of 3.459, and p-value of 0.001 indicate that this indirect influence is statistically significant. This means that digitalization not only affects motivation directly, but also has an indirect effect through its role in shaping a more effective online learning style, which ultimately increases student learning motivation.

H7: Learning Media (X2) Through Online Learning Style of Office Administration Education Students at Universitas Negeri Jakarta (Z) Affects Learning Motivation (Y)

Based on the results of the analysis described, it shows that learning media has a significant positive effect on learning motivation and students' online learning style. Regarding the effect of learning media on learning motivation, the path coefficient value of 0.392, t-statistic of 3.403, and p-value of 0.001 indicate that the better and more effective the learning media used, the higher the level of student learning motivation. In addition, the analysis also shows that learning media has a significant positive impact on students' online learning styles. With a path coefficient value of 0.494, a t-statistic of 4.529, and a p-value of 0.000, this shows that the better and more effective the learning media used, the more effective the online learning style of students.

5. Discussion

The use of digital learning media has changed the educational landscape by providing access to interactive and engaging learning resources for students. When students engage with the material through videos, animations, and games, it can increase their interest in learning. For example, by presenting abstract concepts in a dynamic visual form, students can more easily understand and relate the information to real-life contexts. In addition, digital media interactivity allows students to learn independently by adjusting their own pace and learning style. It eliminates the boredom or boredom that is often an obstacle in conventional learning, and instead, increases the intrinsic motivation to learn and explore further.

In addition, digital learning media also opens up opportunities for a more personalized and relevant learning experience for students. With the ability to adapt content and learning methods to individual needs, students can feel more involved in the learning process. For

example, through features such as diagnostic exams or customized content recommendations, students can focus their learning efforts on areas that need more attention, which can ultimately increase their confidence and motivation to achieve academic success. Thus, the use of digital learning media not only creates a more dynamic and interesting learning environment, but also provides additional encouragement for students' intrinsic motivation in acquiring new knowledge and skills.

Digital learning media provides opportunities for students to adapt their learning to their individual learning styles. Each student has different learning preferences, such as visual, auditory, or kinesthetic. By providing a variety of content and learning methods, digital media allows students to choose the most effective way of learning for them. For example, more visual students can utilize videos, diagrams, or graphics to gain a better understanding, while more auditory students can use voice recordings or podcasts. The ability to choose the appropriate learning style not only improves the quality of learning, but also helps students to develop a deeper understanding of themselves as learners.

In addition, the use of digital learning media also facilitates learning based on the needs and interests of individual students. With the ability to customize content and curriculum, digital media can help students explore topics they are interested in in more depth. This can spark greater curiosity and motivate students to study harder. For example, a college student interested in computer science can access a variety of online resources, such as online courses, tutorials, or discussion forums, that align with their interests and career goals. Thus, digital learning media not only facilitates learning tailored to individual learning styles, but also provides opportunities for students to develop their interests in specific fields of study, which in turn can lead to greater achievement in education and careers.

6. Conclusion, Implication, and Recommendation

In the context of the influence of digitalization of learning media on the motivation and online learning style of students, Office Administration Education at Universitas Negeri Jakarta can be implemented by aligning the material with industry and current needs, as well as integrating technology. that supports personal interaction and adaptation. Through interactive online platforms, students can gain learning experiences that are more interesting and relevant to the world of work, thereby increasing their intrinsic motivation to master the material. Additionally, the use of technology makes it possible to tailor learning to individual learning styles, allowing students to access material in the format that best suits their preferences, thereby increasing understanding and engagement in the learning process.

This research has positive and significant implications for the Universitas Negeri Jakarta Office Administration Education study program, namely being able to develop and present learning content in interactive digital formats such as learning videos, e-books, simulations and e-learning modules. Providing training to lecturers to create interesting and effective digital learning materials. In addition, routinely collect input from students regarding the effectiveness of the digital learning media used. This implication aims to utilize digital technology to increase motivation and adjust students' learning styles, so that the learning process becomes easier.

Office Administration Education Study Program is advised to increase the digitalization of learning with digital technology and interactive online media to increase student motivation

and learning effectiveness. Further research could be conducted to explore other factors that might influence online learning students' motivation and learning styles, as well as develop more effective strategies.

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