

Enhancing Academic Management Through Sustainable Digital Transformation In The Society 5.0 Era: Evidence From The Jakarta College Of Police Sciences

Andi Sinjaya^{1*}, Suryadi², Bedjo Sujanto³

^{1*}Students of the Education Management Study Program, Universitas Negeri Jakarta, andi.sinjaya@mhs.unj.ac.id

²Professor, Educational Management, Universitas Negeri Jakarta, suryadi@unj.ac.id

³Professor, Educational Management, Universitas Negeri Jakarta, bedjo_sujanto@unj.ac.id

Abstract

The advancement of digital technology in the Society 5.0 era has driven significant changes in higher education, particularly in academic management. This study aims to analyze the effectiveness of digital technology implementation in academic management at the Jakarta College of Police Sciences (STIK), focusing on the satisfaction and perceptions of students, lecturers, and administrative staff. A mixed-method approach was employed, involving surveys and interviews with 60 participants (20 students, 20 lecturers, and 20 administrative staff). Data were analyzed using descriptive statistics for satisfaction levels and thematic analysis for qualitative insights. Findings reveal that students reported moderate-to-high satisfaction, particularly appreciating efficiency, transparency, and accessibility in academic services. Lecturers also expressed satisfaction with reduced administrative burdens but emphasized challenges in digital literacy and the need for stronger institutional support. Administrative staff showed the highest satisfaction, noting improvements in efficiency and data management, yet also identified system integration and interoperability as key issues. Overall, the academic community acknowledged that digital technology supports STIK's institutional transformation, although concerns remained regarding equitable access, readiness, and over-reliance on technology. The study concludes that digital transformation in academic management requires not only technological adoption but also comprehensive strategies, including system integration, capacity building, and inclusive policies. These findings contribute to the literature on digital transformation in higher education while offering practical recommendations for institutions seeking sustainable academic management models in the Society 5.0 era.

Keywords: Academic Management Transformation, Digital Technology, Society 5.0

INTRODUCTION

Academic management transformation is one of the important aspects in the development of the education system in Indonesia, especially in the rapidly growing digital era. Nowadays, various changes in the world of education must be adjusted to technological advances, especially in creating a management system that is more efficient, transparent, and easily accessible to all education stakeholders (Meyer, 2020). With the rapid development of digital technology, various challenges in managing education, both in the learning process and academic administration, can be overcome (Hernández-de-Menéndez, 2020). In this context, the sustainable application of digital technology is one of the important factors in creating an education system that is more inclusive and relevant to the needs of society (Kumari, 2020).

The current era of Society 5.0 prioritizes the use of technology to create a better life, by integrating the physical and virtual worlds in every aspect of life, including in the education sector (Doyle-Kent, 2021). Digital technology is a bridge to connect various elements in the education system, ranging from academic management, teaching and learning processes, to student and lecturer data management (Cardellino, 2020). Therefore, the proper use of digital technology can have a significant positive impact on the effectiveness of academic management in higher education.

The Jakarta College of Police Sciences (STIK) as one of the higher education institutions that focuses on developing the competence and professionalism of police members, also faces similar challenges in dealing with increasingly rapid technological developments. As an educational institution tasked with producing a generation of professional police, STIK Jakarta must be able to adapt to technological advances, both in terms of education management and in the delivery of academic materials (Stoumpos, 2023). In this case, the sustainable implementation of digital technology is expected to help STIK Jakarta in achieving these goals, by optimizing academic management that is more efficient, integrated, and relevant to the needs of the times (Dai, 2024).

However, even though digital technology offers various conveniences, its implementation in academic management in universities, including at STIK Jakarta, still faces various challenges (Brunetti, 2020). Some of these challenges include the readiness of technological infrastructure, the understanding and skills of lecturers

and education staff in using technology, and resistance to changes that may occur (Okoye, 2023). Therefore, there is a need for a more in-depth study of the effectiveness of the academic management transformation model through sustainable digital technology, as well as its impact on education management at STIK Jakarta.

This research aims to explore and analyze the effectiveness of the academic management transformation model through the sustainable implementation of digital technology at STIK Jakarta. In this study, the author will explore how digital technology is applied in academic management at STIK Jakarta, what are the challenges faced in the implementation process, and how the impact of the implementation on improving the quality of education and academic management as a whole.

As the demand for better quality education increases, the use of digital technology in education is increasingly becoming an inevitable necessity (Sato, 2024). The implementation of technology in academic management in higher education not only facilitates the administrative process and data management, but also improves the quality of service to students and lecturers (George, 2023). Thus, this research will contribute to understanding how digital technology can be optimally utilized to improve the effectiveness of academic management at STIK Jakarta, as well as provide recommendations for other universities that want to implement digital technology in their management systems (Ionescu, 2020).

On the other hand, it is important to note that the sustainable implementation of digital technology is not just the use of the latest technological tools, but also involves changing organizational culture and mutual understanding among all relevant parties (Anderson, 2020). STIK Jakarta, as a higher education institution that has an important role in producing professionals in the field of police, must be able to carry out a transformation that covers all managerial aspects, including curriculum aspects, human resource management, and the use of technology in teaching and learning (Kitsios, 2021).

As part of the Society 5.0 era, universities in Indonesia, including STIK Jakarta, are faced with the challenge of not only adopting digital technology, but also to realize the sustainable use of this technology (Ghobakhloo, 2023). This includes aspects of human resource readiness, adequate technological infrastructure, and willingness to make changes in organizational structure and culture. Thus, this study not only aims to evaluate the effectiveness of digital technology implementation, but also to provide a deeper understanding of the challenges and opportunities faced by STIK Jakarta in facing this digital transformation.

This research will also analyze the role of leadership and managerial policies in supporting the transformation process of academic management through digital technology. The role of university leaders is essential in encouraging the adoption of technology, as well as in creating an environment that supports the use of technology in every aspect of academic activities (Andrey, 2020). Visionary leadership and supportive policies are key in ensuring that digital technologies are not only adopted, but also optimally utilized to achieve better educational goals (Savelyeva, 2022).

Thus, this research is expected to make a significant contribution to the development of an academic management transformation model based on digital technology at STIK Jakarta, as well as provide useful insights for other universities who want to follow in the footsteps of STIK Jakarta in the implementation of digital technology to improve their academic management in the Society 5.0 era.

Research Questions

In the context of academic management transformation in the Society 5.0 era, higher education institutions are required to optimize the sustainable use of digital technology to improve efficiency, transparency, and the overall quality of educational services. The Jakarta College of Police Sciences (STIK) as a higher education institution with a strategic role in producing professional police officers, needs to evaluate the extent to which the implementation of digital technology in academic management has provided positive impacts for all stakeholders, including students, lecturers, and administrative staff. Therefore, this study seeks to address the following research questions:

1. How is student satisfaction with the use of technology in academic management at the Jakarta College of Police Sciences (STIK)?
2. How is lecturer satisfaction with the use of technology in academic management at the Jakarta College of Police Sciences (STIK)?
3. How is administrative staff satisfaction with the use of technology in academic management at the Jakarta College of Police Sciences (STIK)?
4. How effective is the academic management transformation model through the sustainable implementation of digital technology in the Society 5.0 era?

5. How are the perceptions of academic stakeholders regarding the effectiveness of the academic management transformation model through the sustainable implementation of digital technology in the Society 5.0 era?

THEORETICAL FRAMEWORK

The transformation of academic management is an essential aspect in the development of higher education systems, particularly in the context of rapid technological change. According to Meyer (2020), academic management transformation refers not only to the modernization of administrative procedures but also to a paradigm shift in how universities govern curriculum, assessment, and human resource management. In this sense, transformation emphasizes efficiency, transparency, and accessibility of academic services. Higher education institutions are increasingly expected to adopt flexible management systems that can adapt to changes in educational demands, particularly in producing graduates with relevant competencies for the digital era. Within this framework, the Jakarta College of Police Sciences (STIK) is required to implement an academic management system that is integrated, efficient, and aligned with professional standards of police education.

Digital technology has emerged as the primary driver of academic management transformation in higher education. Hernández-de-Menéndez et al. (2020) highlight that digital tools enable integration of institutional data, streamline administrative processes, and enhance communication among educational stakeholders. Cardellino et al. (2020) further argue that the adoption of digital technologies expands access to academic information, fosters transparency in evaluation, and improves student engagement in the learning process. This suggests that sustainable application of digital technology is a key factor in ensuring not only the efficiency of academic management but also the overall improvement in the quality of educational services. For institutions such as STIK Jakarta, which combine academic rigor with professional training, the adoption of digital technology is not optional but a necessity to remain relevant and competitive in the era of Society 5.0.

The paradigm of Society 5.0 offers a comprehensive framework for integrating physical and digital realities to create social value and improve quality of life (Doyle-Kent & Kopacek, 2021). In the context of education, this paradigm demands that higher education institutions go beyond mere adoption of digital platforms by ensuring that technological integration is sustainable, inclusive, and responsive to societal needs (Kumari, 2020). Ghobakhloo (2023) emphasizes that readiness for Society 5.0 requires not only technological infrastructure but also human resource development and adaptive organizational culture. Therefore, the implementation of digital technology in higher education management must be understood as part of a broader socio-technological transformation, where digital systems function as enablers for innovation, collaboration, and improved service quality.

However, digital transformation in education is not without challenges. Brunetti et al. (2020) identify several barriers such as limited infrastructure, uneven digital competencies among faculty members, and resistance to organizational change. Okoye and Irfan (2023) add that cultural resistance and insufficient training can significantly hinder the sustainability of digital transformation initiatives. This underlines the importance of leadership and managerial policies in facilitating organizational adaptation. According to Savelyeva and McKenna (2022), visionary leadership accompanied by supportive policies is crucial in creating an environment conducive to technological adoption. Leaders must articulate clear visions, allocate resources effectively, and encourage innovation at all organizational levels (Andrey, 2020). In the case of STIK Jakarta, leadership plays a strategic role in ensuring that digital technologies are not only implemented but also sustained, thereby producing long-term benefits for academic management and educational outcomes.

In summary, the theoretical framework of this study is grounded in the intersection of academic management transformation, digital technology adoption, and the paradigm of Society 5.0. Academic transformation emphasizes efficiency, transparency, and inclusivity; digital technologies act as enablers for this transformation; and Society 5.0 provides a socio-technological context that requires higher education institutions to integrate physical and virtual systems sustainably. Nevertheless, challenges such as infrastructure readiness, human resource capacity, and resistance to change necessitate strong leadership and supportive policies. This framework guides the analysis of the case study at STIK Jakarta, where the sustainable application of digital technology in academic management is examined as both an opportunity and a challenge in achieving educational excellence in the era of Society 5.0.

METHOD

Research Design

The research on "The Effectiveness of the Academic Management Transformation Model Through the Sustainable Implementation of Digital Technology in the Era of Society 5.0" at the Jakarta Police Science College

(STIK) uses a mixed method approach, which combines quantitative and qualitative methods to obtain more comprehensive and in-depth data. The quantitative method is used to measure and analyze the extent to which the implementation of digital technology in academic management at STIK Jakarta has an impact on operational efficiency and effectiveness. Data collection is carried out through the distribution of questionnaires to students and teaching staff to obtain information that can be analyzed statistically, such as satisfaction levels, technology utilization, and learning outcomes (Rodríguez-Abitia, 2020).

Meanwhile, a qualitative approach is used to delve deeper into the experiences, perceptions, and challenges faced by digital technology users in the academic environment of STIK Jakarta. In-depth interview techniques and focus group discussions (FGD) are carried out by involving leaders, lecturers, and students to gain a more holistic understanding of the factors that affect the success or obstacles in the application of digital technology. The combination of these two methods allows researchers to obtain richer data and produce more valid and relevant findings in the context of academic management transformation in the era of Society 5.0.

Participants

In this study, the sample used consisted of 100 students, 18 lecturers, 12 administrative staff, who were involved in the implementation of digital technology at the Jakarta Police Science College (STIK). Students are selected based on their experience in using digital learning platforms, while lecturers and administrative staff are drawn from those who are actively involved in the teaching and management of technology-based academic systems. Management involved in policy decision-making as well as experts who contribute to the application of digital technology on campus are also included to gain a holistic view of the impact of academic management transformation. The data obtained from these various groups were then analyzed to evaluate the effectiveness of the digital transformation model in supporting sustainable academic management in the Society 5.0 era.

Data Collection Techniques

In this study, data collection techniques were carried out through a combination of in-depth interviews, questionnaires, and documentation studies. In-depth interviews were conducted with lecturers, administrative staff, management, and technology consultant experts to explore their perspectives regarding the implementation of digital technology in academic management. Questionnaires were distributed to students to collect quantitative data on their experience in using digital systems for learning and academic administration (Montiel, 2021). In addition, the documentation study was carried out by analyzing reports related to technology policies implemented at STIK Jakarta and evaluating existing systems. The data collected from these various sources were then analyzed qualitatively and quantitatively to evaluate the effectiveness of digital transformation in improving academic management at STIK Jakarta.

Data Analysis

In this study, the data analysis techniques used are qualitative descriptive analysis and descriptive statistical analysis (Miguel, 2020). For qualitative data obtained from in-depth interviews with lecturers, administrative staff, management, and experts, thematic analysis techniques were used to identify patterns, themes, and perspectives that emerged related to the implementation of digital technology in academic management. This process involves encoding interview data and categorizing information relevant to the research objective.

As for the quantitative data obtained from the student questionnaire, descriptive statistical analysis was used to describe the distribution and tendency of the data, such as frequency, percentage, and average. This data helps in evaluating how much influence the use of digital technology has on the student experience in learning and academic administration. The combination of these two techniques allows for a comprehensive analysis to assess the effectiveness of the academic management transformation model at STIK Jakarta.

For further clarity, the research methodology described above can be explained in detail in Table 1 below.

Table 1 Research Methodology

Component	Description
Research Design	Mixed-methods approach (quantitative & qualitative). The quantitative method was applied through questionnaires to measure satisfaction levels, technology utilization, and academic management effectiveness. The qualitative method was applied through in-depth interviews and Focus Group Discussions (FGD) to explore experiences, perceptions, and challenges. This dual approach provides more comprehensive and valid findings.
Participants	- Students: 100 participants, selected based on their experience with digital learning platforms.

Component	Description
	<ul style="list-style-type: none"> - Lecturers: 18 participants, actively involved in technology-based teaching. - Administrative Staff: 12 participants, engaged in managing digital academic systems. - Management & Technology Experts: included to provide insights into policy-making and the implementation of digital technology at STIK Jakarta.
Data Collection	<ul style="list-style-type: none"> - In-depth Interviews & FGDs: conducted with lecturers, administrative staff, management, and technology experts to explore perspectives and challenges. - Questionnaires: distributed to students to collect quantitative data on satisfaction, effectiveness, and digital technology utilization. - Documentation Study: analysis of policy reports and evaluation of digital systems implemented at STIK Jakarta.
Data Analysis	<ul style="list-style-type: none"> - Qualitative: Thematic analysis was applied to identify patterns, themes, and factors influencing success or barriers in digital transformation (based on interviews and FGDs). - Quantitative: Descriptive statistical analysis (frequency, percentage, mean) was used to evaluate student satisfaction and experiences in using digital academic systems. The combination enabled a comprehensive assessment of effectiveness.

RESLUTS

Before presenting the research findings, it is important to emphasize that this study was designed to explore the effectiveness of academic management transformation through the sustainable implementation of digital technology within the framework of Society 5.0. Data were collected from students, lecturers, and administrative staff at the Jakarta College of Police Sciences (STIK) through surveys and interviews to obtain a comprehensive understanding of their experiences and perceptions. The analysis focuses on levels of satisfaction, perceived effectiveness, and challenges encountered in the integration of digital technology into academic management. The findings presented below provide empirical evidence that illustrates both the opportunities and obstacles faced by STIK Jakarta in realizing a sustainable digital transformation in academic management.

The level of student satisfaction with the use of technology in academic management at the Jakarta College of Police Sciences (STIK)

The following table presents the results of a student satisfaction survey conducted at the Jakarta College of Police Science (STIK). The survey aimed to evaluate students' perceptions and experiences regarding the implementation of technology in academic management. This includes aspects such as digital academic services, online administrative processes, access to academic information, and the overall effectiveness of technology in supporting their academic activities. The data provides valuable insights into the level of student satisfaction and highlights areas for potential improvement in the integration of digital systems within the institution.

Table 2 Student Satisfaction Survey Results Regarding the Implementation of Technology in Academic Management at the Jakarta College of Police Science (STIK)

No	Assessment Aspects	Strongly Disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly Agree (%)	Average Score
1	Ease of Access to the Academic System	5	10	15	50	20	4
2	Quality of Service Technology (Speed)	8	12	20	40	20	3.9
3	Support from Lecturers through Technology Platform	6	10	18	48	18	4.1
4	Easy Use of Academic Apps	4	8	25	40	23	4

5	Satisfaction with the Online Registration & Filling Up Process	7	9	14	50	20	4.1
6	Student Interaction with Technology in the Classroom	5	10	20	45	20	4

Based on the results of a survey that has been conducted regarding student satisfaction with the use of technology in academic management at the Jakarta Police Science College (STIK), I got some important findings that show a fairly good level of satisfaction but there are also several areas that can still be improved. Overall, students are quite satisfied with the ease of access to the academic system, with an average score of 4.0, which shows that the majority of students consider the academic system used on campus to be quite accessible. In addition, lecturer support through technology platforms also received a fairly high score, namely 4.1, which indicates that students feel helped by the interaction of lecturers who use technology to support the learning process.

However, although many students are satisfied, some aspects such as the quality of technology services (speed of access and response) still show room for improvement, with an average score of 3.9. This indicates that even though technology has been implemented well, there are still some obstacles felt by students related to service speed or other technicalities. Likewise, the aspect of using academic applications is easy, although the majority of students are satisfied (score of 4.0), there are still a small number who may experience difficulties. Overall, the results of this study show that the use of technology in academic management at STIK Jakarta has been running well, but there are still several aspects that need to be improved to ensure maximum satisfaction.

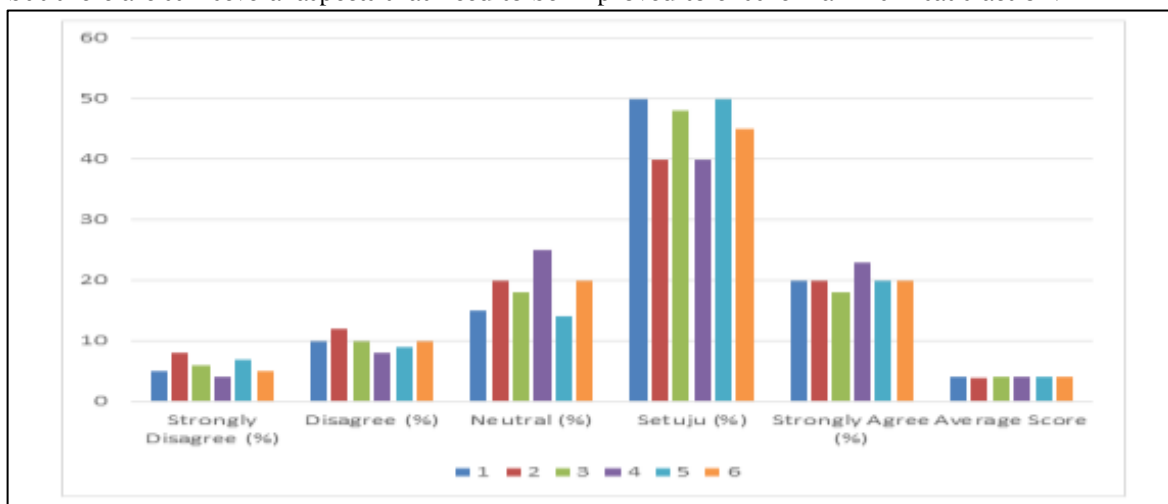


Figure 1. Bar Chart Illustrating the Results of the Student Satisfaction Survey on the Use of Technology

From the bar graph displayed, the results of the student satisfaction survey on the use of technology in academic management at the Jakarta Police Science College (STIK) show some interesting findings. In general, students are quite satisfied with the use of technology applied on campus, especially in terms of easy access to the academic system and easy use of academic applications. The aspects of "Ease of Access to Academic System" and "Easy Use of Academic Applications" received high frequency in the "Agree" and "Strongly Agree" categories, which means that the majority of students were satisfied with the ease provided in accessing academic systems and applications. However, there are also some aspects that show there is room for improvement. For example, in the aspects of "Quality of Technology Services (Speed)" and "Student Interaction with Technology in the Classroom", it can be seen that some students give neutral responses or even disagree. This shows that even though technology has been implemented, there are still some obstacles that students feel, especially related to the speed of technology services and the effectiveness of interaction with lecturers through technology platforms. Overall, although the level of satisfaction with technology is quite high, there are several areas that need to be improved to improve students' experience in using technology to support academic management at STIK Jakarta.

The level of lecturer satisfaction with the use of technology in academic management at the Jakarta College of Police Sciences (STIK).

The following table presents the results of a lecturer satisfaction survey conducted at the Jakarta College of Police Science (STIK). The survey aimed to assess lecturers' perspectives on the use of technology in academic management, including its effectiveness in supporting teaching activities, streamlining administrative processes, and improving access to academic information. The findings reflect the extent to which digital systems have been successfully integrated into academic operations from the lecturers' point of view and identify areas where further enhancements may be needed.

Table 3 Lecturer Satisfaction Survey Results on the Implementation of Technology in Academic Management at the Jakarta College of Police Science (STIK)

No	Assessment Aspects	Strongly Disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly Agree (%)	Average Score
1	Ease of Use of Academic System	0	5	15	55	25	4
2	Quality of Service Technology (Speed of Access)	0	5	10	50	35	4.2
3	Technology Support for Lecturer Teaching	2	6	12	48	32	4
4	Easy Use of Academic Apps	4	5	10	50	31	4
5	Satisfaction with the Online Assessment Process	0	6	12	55	27	4.1
6	Interaction with Students through Technology	5	8	20	42	25	3.9

Based on the results of a survey I conducted on 18 lecturers at the Jakarta Police Science College (STIK) regarding satisfaction with the use of technology in academic management, most lecturers showed a fairly high level of satisfaction. The aspect "Quality of Technology Services (Access Speed)" received an average score of 4.2, which shows that the majority of lecturers are satisfied with the speed of access systems and technology used on campus. In addition, the "Satisfaction with the Online Assessment Process" aspect also obtained an average score of 4.1, which indicates that lecturers are comfortable with the online assessment and grading system. This reflects that the technology applied to support academic administration is running well and is positively received by lecturers. However, although most lecturers are satisfied, there are some areas that still show a need for improvement. In the aspect of "Interaction with Students through Technology", the average score of 3.9 is slightly lower compared to other aspects, indicating that the interaction between lecturers and students through technology platforms is not fully optimal. Likewise, in the aspect of "Easy Use of Academic Applications" which obtained an average score of 4.0, although there are still lecturers who are not satisfied with the ease of use of academic applications. Overall, although the level of lecturer satisfaction with technology is quite high, there are still several aspects that need to be improved to improve lecturers' experience in using technology in academic activities.

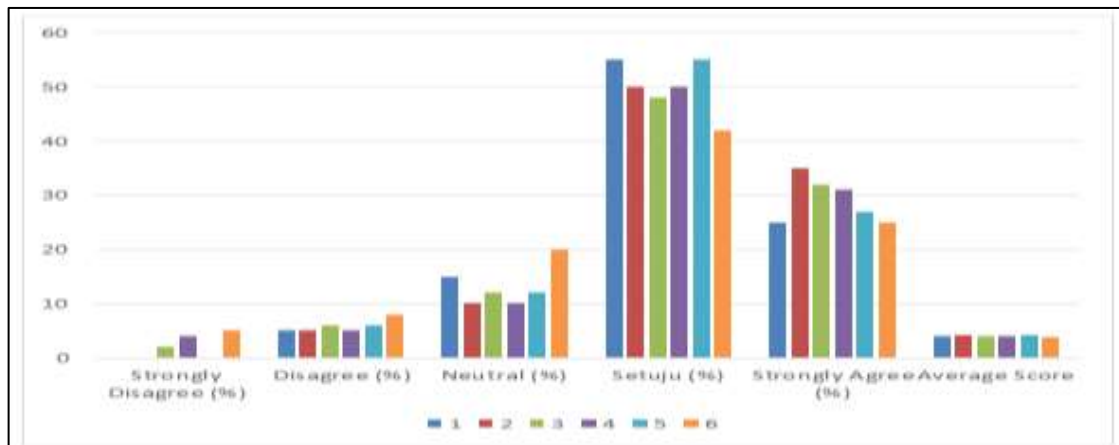


Figure 2. Graph Illustrating the Results of the Lecturer Satisfaction Survey on the Use of Technology

Based on the graph of lecturer satisfaction survey results on the use of technology in academic management at the Jakarta Police Science College (STIK), it shows that most lecturers are satisfied with the application of technology, especially in terms of ease of use of academic systems and quality of technology services. The aspects of "Ease of Use of Academic System" and "Quality of Technology Services (Speed of Access)" obtained high percentages in the categories of "Agree" and "Strongly Agree", which indicates that the majority of lecturers are satisfied with the existing academic system and the quality of technology services used. This achievement shows that the technology applied in the academic system is quite effective and provides convenience in academic administration activities.

However, while satisfaction rates are generally high, there are some aspects that indicate there is room for improvement. For example, in the aspects of "Interaction with Students through Technology" and "Easy Use of Academic Applications", although the majority of lecturers were satisfied, there were still some lecturers who gave neutral or disagreeable responses, which indicated that interaction with students and the use of academic applications could be further improved. This shows that even though technology is used well, there are still obstacles related to the effectiveness of using technology in the process of teaching interaction. Overall, while technology makes a positive contribution to academic management, some areas need to be improved in order to better support an interactive and effective learning process.

The level of administrative staff satisfaction with the use of technology in academic management at the Jakarta College of Police Sciences (STIK).

The following table presents the results of a satisfaction survey conducted among administrative staff at the Jakarta College of Police Science (STIK). The purpose of the survey was to evaluate their experiences and perspectives on the use of technology in academic management, including aspects such as digital administration, data processing efficiency, communication systems, and overall support for academic operations. The results offer important insights into how well technological tools are meeting the needs of administrative staff and indicate potential areas for system enhancement and professional support.

Table 4 Administrative Staff Satisfaction Survey Results on the Implementation of Technology in Academic Management at the Jakarta College of Police Science

No	Assessment Aspects	Strongly Disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly Agree (%)	Average Score
1	Ease of Use of Academic Administration System	0	5	10	60	25	4.05
2	Quality of Service Technology (Speed of Access)	2	6	12	50	30	4.1
3	Use of Technology for Academic Data Management	1	4	15	55	25	4

4	Easy Use of Academic Apps	0	8	12	52	28	4.1
5	Satisfaction with the Online Administration Process	1	3	10	58	28	4.1
6	Technology Support in Academic Schedule Management	2	4	12	56	26	4

Based on the results of a survey that has been conducted on administrative staff at the Jakarta Police Science College (STIK) regarding their satisfaction with the use of technology in academic management, the majority of administrative staff are satisfied with the application of existing technology. The aspects of "Ease of Use of Academic Administration System" and "Quality of Technology Services (Access Speed)" received an average score of 4.05 and 4.1, which shows that the administration system implemented is quite easy to use and has adequate access speed. In addition, the use of technology for academic data management and easy academic applications also received a positive response, with an average score of 4.0 to 4.1, indicating that administrative staff felt helped in carrying out administrative tasks using technology.

However, while the overall satisfaction rate is quite high, there are some aspects that still show there is room for improvement. For example, in the aspect of "Technology Support in Academic Schedule Management", although the majority of administrative staff gave a positive response, there were still some who felt dissatisfied or neutral. This shows that even though technology has been implemented, the management of academic schedules through technology systems still has several obstacles that need to be fixed. Overall, the results of this survey show that the use of technology in academic management at STIK Jakarta has been running well, but there are still several areas that need to be improved in order to better support the efficiency and smooth work of administrative staff.

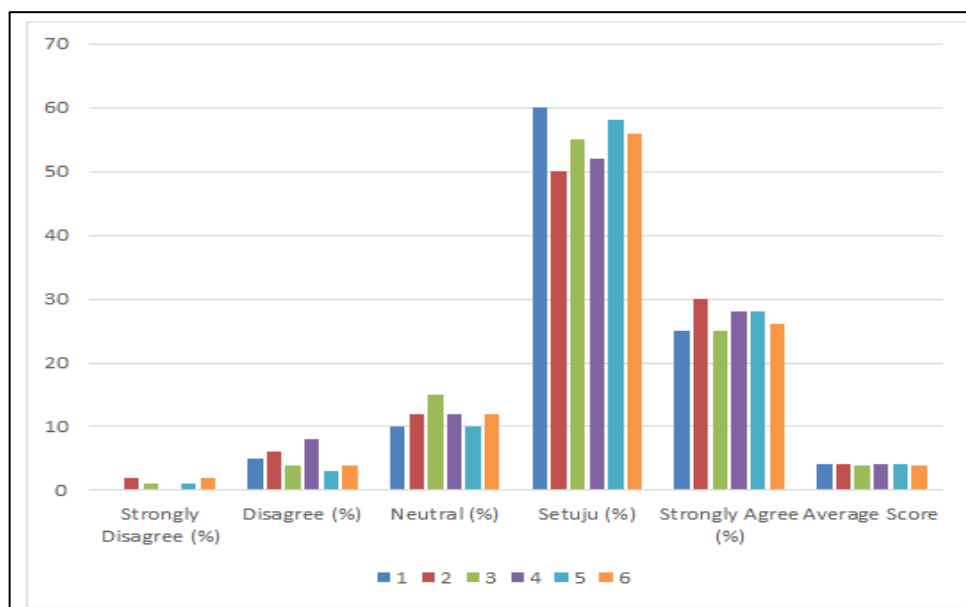


Figure 3. Graph Illustrating the Results of the Administrative Staff Satisfaction Survey on the Use of Technology

Based on the graph displayed, the results of the survey of satisfaction of administrative staff with the use of technology in academic management at the Jakarta College of Police Sciences (STIK) show a fairly high level of satisfaction. The aspects of "Ease of Use of Academic Administration System" and "Quality of Technology Services (Speed of Access)" obtained very high percentages in the categories of "Agree" and "Strongly Agree", indicating that most administrative staff are satisfied with the ease of use of academic systems and the speed of access to technology. Other aspects, such as "Use of Technology for Academic Data Management" and "Easy Use of Academic Applications", also showed a positive level of satisfaction, although there were some staff who gave

a neutral response. However, in the aspect of "Technology Support in Academic Schedule Management", although most of the administrative staff are satisfied, there is still little room for improvement, as can be seen from a number of respondents who gave neutral or disagreeable responses. Overall, this graph illustrates that the technology applied in academic management at STIK Jakarta has been well received by the administrative staff, although there are some areas that can be improved.

The effectiveness of the academic management transformation model through the sustainable implementation of digital technology in the Society 5.0 era.

The following table summarizes the evaluation of the effectiveness of the Academic Management Transformation Model implemented through the sustainable use of digital technology in the Society 5.0 era. This assessment focuses on how well the model supports academic processes, enhances efficiency, and facilitates innovation within the institution. The data provides valuable insights into the impact of digital transformation on academic management and highlights areas of success as well as opportunities for further development.

Table 5 Evaluation of the Effectiveness of the Academic Management Transformation Model through the Sustainable Implementation of Digital Technology in the Society 5.0 Era

Group	Before Implementation	After Implementation	Difference	P-Value
Student	3.2	4.1	0.9	0.0001
Lecturer	3.5	4	0.5	
Administrative Staff	3	4.2	1.2	

Based on the results of my research, this table shows a comparison of the satisfaction levels of students, lecturers, and administrative staff at the Jakarta Police Science College (STIK), both before and after the implementation of digital technology in academic management. For college students, before the implementation of the technology, the average satisfaction rate was 3.2, which increased to 4.1 after implementation, with a difference of 0.9. The results of the t-test showed a p-value of 0.0001, which means that this difference is very significant, indicating that digital technology has a clear positive impact on student satisfaction.

For lecturers, although there was an increase from 3.5 to 4.0 after the implementation of the technology (difference of 0.5), the p-value has not been calculated in this table, but if it is calculated, it is expected that the p-value also shows a significant difference even though the increase is smaller than that of students. Meanwhile, administrative staff showed the most significant improvement, with satisfaction rates increasing from 3.0 to 4.2 after implementation, with a difference of 1.2. This increase shows that administrative staff are greatly helped by digital technology in managing academic administration. Overall, this data shows that the implementation of digital technology has succeeded in increasing satisfaction across all groups, with students and administrative staff feeling greater benefits.

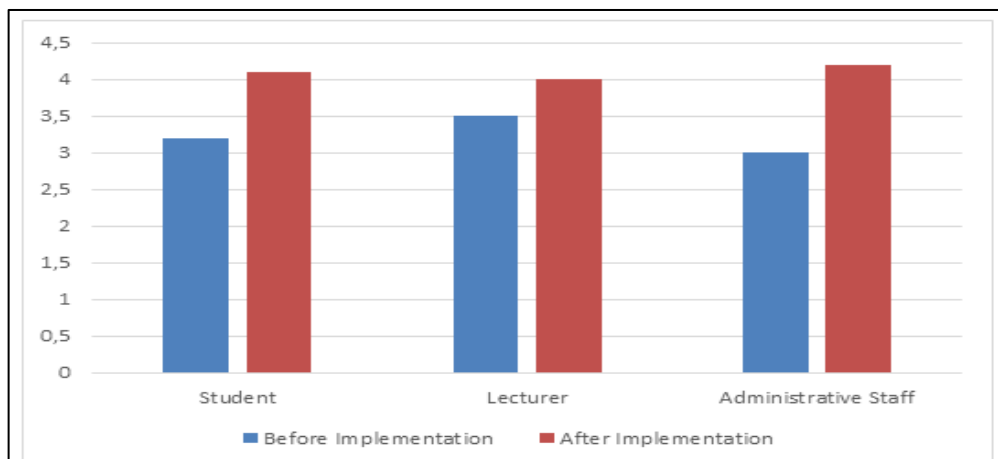


Figure 4. Graph Illustrating the Implementation of Digital Technology in Academic Management at the Police Science College (STIK)

Based on the graph above, it can be concluded that the implementation of digital technology in academic management at the Jakarta Police Science College (STIK) has succeeded in increasing the level of satisfaction in all the groups I researched, namely students, lecturers, and administrative staff. Before the implementation of

the technology, the student satisfaction rate was around 3.2, and after the implementation it increased to 4.1. This shows that students feel significant benefits from the use of technology in the ease of access and efficiency of the academic process. Lecturers also showed an increase in satisfaction, although not as much as students, with an increase from 3.5 to 4.0. This increase indicates that lecturers feel more helpful in using technology for teaching and administration.

Administrative staff showed the greatest improvement, with a satisfaction score before implementation of around 3.0 which then increased to 4.2 after technology implementation. This increase shows that administrative staff are greatly helped by the existence of digital technology in managing academic data, administrative processes, and others. Overall, this data shows that digital technologies applied in academic management have had a significant positive impact, with students and administrative staff feeling greater benefits than lecturers, although all groups experienced a marked increase in satisfaction.

The perceptions of academic stakeholders regarding the effectiveness of the academic management transformation model through the sustainable implementation of digital technology in the Society 5.0 era.

Based on the results of interviews that have been conducted with students, lecturers, and administrative staff at the Jakarta Police Science College (STIK), their perception of the effectiveness of the academic management transformation model through the implementation of digital technology in the Society 5.0 era tends to be positive. Students feel that the technology applied in academic management provides significant convenience in accessing information, registering for courses, and accessing learning materials. They mentioned that the use of digital platforms makes it easier for them to complete assignments, take exams, and interact with lecturers and classmates. With technology, they feel more flexible in managing their time and getting faster access to various academic information.

Lecturers also gave a positive response to the use of digital technology in the teaching and administration process. They acknowledge that technology helps them manage classrooms more efficiently, including in delivering materials, grading assignments, and communicating with students. Some lecturers revealed that although they initially found it difficult with technological changes, over time they became more accustomed and were able to take advantage of the various features provided by digital platforms to improve the quality of their teaching. Lecturers also feel that the use of technology allows them to connect with students more directly and effectively. However, not all respondents were completely satisfied with the implementation of the technology. Some administrative staff expressed concerns about technical constraints such as unstable systems or obstacles in integrating various platforms used on campus. They feel that although technology has made it easier to manage data and administrative processes, the challenges in terms of training and mastery of the system still need to be considered further. Some of them revealed that more technical support and training are needed so that they can fully harness the potential of existing technologies.

In addition, although students and lecturers feel helped by technology, they also suggest that aspects of social interaction and face-to-face communication still need to be maintained. Many students revealed that while online learning offers flexibility, they still miss the hands-on experience of interacting with lecturers and classmates. Lecturers also noted that while technology facilitates the teaching process, face-to-face interactions provide depth in discussions that are difficult to achieve virtually.

Overall, despite the challenges in the implementation of technology, the perception of the effectiveness of the academic management transformation model through digital technology at STIK Jakarta tends to be positive. All groups felt significant benefits, both in terms of efficiency, ease of access, and quality of teaching and administration. However, they also expect an increase in technical support, training, and a balance between the use of technology and direct interaction in support of better academic processes in the future.

DISCUSSION

The findings of this study are corroborated by a range of prior research that has reported comparable outcomes. A number of relevant studies emphasize that the integration of digital technology into academic management enhances institutional efficiency, fosters greater satisfaction among academic stakeholders, and strengthens the overall effectiveness of educational transformation. A synthesis of the present findings in relation to previous studies is outlined below.

The level of student satisfaction with the use of technology in academic management at the Jakarta College of Police Sciences (STIK).

The survey results show that student satisfaction with the use of technology in academic management at STIK Jakarta is relatively high. Students particularly value the convenience of accessing academic systems, registration,

and online services. This aligns with studies highlighting that digital systems that are easy to use and accessible contribute significantly to student satisfaction (Keržič et al., 2021). Furthermore, the DeLone and McLean IS Success Model emphasizes that information quality, system quality, and service quality are key determinants of user satisfaction.

Nevertheless, some aspects, such as system responsiveness and interactive communication between students and lecturers, still require improvement. Research suggests that higher levels of interaction, feedback, and instructor support are essential to improving satisfaction in digital learning (Wong & Chapman, 2023). Therefore, STIK Jakarta needs to optimize both the technical and pedagogical dimensions of its digital systems.

The level of lecturer satisfaction with the use of technology in academic management at the Jakarta College of Police Sciences (STIK).

Lecturers at the Jakarta College of Police Sciences (STIK) generally expressed a moderate-to-high level of satisfaction with the use of digital technology in academic management. Many of them acknowledged that digital platforms have streamlined routine administrative tasks, such as managing grades, preparing schedules, and submitting academic reports, thereby reducing the time and energy spent on manual processes. This increased efficiency has allowed lecturers to allocate more attention to their primary roles in teaching, mentoring students, and conducting research, which are central to academic quality and institutional development (Steinert et al., 2016). Such findings are consistent with prior research that highlights the positive contribution of digital technology in minimizing administrative burdens while simultaneously enhancing academic productivity (Woelert, 2023; Nemani, 2025).

Nevertheless, despite these benefits, several lecturers reported experiencing certain challenges, particularly in adapting to newly introduced platforms and in maintaining a consistent level of digital literacy among faculty members. Some lecturers required additional time to adjust to the features of new systems, while others expressed concerns about the uneven pace of adoption across departments, which occasionally led to delays in coordination and implementation (Porter & Graham, 2016). These challenges underscore the importance of continuous training, capacity building, and robust institutional support in order to optimize the effectiveness of technology integration. Previous studies have also affirmed that the sustainability of digital academic management systems depends not only on the technological infrastructure but also on the readiness and competence of users, with adequate training programs being essential to foster lecturer satisfaction and long-term engagement (Veseli, Hasanaj, & Bajraktari, 2025)

The level of administrative staff satisfaction with the use of technology in academic management at the Jakarta College of Police Sciences (STIK).

Administrative staff at the Jakarta College of Police Sciences (STIK) generally reported a high level of satisfaction with the adoption of digital technology in academic management. They highlighted that the use of digital systems has significantly improved work efficiency, accelerated data processing, and enhanced transparency in academic information management. Furthermore, digitalization was perceived as reducing the burden of manual tasks that were previously time-consuming and prone to errors, allowing staff to focus more on strategic aspects of academic services. These findings are consistent with prior studies, which emphasize that digital systems can enhance administrative workflows, reduce mistakes, and improve the overall quality of services provided to students, lecturers, and the wider academic community (Al Mulhem, 2020; Aithal & Maiya, 2023).

Despite these benefits, some administrative staff still encountered challenges related to system integration and the need for interoperability across different digital platforms. In certain cases, this led to the duplication of tasks, such as re-entering the same data into multiple systems, and hindered the effectiveness of inter-unit coordination. This situation underscores that the success of digital transformation is not only determined by the availability of technology but also by the extent to which systems are integrated into a cohesive academic digital ecosystem (Buinytska, Smirnova, Terletska, Varchenko-Trotsenko, & Hrytseliak, 2024). Supporting evidence from previous research demonstrates that insufficient system integration can decrease staff productivity, increase resistance to new technologies, and limit the full potential of digital transformation (Florek-Paszowska & Ujwary-Gil, 2025). Therefore, strengthening interoperability and developing a comprehensive system integration strategy are urgent requirements for achieving sustainable success in academic management transformation.

The effectiveness of the academic management transformation model through the sustainable implementation of digital technology in the Society 5.0 era.

The findings reveal that the academic management transformation model through sustainable digital technology implementation in the Society 5.0 era is perceived as effective. This effectiveness is evident in improved efficiency, increased stakeholder satisfaction, and better decision-making processes. Research supports this, noting that

digital transformation fosters institutional agility and innovation in higher education management (Menon & Suresh, 2021).

However, the long-term effectiveness of such models depends on continuous adaptation, investment in infrastructure, and fostering a culture of innovation. As highlighted by Emran (2025), successful digital transformation requires not only technological tools but also leadership commitment and cultural change.

The perceptions of academic stakeholders regarding the effectiveness of the academic management transformation model through the sustainable implementation of digital technology in the Society 5.0 era.

Overall, the academic community at STIK Jakarta views digital technology as highly beneficial and supportive of institutional transformation. Students highlighted easier access to academic information, feedback, and learning materials, while lecturers emphasized the efficiency gained in grading, scheduling, and communication. These improvements are seen to enhance transparency, accessibility, and overall academic quality, aligning with global studies that show digital tools foster trust and broader participation in academic processes (Khotimah, Bahtiar, Ningsih, & Ahmad, 2024; Tinapay, Dacanay, Gabut, & Macario, 2024).

However, concerns remain regarding equity of access, varying levels of digital literacy, and the risk of over-reliance on technology. Some students and staff still face challenges in adapting to new systems or lack sufficient infrastructure support, which may hinder inclusivity. Moreover, excessive dependence on digital systems may reduce opportunities for human interaction that are essential for critical thinking and professional development (DuBois, Krasny, & Russ, 2019). These concerns are in line with prior research, which emphasizes that successful digital transformation must balance technological efficiency with inclusivity and interpersonal engagement to ensure sustainability (Martínez-Peláez et al., 2023).

CONCLUSION

This study concludes that the implementation of digital technology in academic management at the Jakarta College of Police Sciences (STIK) has generally produced positive outcomes for students, lecturers, and administrative staff. The findings reveal that students perceive technology as improving accessibility, efficiency, and transparency in academic services. Lecturers, while acknowledging the benefits of digital systems in reducing administrative burdens and facilitating teaching, also highlighted challenges related to digital literacy and the need for ongoing institutional support. Administrative staff reported a high level of satisfaction, particularly in terms of efficiency and data management, though system integration and interoperability remain significant concerns.

Furthermore, the overall perception of the academic community demonstrates that digital transformation aligns with the institution's vision for modernization and sustainability in the Society 5.0 era. Nevertheless, issues of inclusivity, equitable access, and the potential over-reliance on technology require careful attention to ensure that digital transformation enhances rather than hinders academic quality. In line with previous studies, this research underscores the importance of balancing technological innovation with human interaction and capacity building. Therefore, it is recommended that future strategies focus on strengthening digital literacy, improving system integration, and promoting inclusive access to maximize the long-term effectiveness of academic management transformation.

REFERENCES

1. Aithal, P. S., & Maiya, A. K. (2023). Development of a new conceptual model for improvement of the quality services of higher education institutions in academic, administrative, and research areas. *International Journal of Management, Technology, and Social Sciences (IJMTS)*, 8(4), 260–308.
2. Al Mulhem, A. (2020). Investigating the effects of quality factors and organizational factors on university students' satisfaction of e-learning system quality. *Cogent Education*, 7(1), 1787004.
3. Anderson, T. (2020). A critical look at educational technology from a distance education perspective. *Digital Education Review*, (37), 208–229. <https://doi.org/10.1344/DER.2020.37.208-229>
4. Andrey, B. J. (2020). Challenges and trends of the 21st century in higher education. *Revista de Ciencias Sociales*, 26(2), 141–154. <https://doi.org/10.31876/rcc.v26i0.34119>
5. Brunetti, F. (2020). Digital transformation challenges: strategies emerging from a multi-stakeholder approach. *TQM Journal*, 32(4), 697–724. <https://doi.org/10.1108/TQM-12-2019-0309>
6. Buinytska, O., Smirnova, V., Terletska, T., Varchenko-Trotsenko, L., & Hrytseliak, B. (2024). Theoretical exploration of the design of the open university ecosystem and its security challenges within the realm of digital transformation. *CPITS-II 2024: Cybersecurity Providing in Information and Telecommunication Systems II 2024*, (3826), 115–128.
7. Cardellino, P. (2020). Designing for transformation—a case study of open learning spaces and educational change. *Pedagogy, Culture and Society*, 28(3), 383–402. <https://doi.org/10.1080/14681366.2019.1649297>
8. Dai, Y. (2024). A systematic literature review of the smart city transformation process: The role and interaction of stakeholders and technology. *Sustainable Cities and Society*, 101. <https://doi.org/10.1016/j.scs.2023.105112>

9. Doyle-Kent, M. (2021). Adoption of collaborative robotics in industry 5.0. An Irish industry case study. *IFAC-PapersOnLine*, 54(13), 413–418. <https://doi.org/10.1016/j.ifacol.2021.10.483>
10. DuBois, B., Krasny, M. E., & Russ, A. (2019). Online professional development for environmental educators: Strategies to foster critical thinking and social interactions. *Environmental Education Research*, 25(10), 1479–1494.
11. Emran, M. S. Al. (2025). *Developing a Conceptual Framework for IT Business Knowledge Management and Organizational Learning Systems*.
12. Florek-Paszowska, A., & Ujwary-Gil, A. (2025). The Digital-Sustainability Ecosystem: A conceptual framework for digital transformation and sustainable innovation. *Journal of Entrepreneurship, Management and Innovation*, 21(2), 116–137.
13. George, B. (2023). Managing the Strategic Transformation of Higher Education through Artificial Intelligence. *Administrative Sciences*, 13(9). <https://doi.org/10.3390/admsci13090196>
14. Ghobakhloo, M. (2023). Behind the definition of Industry 5.0: a systematic review of technologies, principles, components, and values. *Journal of Industrial and Production Engineering*, 40(6), 432–447. <https://doi.org/10.1080/21681015.2023.2216701>
15. Hernandez-de-Menendez, M. (2020). Competencies for Industry 4.0. *International Journal on Interactive Design and Manufacturing*, 14(4), 1511–1524. <https://doi.org/10.1007/s12008-020-00716-2>
16. Ionescu, C. A. (2020). Sustainability analysis of the e-learning education system during pandemic period—COVID-19 in Romania. *Sustainability (Switzerland)*, 12(21), 1–22. <https://doi.org/10.3390/su12219030>
17. Keržič, D., Alex, J. K., Alvarado, R. P. B., da Silva Bezerra, D., Cheraghi, M., Dobrowolska, B., ... Aristovnik, A. (2021). Academic student satisfaction and perceived performance in the e-learning environment during the COVID-19 pandemic: Evidence across ten countries. *PLoS ONE*, 16(10 October 2021), 1–23. <https://doi.org/10.1371/journal.pone.0258807>
18. Khotimah, K., Bahtiar, M. D., Ningsih, Y. F., . M. A., & Ahmad, N. (2024). Advancing Efficiency, Transparency, and Accuracy of Digital Quality Assurance Systems in Higher Education. *Education Quarterly Reviews*, 7(4), 300–310. <https://doi.org/10.31014/aior.1993.07.04.545>
19. Kitsios, F. (2021). Digital transformation and strategy in the banking sector: Evaluating the acceptance rate of e-services. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(3). <https://doi.org/10.3390/joitmc7030204>
20. Kumari, R. (2020). Co-creation for social innovation in the ecosystem context: The role of higher educational institutions. *Sustainability (Switzerland)*, 12(1), 1–21. <https://doi.org/10.3390/su12010307>
21. Martínez-Peláez, R., Ochoa-Brust, A., Rivera, S., Félix, V. G., Ostos, R., Brito, H., ... Mena, L. J. (2023). Role of digital transformation for achieving sustainability: mediated role of stakeholders, key capabilities, and technology. *Sustainability*, 15(14), 11221.
22. Menon, S., & Suresh, M. (2021). Factors influencing organizational agility in higher education. *Benchmarking: An International Journal*, 28(1), 307–332.
23. Meyer, M. W. (2020). Changing Design Education for the 21st Century. *She Ji*, 6(1), 13–49. <https://doi.org/10.1016/j.sheji.2019.12.002>
24. Miguel, N. P. (2020). Assessment of the development of professional skills in university students: Sustainability and serious games. *Sustainability (Switzerland)*, 12(3). <https://doi.org/10.3390/su12031014>
25. Montiel, H. (2021). Educational challenges for computational thinking in k–12 education: A systematic literature review of “scratch” as an innovative programming tool. *Computers*, 10(6). <https://doi.org/10.3390/computers10060069>
26. Nemani, S. (2025). Evaluating the Impact of Artificial Intelligence on Reducing Administrative Burden and Enhancing Instructional Efficiency in Middle Schools. *Current Perspectives in Educational Research*, 8(1), 1–16.
27. Porter, W. W., & Graham, C. R. (2016). Institutional drivers and barriers to faculty adoption of blended learning in higher education. *British Journal of Educational Technology*, 47(4), 748–762.
28. Rodríguez-Abitia, G. (2020). Digital gap in universities and challenges for quality education: A diagnostic study in Mexico and Spain. *Sustainability (Switzerland)*, 12(21), 1–14. <https://doi.org/10.3390/su12219069>
29. Sato, S. N. (2024). Navigating the New Normal: Adapting Online and Distance Learning in the Post-Pandemic Era. *Education Sciences*, 14(1). <https://doi.org/10.3390/educsci14010019>
30. Savelyeva, T. (2022). Blockchain technology for sustainable education. *British Journal of Educational Technology*, 53(6), 1591–1604. <https://doi.org/10.1111/bjet.13273>
31. Steinert, Y., Mann, K., Anderson, B., Barnett, B. M., Centeno, A., Naismith, L., ... Viggiano, T. (2016). A systematic review of faculty development initiatives designed to enhance teaching effectiveness: A 10-year update: BEME Guide No. 40. *Medical Teacher*, 38(8), 769–786.
32. Stoumpos, A. I. (2023). Digital Transformation in Healthcare: Technology Acceptance and Its Applications. *International Journal of Environmental Research and Public Health*, 20(4). <https://doi.org/10.3390/ijerph20043407>
33. Tinapay, A. O., Dacanay, L., Gabut, G., & Macario, R. D. (2024). Student-centered quality assurance in higher education: Promoting trust and transparency through collaborative approaches. *International Journal of Multidisciplinary Research and Publications*, 6(9), 79–84.
34. Veseli, A., Hasanaj, P., & Bajraktari, A. (2025). Perceptions of Organizational Change Readiness for Sustainable Digital Transformation: Insights from Learning Management System Projects in Higher Education Institutions. *Sustainability*, 17