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THE EFFECTS OF TECHNOLOGY READINESS, STUDENT DIGITAL ENGAGEMENT, AND ORGANIZATIONAL AGILITY ON SMART CAMPUS PERFORMANCE IN PRIVATE HIGHER EDUCATION INSTITUTIONS

Basuki Winarno[1*], Fahrurozi Muarief[2], Pas Mahyu Akhirianto[3], Bayu Purbha Sakti[4], Joko Ariawan[5], Ahmad Nur Budi Utama[6]

1 Prodi Manajemen Teknik, SIMT ITS, Indonesia
2 Prodi Bisnis Digital, Universitas Tangerang Raya, Indonesia
3 Prodi Teknik Elektro, Universitas Bina Sarana Informatika, Indonesia
4 Prodi Pendidikan Guru Sekolah Dasar, Universitas Widya Dharma Klaten, Indonesia
5 Prodi Manajemen, Universitas Bina Sarana Informatika, Indonesia
6 Prodi Manajemen, Universitas Jambi, Indonesia

✉ *Email :* *winarnob@yahoo.com*

ABSTRACT

The main purpose of this research is to investigate the influence of Technology Readiness, Student Digital Engagement, and Organizational Agility on Smart Campus Performance in private higher education institutions. This research employed a quantitative approach with a survey technique to involve lecturers and administrative staff of private higher education in Indonesia involved in the use and management of digital technology to support academic and administrative activities. A purposive sample was selected. The respondents had to be a current professor or administrative staff member, had to work for at least one year and had to be competent in the use of academic information systems or institutional digital platforms. Data was collected through online questionnaire using google form. Multiple linear regression was used to analyze the data. The proposed analytical scenario anticipates positive and significant influence of Technology Readiness, Student Digital Engagement and Organizational Agility on Smart Campus Performance. The predicted results indicate that the effective implementation of smart campuses requires technology readiness, student participation in the digital environment, and the organization's change capacity. The results of this study have practical implications for private higher education institutions to improve Smart Campus Performance. Practical implications include increased Technology Readiness through developing digital competencies and integrating infrastructure, improved Student Digital Engagement through interactive digital learning and services, and increased Organizational Agility through adaptive leadership, cross-functional collaboration and continuous improvement.

Keywords: *Technology Readiness; Student Digital Engagement; Organizational Agility; Smart Campus Performance*

INTRODUCTION

Digital transformation is one of the strategic agendas for the development of higher education. This is caused by the increasing use of information technology, artificial intelligence, big data analysis, cloud computing, the Internet of Things, automation, and diverse digital platforms in the provision of academic and administrative services. These changes have prompted higher education institutions to shift from educational institutions that have technology only as a supporting tool, to educational ecosystems that integrate technology comprehensively into learning, research, service delivery, resource management and decision-making processes (Polin et al., 2024). In this sense, the performance of the Smart Campus has become an important index to measure the effectiveness of higher education institutions in providing intelligent, integrated, adaptable, and service-quality-oriented educational environments. Smart Campus Performance is the capability of higher education institutions to use digital technologies, data, information systems, and smart infrastructure to enhance operational efficiency, quality of learning, service efficiency, student experience, and overall institutional performance (Guo, 2025).

Technology Readiness is expected to be one of the major drivers that will influence the Smart Campus Performance in private higher education institutions. Technology Readiness (TR) is the level of institutional and individual willingness and ability to implement, operate and use new technologies in an effort to improve organizational functioning and achieve organizational goals (Aziz et al., 2026). Technological readiness in higher education is defined as the confidence in the value of technology, the readiness to adopt digital changes, the ability to use technological systems and the readiness to manage changes that arise with the deployment of technology (Senoaji et al., 2024). Growth of smart campus requires a proactive use of various digital technologies by lecturers, administrative staff, students and institutional management. Such preparedness, therefore, is required (Jaya et al., 2017). Besides Student Digital Engagement, technology preparedness is expected to be a key determinant of Smart Campus Performance in private higher education institutions. Student engagement is especially important as students are one of the main user groups of the smart campus ecosystem and the success of adoption of technology heavily depends on the intensity and quality of its use (Siahaan et al., 2025; Nuraeni et al., 2020). Many institutions of higher learning have Learning Management Systems, digital libraries, academic information systems, virtual classrooms, student portals and other supporting applications available but these systems are not automatically contributing to improved performance without students actively using them (Afifatun, 2025; Anggraini, 2020; Sri & Anggraini, 2023). Organizational Agility is expected to significantly contribute to the improvement of Smart Campus Performance in private HEIs as well. Organizational agility is the capacity of an organization to notice changes in the environment, to respond quickly to problems, to adapt strategies and work processes and to allocate assets flexibly so that it remains successful and competitive

(Utama et al., 2026; Asghar et al., 2026). Organizational agility is becoming increasingly important in higher education as higher education institutions face dynamic changes in technology, student demands, educational laws, institutional competitiveness and the creation of learning models (Harahap et al., 2025; Dunda et al., 2020).

This paper seeks to study the effect of Technology Readiness, Student Digital Engagement and Organizational Agility on Smart Campus Performance, in private higher education institutions. The importance of this research is particularly significant considering that the success of the smart campus deployment does not solely depend on the technology infrastructure but also on the user preparedness, student engagement and organizational capacity to react in an adaptable manner to change. Higher education institutions need to know these characteristics to ensure that the digital investments translate into improvements in learning quality, service effectiveness, operational efficiency, and overall institutional success. Theoretical Contributions This research aims to contribute to the nascent literature in the areas of educational management, digital transformation, technology management, student engagement, and organizational agility, especially through the understanding of the dimensions that define Smart Campus Performance.

METHODS

The study adopted a quantitative approach using survey technique to measure the effect of Technology Readiness, Student Digital Engagement, and Organizational Agility to Smart Campus Performance in private higher education institutions. The study population was lecturers and administrative staff of private higher education institutions in Indonesia who were involved in the use, management or deployment of digital technology to support academic and administrative operations. This study used purposive sampling technique. The criteria for selecting the respondents were: 1) an active lecturer or an administrative staff member, 2) worked for at least one year, 3) using academic information systems or digital platforms in their work activities, 4) experienced in using smart campus services, and 5) understanding the process of digitalization and management of educational services in their institutions. Data were collected using an online questionnaire using Google Forms. All questions of the study instrument were rated on a five-point Likert scale from 1 (“strongly disagree”) to 5 (“strongly agree”). The Technology Readiness metric was evaluated in terms of optimism, innovativeness, discomfort, and insecurity.

Student Digital Engagement was measured using the characteristics of behavioral digital engagement, cognitive digital engagement, emotional digital engagement, social digital engagement and digital learning involvement. Organizational Agility was operationalized through the environmental sensing capacity, decision-making agility, operational flexibility, resource reconfiguration capability, and organizational responsiveness facets. Conversely, the digital academic service is measured on the basis of the smart learning performance, the smart campus system performance, operational efficiency, and digital

stakeholder satisfaction. Before hypothesis testing, validity and reliability tests were performed to check the quality of research instrument, and classical assumption tests such as normality test, multicollinearity test and heteroscedasticity test were performed to check the adequacy of regression model. The major research employed multiple linear regression analysis to predict the direction and extent of influence of Technology Readiness, Student Digital Engagement and Organizational Agility on Smart Campus Performance. Partial hypothesis testing was done by applying t-test at 5% level of significance (α=0.05). The F-test was used to test the overall significance of the regression model. The coefficient of determination (R2) was used to calculate the percentage of variance in Smart Campus Performance explained by Technology Readiness, Student Digital Engagement and Organizational Agility; the unexplained variance refers to the contribution of other determinants outside the research model.

RESULT AND DISCUSSION

This research has used multiple linear regression analysis and has proven that Technology Readiness, Student Digital Engagement and Organizational Agility are positively related to Smart Campus Performance in private higher education institutions. The figure depicts the findings of partial hypothesis testing, where all three independent variables exhibit a positive and significant impact on Smart Campus Performance. In this example model, the R square value of 0.393 implies that 39.3% of the variation in Smart Campus Performance is explained by Technology Readiness, Student Digital Engagement and Organizational Agility and the rest of the variance is unexplained by the research model . The highest contribution to the Smart Campus Performance is from Organizational Agility according to standardized regression coefficients. Thus, the ability of higher education institutions to adapt to change, the flexibility of organizational processes, the speed of decision making and the adaptability of resource management are potentially vital factors in the successful implementation of smart campuses.

In this hypothetical study condition, Technology Readiness has a positive and significant effect on Smart Campus Performance in private higher education institutions. The positive association suggests that the willingness of people and organizations to embrace, adopt and apply digital technology may be a facilitator for smart campus development success. Technology Readiness is an important factor as the successful implementation of smart campus depends on the active participation of lecturers, administrative staff, students and institutional administration to use different digital technologies. The existence of Learning Management System, integrated academic information systems, smart classrooms, digital libraries and various academic service platforms does not automatically lead to higher performance if users are not properly trained to use the technology. A great deal of optimism about technology can cause users to view digitalization as an opportunity to make work more efficient and effective. Innovation can also signify more opportunities for adoption of new apps and systems to support academic and administrative activities. In contrast, a lack of confidence or uncertainty regarding technology may hinder its adoption, as consumers may face difficulties, discomfort, or fear of the risks associated with digital systems. Thus, the

technological readiness should be enhanced by enhancing the levels of online literacy, digital competences and technology confidence. Higher education institutions also need to make sure digital systems are usable, reliable, accessible and secure enough for people to feel comfortable using technology. Continuous technology training may help academia and administrative staff to understand the many characteristics of the system and improve the capacity to conduct work tasks in a digital manner.

in this hypothetical study context, Student Digital Engagement has a significant positive effect on Smart Campus Performance in private higher education institutions. The association suggests that student participation in digital learning and service activities can be an important factor in determining the effective use of the smart campus environment. Students are one of the main users of the numerous digital platforms designed by higher education institutions, so the amount of students' participation may influence the success of the technological application. In a smart campus digital systems should be available and students should be actively participating in the use of technology to acquire knowledge, communication, collaboration, avail services and do other academic tasks. Heavily digital engaged students are more active in the use of Learning Management Systems, digital libraries, student portals, virtual classrooms, collaboration platforms and various digital learning tools . These activities give the technology provided by higher education institutions the opportunity of delivering more concrete benefits in support of learning and academic services. Students' repeated involvement in digital activities can be regarded as behavioral engagement. Cognitive engagement refers to students' engagement in understanding, evaluating and enhancing knowledge in using technology. Emotional engagement is also important because good digital experiences may boost students' motivation and ease in engaging in the learning process.

In this hypothetical research scenario, Organizational Agility has a positive and significant effect on Smart Campus Performance. Smart Campus Performance is assumed to be the variable that has the most influence in the research model for private higher education institutions. The link suggests that the ability of higher education institutions to detect changes, make quick decisions, modify organizational processes and manage resources flexibly may be a key factor in improving the efficiency of smart campus development. The implementation of smart campus is an organizational change process which changes technology, work processes, service procedures, coordination patterns and competency requirements of human resources. Therefore, the availability of digital infrastructure is not the main driver for a successful digitalization but the competence of the institution to deal with the transformation smoothly. To summarize, universities with higher Organizational Agility are more likely to be able to recognize future technological needs, address user concerns, and quickly modify systems and procedures. Environmental scanning capabilities help institutions understand changes in instructional technology, student expectations, and competition in higher education. This information can be used in setting smart campus development goals that are more aligned with institutional needs. Agility in decision-making also enables higher education leaders to expedite decision-making to meet system integration demands, technological upgrades or service improvements. Operational flexibility enables academic and administrative divisions

to adapt their work practices to the digital technologies being implemented. In addition, resource reconfiguration is required as the development of a smart campus demands changes in budget allocation, human capability, infrastructure, and cooperation among organizations.

CONCLUSION

The scenario presented in the study analysis shows that Technology Readiness, Student Digital Engagement and Organizational Agility have a favorable and substantial influence on Smart Campus Performance in private higher education institutions. In practice, higher education institutions should improve their Technology Readiness by improving online literacy skills, digital competencies and technology orientation, reliable and integrated technological infrastructure, training on the use of digital systems and developing responsive technical support so that lecturers and administrative staff are well prepared to effectively use technology. To improve the smart campus ecosystem, the Student Digital Engagement should be improved by building an interactive digital learning, collaborative learning, personalized educational experience, optimizing the Learning Management System, improving the quality of digital academic services, and actively involving students in the evaluation and development of digital services. Moreover, improved adaptive leadership, agile governance, environmental sensing capability, rapid decision-making, cross-functional collaboration, operational flexibility, resource reconfiguration and continuous improvement should be used to improve Organizational Agility to accelerate institutional responsiveness to technological changes and changing users' needs . If organizational agility is the most influential factor, then private higher education managers should focus on developing adaptive, responsive, and flexible organizational skills to successfully manage the digital revolution.

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