

THE FUTURE OF EDUCATION BY HARNESSING TECHNOLOGY AND INNOVATION IN DIGITAL MANAGEMENT AT STIESIA: TRANSFORMATION OF E-LEARNING STRATEGY FOR MODERN STUDENTS AND LECTURES

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Abstract: The development of technology has changed many things, especially in the world of education which is increasingly innovating and adapting to advance in information and communication technology. In the world of education, information system innovation is needed to facilitate learning and discussion between lecturers and students also to increase students' creativity. High access speed can affect the way students learn how to be motivated to adapt to the technological developments. This study aims to determine the developments felt by lecturers and students from the new E-learning system at STIESIA. This study uses a qualitative research method by conducting two-way interviews with 15 students and 5 lecturers. The results showed that 87.9% of respondents including STIESIA students and lecturers were helped by the new E-learning system at STIESIA. The overall results show the development of new e-learning by developing a barcode attendance system and accessing assignments, materials, and discussion forums separately. The students' assessment showed that 85% feel that the new e-learning is more practical and efficient. As many as 93.5% of lecturers stated that the development of the new system was more structured and more practically in interacting with students. This system has several advantages, such as easy access to materials and flexibility of time, as well as disadvantages, such as technical difficulties. This study found that the new E-learning system at STIESIA has brought positive changes to the learning process, especially in terms of easy access to materials and flexibility of time. However, there are still several challenges that need to be overcome, such as technical difficulties and limited interaction. The results of this study can be used as a reference to develop a better E-learning system in the future.

Keywords: E-learning, Digital System, Innovation, Education, STIESIA.

1. Introduction

The rapid development of technology has transformed various aspects of human life, including in the field of education. In recent years, the increasingly prominent role of digital technology has not only changed the way information is accessed but also the way education is delivered. Education is also one of the important things for humans to develop quality human resources. Now we are in the era of Society 5.0 education and the Fourth Industrial Revolution, which require advanced technology and digital tools, with one key area where technology shows great potential being in the development of E-learning, or electronic learning, which has become an important part of the modern education system (Rifa Hanifa Mardhiyah, 2021). Higher education plays a very important role in producing high-quality human resources who are ready to face global challenges. However, with the rapid development of information and communication technology, as well as changing societal needs, the education system in Indonesia, especially in higher education, must adapt to remain relevant. With that, traditional learning methods do not adequately meet the needs of students and lecturers at STIESIA (Sekolah Tinggi Ilmu Ekonomi Surabaya) as a higher education institution. The main driving factor in the transformation of education at STIESIA is the increasingly competitive job

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market. The industrial world now prioritizes graduates who possess digital skills and the ability to quickly adapt to changes. In this context, higher education must play an active role in preparing students to adapt to technology and meet industry needs. By leveraging technology and innovation in digital management, STIESIA has launched a new, more modern, and effective E-learning platform for education. STIESIA's strategy itself releases E-learning to facilitate and enhance the quality of education. E-learning not only provides flexibility in the teaching process but also offers more practical and extensive access to educational resources. In a broader context, the transformation of education through technology and innovation at STIESIA is expected to serve as a model for other educational institutions in Indonesia. By adopting a more modern and responsive approach to the needs of the times, higher education in Indonesia can contribute more significantly to producing high-quality human resources ready to compete on a global scale. By utilizing existing technology, both students and lecturers can interact more closely, expand engaging learning experiences, and encourage good collaboration.

This research aims to explore how STIESIA can apply and utilize technology and innovation in digital management for E-learning. The focus of this research is on the transformation of e-learning strategies that can enhance the learning experience of students and lecturers, as well as create a more inclusive and responsive educational environment to the needs of the times, and the needs of modern students and lecturers. This research will also discuss the challenges faced in implementing e-learning and the opportunities that can be utilized to further explore more modern and effective technologies. Through the utilization of technology that has been updated by STIESIA, this research is expected to make a significant contribution to the development of effective and sustainable e-learning strategies at STIESIA, as well as provide insights for the development of higher education in Indonesia as a whole. Through this approach, STIESIA can produce graduates who are not only academically excellent but also ready to compete in the ever-evolving digital era. This research focuses on the satisfaction elements of E-learning users by considering the perceived constraints as well as the advantages of the new system in assisting and facilitating the work of both students and lecturers. This study will identify and analyze the constraints that students and lecturers may face, such as technical issues, accessibility limitations, and lack of digital skills. By understanding these obstacles, it is hoped that appropriate solutions can be found to address the emerging problems. In addition to identifying constraints, this research will also evaluate the advantages of the new E-learning system at STIESIA.

The focus of this research is on the transformation of e-learning strategies that can enhance the learning experience of students and lecturers, as well as create a more inclusive and responsive educational environment to the needs of the times, and the needs of modern students and lecturers. This research will also discuss the challenges that will be faced in implementing e-learning and the opportunities that can be utilized to further explore more modern and effective technologies. Through the utilization of updated technology by STIESIA, this research is expected to make a significant contribution to the development of effective and sustainable e-learning strategies at STIESIA, as well as provide insights for the development of higher education in Indonesia as a whole. Through this approach, STIESIA can produce graduates who are not only academically excellent but also ready to compete in the ever-evolving digital era. This research focuses on the satisfaction elements of E-learning users by considering the perceived constraints as well as the advantages of the new system in assisting and facilitating the work of both students and lecturers. This research will identify and analyze the constraints

that students and lecturers may face, such as technical issues, accessibility limitations, and lack of digital skills. By understanding these obstacles, it is hoped that appropriate solutions can be found to address the emerging issues. In addition to identifying constraints, this research will also evaluate the advantages of the new E-learning system at STIESIA.

The focus will be on how this system can assist and simplify the work of students and lecturers, including improving efficiency in the teaching and learning process, better access to learning materials, and more effective interaction between students and lecturers. Based on the findings from the analysis of constraints and advantages, this research will provide strategic recommendations to enhance the quality of the E-learning system at STIESIA. These recommendations may include user training, technical infrastructure improvements, and the development of more interactive and engaging learning materials. The main objective of this research is to study the challenges of the new E-learning system by highlighting the current state of technology integration at STIESIA in the context of facing the digital era in Indonesia. Additionally, this research also aims to explore the potential of E-learning in the benefits and opportunities that technology can offer to the existing education system at STIESIA, as well as to enhance the quality of innovative education that is ready to face a technology-driven future.

2. Literature Review

Literature Review

Strategic Transformation of Educational Technology

Digital transformation in the world of education began to emerge during the pandemic, which led to the implementation of online or hybrid learning. The technology that played a significant role during this period introduced a new style to the education system in Indonesia, particularly within higher education. Initially, the adaptation to digital transformation received mixed reactions; however, the convenience it offered, seen as a first step towards progress, became a key factor in the acceptance of E-Learning among educators. Digital transformation can be understood as the process of utilizing existing digital technology, such as cloud computing integrated with virtualization technology, mobile devices, and other media (John Loonam, 2018). Digital technology ushers in a new era that enriches the educational landscape, enhancing the quality of learning and providing interventions that can reduce disparities in effective learning. The strategic use of E-learning can directly enhance students' motivation and achievements, enabling them to continuously develop and keep pace with ever-evolving technology. The integration of technology in education has become a widely researched subject globally. The digital era has ushered in a new phase in education, characterized by the use of various tools and technological resources to enhance the educational experience (Desty Indrawati Subroto, 2023).

Digital Management

The world of education will never cease to innovate in order to keep up with advancements in technology. The challenges and opportunities of developing E-Learning have fostered new skills among students and lecturers, enabling them to continuously improve the quality of digital-based education management. Management can be defined as the science and art of organizing, controlling, communicating, and utilizing existing resources by leveraging management functions, namely Planning, Organizing, Actuating, and Controlling (Dela Annisa, 2023). The integration of management science with digital innovation in education

aims to achieve and realize educational goals collectively and systematically. In this context, the role of information technology is crucial in providing opportunities for all elements of education to optimize the effectiveness of educational management. Through E-learning, communication between students and lecturers is significantly enhanced; both can access learning materials flexibly, and administrative staff can obtain information in real-time for institutional needs. Thus, digital management can collaborate effectively with educational innovations to create transparency and accountability in facing the upcoming industrial revolution.

Digital Governance

An efficient education system can optimally achieve its goals through the maximum use and utilization of resources. Several internal factors, such as the curriculum, teaching methods, and resources, influence the efficiency of an education system. External factors, including the use of technology, also play a significant role. To achieve efficiency in education, technology management is essential for improving the quality of education both academically and administratively. This aligns with research conducted by Surani, which states that the availability of facilities to utilize technology in educational institutions can facilitate the teaching and learning process, as well as other non-academic activities such as administration, ultimately enhancing the quality of education (Surani, 2019). The effectiveness of digital governance can be improved with well-utilized technological infrastructure. E-learning serves as a platform for the application of technology, representing a form of digital governance in the education sector.

3. Method

This research was conducted to determine the function of STIESIA's E-learning among lecturers and students. The research method used was structured interviews. According to (Sugiyono, 2017), structured interview is a data collection method that uses a pre-prepared list of questions. All respondents are asked the same questions in the same order, making it easier to compare the answers. The participants in this study are lecturers/instructors and students from the 2021-2023 cohort of the management and accounting departments at Sekolah Tinggi Ilmu Ekonomi Indonesia (STIESIA), totaling 15 students and 5 lecturers. In the research, the technique used to collect data is a qualitative approach, essentially a research procedure that produces descriptive data in the form of written or spoken words from people and observable behaviors. Therefore, the data collected consists of words, sentences, or images, (not numbers). According to (Sugiyono, 2020), qualitative research methods are research methods which study objects in their natural conditions (where the researcher acts as the key instrument). Data collection techniques are conducted through triangulation (combination), data analysis is inductive, and qualitative research results emphasize the meaning rather than generalization.

4. Result and Discussion

The results of the descriptive data analysis in this research can be summarized as follows. The respondents in this research are lecturers and students from the Management and Accounting

departments who are part of the 2021-2023 cohort, totalling 15 students and 5 lecturers. The distribution of respondent characteristics is presented in Table 1.

Table 1. Respondent Characteristics

Characteristic	Respondent Overview	Number	Percentage
Profession	Student	15	86,6 %
	Lecture	5	80%
Age	≤ 20 – 30 years	15	26,6 %
	> 30 years	5	40 %

Source: Data Processed by the Researcher, 2024

Referring to the results of the respondent data distribution, it can be explained that the types of professions participating in this research are 15 (86.6%) students and 5 (80%) lecturers. This result shows that student participation is higher than that of lecturers because students use E-learning more frequently. The daily learning routine of students may make them use and be satisfied with the presence of E-learning more often. Based on the age of the respondents, it was found that the age distribution is as follows: ≤ 20–30 years 15 people and > 30 years 5 people. This finding indicates that the average age of students and lecturers participating in this study is dominated by the age range of 20-30 years. This age group reflects the younger generation, who are generally more familiar with technology and innovation in education. As many as 5 respondents (40%) are over 30 years old. This group may bring a different perspective on the use of technology and innovation in E-learning, based on their experiences.

Table 2. The Percentage of Implementation in Strategic Transformation

Feature	Student	Lecture
Barcode Presence	60%	60%
Material	26%	40%
Assignment Grade	13%	20%

Source: Data Processed by the Researcher, 2024

According to previously conducted research, the presence of barcodes in E-learning is a useful tool used in the implementation of technology transformation strategies in the educational field. This feature can reduce the number of students who just attend for absent classes. According to some responses, barcode-based absent is more practical than manual absent or even absent with KTM tap because students believe that using a phone, they can get everything they need, including absents.

Table 3. The Percentage of Implementation in Digital Management

Feature	Student	Lecture
Barcode Presence	33%	20%
Material	46%	60%
Assignment Grade	20%	40%

Source: Data Processed by the Researcher, 2024

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Table 4. The Percentage of Implementation in Digital Governance

Feature	Student	Lecture
Barcode Presence	20%	20%
Material	26%	40%
Assignment Grade	53%	60%

Source: Data Processed by the Researcher, 2024

Research has been conducted and found that the assignment grade feature of E-learning has become a new factor in the advancement of E-learning because the assignment grade itself encompasses several factors used to assess students' performance in completing the given tasks or projects. The respondents are very happy because they can see their scores immediately without having to wait until after the midterms or finals; they can calculate their average scores, which fosters a high learning spirit. In addition, E-learning also provides a place to discuss the materials and questions uploaded by the lecturers, and students can see who has submitted their assignments from the beginning to the end, which is why the Assignment grades are quite high.

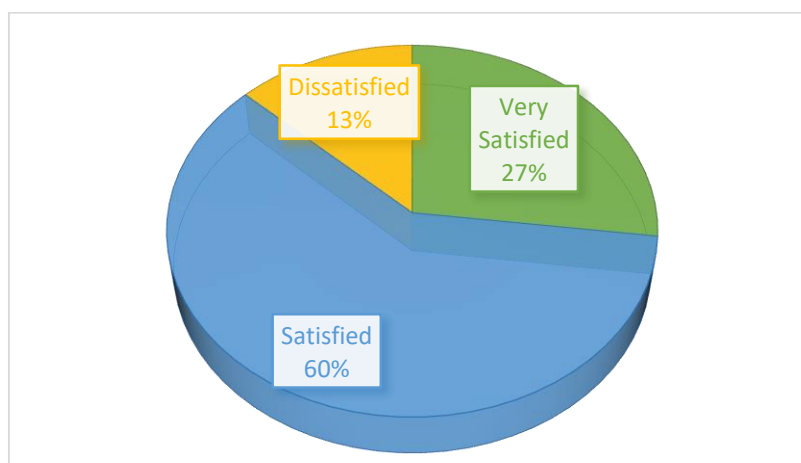


Figure 1. Satisfaction level by students

Source: Data Processed by the Researcher, 2024

The results of the interview analysis conducted with 15 students show that 27% are very satisfied with the new E-learning features, considering the update perfect. 60% of the students feel satisfied with E-learning due to easy access to materials, the ability to view grades, organized task submissions, more informative content, and easy accessibility. They feel motivated by the feature that allows them to see who submitted first. Meanwhile, 13% of the

100% feel dissatisfied because the barcode attendance feature, in their opinion, is very time-consuming. Additionally, the servers often go down when accessed by many people, such as during course registration or the PKKMB period. They feel that it needs to be fixed immediately by the developers.

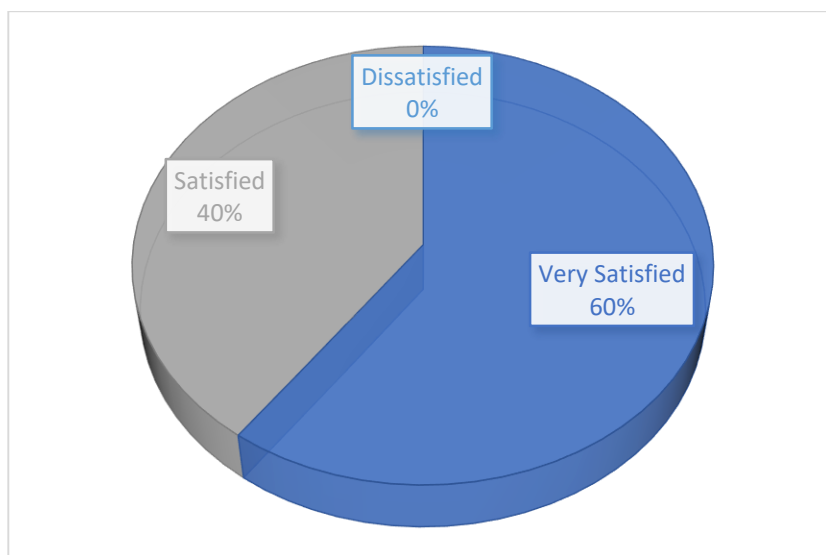


Figure 2. Satisfaction level by lecturers
Source: Data Processed by the Researcher, 2024

The results of the interview analysis conducted with 5 STIESIA lecturers who use E-learning show that 60% out of 100% are very satisfied because the updated features greatly assist the lecturers' work, such as uploading materials, adding grades, viewing student activity recaps, attendance using barcodes, and the presence of a Zoom link feature in E-learning, which makes it easier for RPL lecturers to monitor their students. Additionally, 40% out of 100% of lecturers are satisfied with the new updates, as the integration of the new web with SINFOS makes it more effective.

5. Conclusions

The harnessing of technology is something that needs to be done in facing the era of digitalization that contributes to the educational process. Technology transformation must be managed well for the advancement of the digital education system. The e-learning used by STIESIA is an example of a strategy for collaboration through the use of technology. The features available in E-learning assist in the learning process and facilitate all educators and staff in managing administrative documents. The advantages of E-learning are that it prepares its users to keep up with the developments and advancements of technology in the world of education. The existing shortcomings also provide support to educational institutions to continuously improve the system by creating a learning environment that maximizes technology in every aspect of their education. Everything presented by technology must be learned, not just enjoyed. From the aspect of digital management, technology must be well managed so that the next generation can continue to develop the functions of technology in the world of education.

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References

- Annisa, D., & R. Haryadi. 2023. Literature Review: Implementasi Manajemen Pendidikan Di Sekolah Dalam Membentuk Karakter Peserta Didik. *SUKMA: Jurnal Pendidikan* 7(2) <https://doi.org/10.32533/07205.2023>.
- Subroto, D.E., Supriandi, R. Wirawan, & A.Y, Rukmana. 2023. Implementasi Teknologi dalam Pembelajaran di Era Digital: Tantangan dan Peluang bagi Dunia Pendidikan di Indonesia. *Jurnal Pendidikan West Science* 1(07):473-480, 10.58812/jpdws.v1i07.542.
- Loonam, J., S. Eaves, & G. Parry. 2018. Towards digital transformation: Lessons learned from traditional organizations. *Strategic Change*, 27(2), 101-109.
- Mardhiyah, R.H., S.N.F. Aldriani, F. Chitta, & M.R.Zulfikar. 2021. Pentingnya Keterampilan Belajar di Abad 21 sebagai Tuntutan dalam Pengembangan Sumber Daya Manusia. *Jurnal Pendidikan*, 12(1), <https://doi.org/10.31849/lectura.v12i1.5813>.
- Sugiyono. 2017. Metode penelitian kuantitatif kualitatif dan R dan D. *Alfabeta*. Bandung.
- Sugiyono. 2020. Metode Penelitian Kualitatif Untuk Penelitian Yang bersifat: eksploratif, enterpratif dan konstruktif.
- Surani, D. 2019. Studi Literatur : Peran Teknolog Pendidikan Dalam Pendidikan 4.0. *Prosiding Seminar Nasional Pendidikan FKIP UNTIRTA*. Serang : FKIP UNTIRTA.