JURNAL AL-FIKRAH
ISSN: 2085-8523 (P); 2746-2714 (E)

Received: 04-10-2025 | **Accepted:** 31-12-2025 | **Published:** 31-12-2025

Analysis of Students' Technological Ethics from the Perspective of the Digital Citizenship Framework in Higher Education

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ABSTRACT

This study analyzes students' technological ethics through the lens of the Digital Citizenship Framework, focusing on a case study at Sunan Kudus State Islamic University. The research is motivated by the growing integration of digital technologies in academic activities, which introduces new challenges related to digital literacy, data security, communication ethics, and responsible online behavior. A qualitative-descriptive approach was employed to explore students' digital behavior patterns, ethical perceptions, and their experiences in managing technology-based academic interactions. Data were collected through in-depth interviews, observations, and documentation, and were analyzed using a thematic approach. The findings reveal that students generally possess a basic awareness of technological ethics, yet inconsistencies remain in their practical application, especially concerning information security, digital plagiarism, and academic communication in digital spaces. These issues are influenced by varying levels of digital literacy, the lack of habitual ethical practices in online activities, and the limited institutional regulations governing comprehensive digital behavior. This study underscores the importance of strengthening technological ethics through value-based digital literacy curricula, continuous guidance, and collaborative efforts involving lecturers, students, and institutional stakeholders. Effective implementation is expected to foster a healthy, secure, and integrity-driven digital ecosystem within the university environment.

Key Words: Technological Ethics, Digital Citizenship, Students, Digital Literacy, Higher Education.

ABSTRAK

Penelitian ini menganalisis etika berteknologi mahasiswa dalam perspektif Digital Citizenship Framework dengan studi kasus di Universitas Islam Negeri Sunan Kudus. Latar belakang penelitian ini berangkat dari intensifikasi penggunaan teknologi digital dalam aktivitas akademik yang memunculkan tantangan baru terkait literasi digital, keamanan data, etika komunikasi, serta tanggung jawab perilaku daring mahasiswa. Pendekatan kualitatif-deskriptif digunakan untuk menggali pola perilaku digital mahasiswa, persepsi etis, serta pengalaman mereka dalam mengelola interaksi akademik berbasis teknologi. Data diperoleh melalui wawancara mendalam, observasi, dan dokumentasi, kemudian dianalisis secara tematik. Hasil penelitian menunjukkan bahwa mahasiswa pada umumnya memiliki kesadaran dasar mengenai etika berteknologi, namun belum sepenuhnya konsisten dalam penerapannya, terutama terkait keamanan informasi, plagiarisme digital, dan komunikasi akademik di ruang digital. Faktor yang memengaruhi kondisi ini antara lain variasi literasi digital, kurangnya pembiasaan nilai-nilai etis dalam aktivitas digital, serta keterbatasan regulasi kampus yang mengatur perilaku digital secara komprehensif. Penelitian ini menegaskan pentingnya penguatan etika berteknologi melalui pengembangan kurikulum literasi digital berbasis nilai, pembinaan berkelanjutan, dan kolaborasi antara dosen, mahasiswa, serta institusi. Implementasi yang tepat diproyeksikan mampu menciptakan ekosistem digital kampus yang sehat, aman, dan berintegritas.

Kata Kunci: Etika Berteknologi, Kewargaan Digital, Mahasiswa, Literasi Digital, Perguruan Tinggi.

INTRODUCTION

The rapid advancement of digital technology has significantly transformed the ways in which university students interact, access information, and construct learning environments in higher education. This transformation has not only created opportunities for innovation but has also introduced ethical challenges related to the use of digital devices, data management, and communication behavior within academic cyberspace. In the context of Islamic higher education, such as at Universitas Islam Negeri Sunan Kudus, technological ethics has become increasingly crucial, as learning processes and student activities now heavily rely on digital systems that demand moral responsibility, integrity, and adequate digital literacy. Strengthening ethical awareness is therefore essential to enable students to become intelligent and responsible digital citizens.

While technology offers extensive benefits, various studies indicate a paradox in its utilization. Bimantoro explains that technological development in the era of Society 5.0 has given rise to ethical dilemmas such as data misuse, digital dependency, and communication behavior that deviates from academic norms (Bimantoro et al., 2021). This phenomenon demonstrates that technical competence alone is insufficient; students require a comprehensive understanding

of digital ethics to prevent the negative impacts of technological use. In the context of digital-based da'wah and social interaction, Apriliani emphasizes that the successful use of technology is largely determined by ethical and responsible digital behavior, including in community communication and information dissemination (Apriliani et al., 2022).

Other studies further affirm the importance of enhancing digital literacy as part of shaping users' character in technology utilization. Handayani shows that digital literacy programs are capable of improving users' capacity to utilize technology productively and safely (Handayani, 2023). Meanwhile, Mahabatillah highlights that the development of modern curricula that are adaptive to digital needs serves as an essential foundation for educational institutions in shaping students' digital behavior (Mahabatillah et al., 2024). Furthermore, Mumpuni asserts that the development of civic character within educational settings must include responsible technology use, encompassing digital integrity and compliance with academic norms (Mumpuni et al., 2025).

Nevertheless, previous studies indicate that research on students' technological ethics remains relatively general and has not been extensively linked to the Digital Citizenship Framework, which encompasses dimensions such as digital etiquette, digital rights and responsibilities, digital communication, digital security, and digital literacy. The research gap emerges as most studies focus primarily on digital behavior within the context of online learning or general digital literacy, without conducting an in-depth analysis of the integration of digital ethics based on a comprehensive digital citizenship framework within Islamic higher education institutions. In addition, no comprehensive study has been identified that examines students' technological ethics through a case study at Universitas Islam Negeri Sunan Kudus, particularly regarding how students understand, apply, and respond to digital citizenship values in their academic and non-academic activities.

The novelty of this study lies in its approach, which systematically integrates the analysis of students' digital behavior with the Digital Citizenship Framework. This study not only maps various forms of ethical and unethical behavior in technology use but also identifies institutional, cultural, and personal factors that influence the formation of students' digital ethics. Its uniqueness is further reflected in its context—an Islamic public university—where technological ethics is viewed not only from legal and social perspectives but also through religious moral values. Accordingly, this study contributes theoretically by expanding the conceptualization of digital citizenship within the framework of Islamic higher education, while also offering practical recommendations for strengthening technology ethics education that is relevant to students' needs in the digital era.

The objective of this study is to analyze the technological ethical behavior of students at Universitas Islam Negeri Sunan Kudus from the perspective of the Digital Citizenship Framework. Specifically, this study aims to: (1) identify forms of students' digital behavior in academic and social activities; (2) analyze these behaviors based on the nine elements of digital citizenship proposed by Ribble; and (3) formulate strategic implications for strengthening technological ethics in higher education. This study is expected to contribute to enhancing digital ethical awareness and to the development of policies that foster students as ethical and responsible digital citizens.

RESEARCH METHOD

This study employed a qualitative-descriptive approach (Ratnaningtyas, 2023) to gain an in-depth understanding of students' technological ethics practices from the perspective of the Digital Citizenship Framework at Universitas Islam Negeri (UIN) Sunan Kudus. This approach was selected because issues of digital ethics are not only related to observable behavior but are also influenced by students' mindsets, habits, values, and understanding in using digital technology. Through this approach, the researcher was able to examine the phenomenon holistically within the socio-cultural context of the campus environment.

1. Research Design

The research design used was a case study, as this study focused specifically on one location, namely UIN Sunan Kudus, to explore the phenomenon of technological ethics in depth. The case study approach enabled the researcher to understand the unique context of the higher education institution, including academic, institutional, and social factors that shape students' digital behavior. The analysis referred to the nine domains of the Digital Citizenship Framework, namely digital access, digital communication, digital etiquette, digital literacy, digital law, digital rights and responsibilities, digital health and wellness, digital security, and digital commerce. However, this study concentrated on the domains most relevant to students' digital ethics, particularly digital etiquette, digital law, digital security, and digital communication.

2. Research Site and Subjects

The research was conducted at UIN Sunan Kudus, with the primary subjects comprising active undergraduate students from various faculties. The selection of informants was carried out using purposive sampling, namely selecting students who were considered capable of providing the most relevant information based on their experiences in digital activities, including online learning, social media use, and technology-based academic interactions. Key

informants included students from early to final academic levels, as well as lecturers or educational staff as supporting informants who were able to provide institutional perspectives on technological ethics within the campus environment.

3. Data Collection Techniques

Data were collected through three main techniques, namely:

a. In-Depth Interviews.

Interviews were conducted using a semi-structured format to allow the researcher to explore students' experiences in using technology, their perceptions of digital ethics, and their actual practices in academic interactions. The interview guidelines were developed based on the domains of the Digital Citizenship Framework.

b. Observation.

Observations were carried out on various student activities involving technology use, such as interactions on learning platforms, patterns of social media use in academic contexts, and digital communication ethics with lecturers. These observations provided empirical data regarding students' actual behavior.

c. Documentation.

Documentation was used to collect data in the form of campus technological ethics guidelines, digital media usage policies, academic regulations related to online behavior, and digital learning materials.

4. Data Analysis Techniques

Data analysis was conducted using the Miles and Huberman model (Sugiono, 2016), which consists of three stages:

a. Data reduction, namely the process of selecting, focusing, and organizing data obtained from interviews, observations, and documentation.
b. Data display, presented in the form of thematic narratives according to categories of technological ethics.
c. Conclusion drawing, which involved formulating research findings based on emerging patterns, relationships, and trends.

5. Data Validity

To ensure data validity, this study employed source and method triangulation techniques. Triangulation was conducted by comparing data obtained from students, lecturers, and official campus documents, as well as by matching interview results with observations. This process aimed to ensure that the data collected were consistent and scientifically accountable.

RESULTS AND DISCUSSION

Patterns of Students' Technological Ethical Behavior at Universitas Islam Negeri Sunan Kudus

The research findings indicate that the patterns of students' technological ethical behavior at Universitas Islam Negeri Sunan Kudus (UIN Sunan Kudus) are shaped through the interaction of digital understanding, technology usage habits, and the influence of the academic environment. Their behavior reflects a complex dynamic between awareness of digital norms, the demands of academic needs, and varying levels of digital literacy development. Through in-depth interviews with students and lecturers, it was observed that students' technological ethical behavior is not uniform, but instead forms specific patterns that can be mapped into aspects of digital communication, data security, compliance with campus regulations, and responsibility in technology-based academic interactions.

Patterns of ethical behavior in digital communication emerged as the most prominent aspect of students' academic lives. Most students demonstrated a basic understanding of communication ethics, particularly when interacting with lecturers through messaging applications or learning platforms such as WhatsApp, Google Classroom, and the campus Learning Management System (LMS). They tended to use polite and formal language, although some students admitted that they still struggled to maintain consistency in using academic language. One lecturer stated that students today tend to respond more quickly to digital messages than to face-to-face communication, yet often pay insufficient attention to message structure. For example, some students directly send assignment files without greetings or explanations, indicating a weak understanding of digital communication ethics. However, other students have shown maturity in communication ethics by including opening greetings, clear message purposes, and polite closings. These differences indicate that students' digital communication ethics patterns are still highly dependent on personal experience, lecturer guidance, and habits formed throughout the academic process.

Findings regarding ethics in the use of digital materials reveal a considerable gap between students' academic understanding and their actual practices. Many students stated that they understood the importance of maintaining the originality of scientific work and avoiding plagiarism. However, interview results showed that some students still relied on copy–paste practices from the internet without a deep understanding of citation rules and source attribution. Lecturers acknowledged that this was not solely due to ill intent, but was largely caused by students' limited technical understanding of citation procedures and their lack of confidence in writing in their own words. Some students also stated that the heavy workload within a short time frame often

pushed them to take instant shortcuts. On the other hand, there is a group of students who are highly concerned about academic integrity and consistently ensure that every quotation is properly attributed. These differences reflect variations in students' levels of academic literacy and form patterns of technological ethics that are not yet evenly distributed.

With regard to digital security, many students understood the importance of protecting account privacy, but had not fully implemented adequate security measures. Interviews indicated that some students still used the same passwords for multiple platforms or shared their accounts with friends when working in groups. These habits pose potential risks of personal and academic data breaches. Several students admitted that they had experienced account takeovers or loss of access, yet were unaware that the causes were related to unsafe technology usage patterns. Lecturers interviewed stated that similar cases frequently occur, particularly among first-year students who have not yet developed sufficient experience in managing digital security. However, there are also students who demonstrate a high level of digital security awareness by using two-factor authentication, regularly changing passwords, and avoiding the use of public devices to access academic accounts. These findings indicate that ethical patterns related to digital security are influenced by experience, levels of technological literacy, and risk awareness.

Patterns of ethics related to compliance with campus technology usage regulations show a generally positive tendency, albeit with several critical notes. In general, students attempt to comply with the rules governing the use of digital campus platforms, including assignment submission deadlines, discussion forum etiquette, and the responsible use of LMS features. Nevertheless, unethical behaviors are still found, such as uploading assignments carelessly, violating deadlines under the pretext of technical issues, and manipulating submission times by altering file formats or exploiting system loopholes. Lecturers noted that although students already understand the rules, some still attempt to find shortcuts, particularly when academic workloads increase. However, the majority of interviewed students stated that campus regulations help them become more disciplined and responsible in their use of technology.

Patterns of ethical behavior related to technology-based academic interactions indicate that students have made technology an integral part of their learning, yet have not fully understood the ethical implications behind its use. For instance, many students actively participate in online discussions, but some merely copy their peers' opinions without offering critical perspectives. There are also students who turn off their cameras during online classes without providing clear reasons, thereby reducing the quality of academic interaction. Lecturers assessed that some students still perceive online classes as spaces with looser

ethical rules compared to physical classrooms. Nevertheless, students with high levels of discipline generally display consistent behavior in both online and offline learning contexts. This indicates that patterns of technological ethical behavior are still strongly influenced by personal attitudes and academic motivation.

Findings related to social media use show that students exhibit varying patterns in maintaining ethics within digital public spaces. Some students demonstrate strong awareness in filtering information, avoiding hate speech, and expressing opinions politely. However, other students are still less cautious in responding to public issues or uploading content that may potentially cause misunderstandings. Lecturers observed that social media often becomes a space where students forget their academic identity. Meanwhile, students admitted that social pressure and the desire for recognition sometimes drive them to act impulsively in the digital world.

The research findings indicate that the patterns of technological ethical behavior among UIN Sunan Kudus students can be divided into two main tendencies: a group of students with high levels of digital literacy who consistently demonstrate ethical behavior, and a group of students with limited digital literacy who tend to commit ethical violations unconsciously. The factors influencing these patterns include experience in using technology, lecturer guidance, campus policies, and the influence of the digital social environment. These patterns show that technological ethics is not merely a matter of understanding rules, but also one of habituation, guidance, and the internalization of values within the higher education environment.

Analysis of Students' Behavior Based on the Digital Citizenship Framework

The analysis of students' behavior based on the Digital Citizenship Framework indicates that students of Universitas Islam Negeri Sunan Kudus possess varying levels of understanding and implementation of digital ethics, influenced by technological literacy, experience in using digital media, and habituation within the academic environment. The Digital Citizenship Framework generally encompasses several core aspects such as digital literacy, digital communication, digital etiquette, digital rights and responsibilities, digital security, and digital law. The findings of the field study reveal that students have recognized some aspects of digital citizenship; however, their application has not been evenly distributed across all dimensions. This is in line with the view that technological development requires each individual to consistently internalize digital values, norms, and ethics so that activities in digital spaces are not only effective but also responsible (Ariani, 2014).

In the aspect of digital literacy, students demonstrate basic skills in using learning applications, lecture platforms, and digital communication devices. Most

of them are able to operate the LMS, conduct academic data searches, and access lecture materials independently. However, their analytical and evaluative abilities toward digital information remain limited. Students admit that they often rely on unverified sources and conduct minimal information verification before using them for learning purposes. This finding is consistent with analyses stating that technological development requires critical literacy so that users are not only able to access information but also to understand its values, meanings, and implications for social life (Bimantoro et al., 2021). The unevenness of digital literacy abilities can be seen from the presence of students who are capable of managing data effectively, while others rely solely on instant sources without conducting in-depth evaluation.

The aspect of digital communication is also a crucial component in the analysis of students' digital citizenship. In general, students understand the basic norms of digital communication, especially when interacting with lecturers. They tend to use polite language, although some students still pay insufficient attention to communication ethics by sending messages without greetings, without stating clear purposes, or submitting assignments without proper context. Interviews with lecturers indicate that such behavior is not due to disrespectful intentions, but rather the result of brief communication habits on social media being carried over into academic settings. This condition reinforces the view that digital media shapes new communication patterns that often blur the boundaries between informal and formal communication (Ummah, 2022). Therefore, habituation is necessary so that students are able to distinguish between personal communication styles and academic communication.

In the aspect of digital etiquette, students display varied behavior patterns. Some students are able to apply proper technological ethics such as maintaining politeness during online discussions, not sharing irrelevant content, and respecting others' privacy. However, several students still do not fully understand the boundaries of digital ethics, for example by taking screenshots of conversations without permission, sharing lecture materials in public spaces without considering copyright, or turning off cameras during online classes without prior notice. This phenomenon is in line with findings that rapid technological development often leaves users ethically unprepared even though they may be technically proficient (Ferdiansyah, 2020). Students tend to adjust their actions based on social norms within their peer groups rather than on standardized principles of digital ethics.

The next aspect is digital security, namely students' ability to maintain data protection and digital privacy. Interview results show that some students are not yet fully aware of the importance of safeguarding personal data. They use the same passwords across multiple platforms, frequently log in on public devices,

and easily share personal data with peers. This indicates that awareness of digital security remains very minimal. These findings strengthen the argument that digital communities require a deeper understanding of data misuse risks so that individuals do not easily fall into digital crimes or lose control over their privacy (Munzir et al., 2023). Nevertheless, there is also a group of students who demonstrate high levels of vigilance by using two-factor authentication and regularly updating passwords. These two patterns indicate that digital security has not yet become a collective awareness among students, but still depends largely on individual initiative.

Furthermore, in the aspect of digital rights and responsibilities, students demonstrate a partial understanding of their rights and obligations in digital spaces. They are aware that every user has the right to information, access to technology, and freedom of expression. However, when questioned about digital responsibilities such as respecting copyright, avoiding plagiarism, and maintaining academic integrity, some students do not yet fully understand the legal implications. This condition aligns with findings that digital literacy must be accompanied by an understanding of digital legal regulations so that users are not only technically competent but also socially and legally responsible (Rintaningrum et al., 2025). Lecturers also confirm that copyright violations in the form of plagiarism still occur because students are not yet able to distinguish between the use of digital materials for personal consumption and for academic publication.

In the context of technology utilization and digital transformation, students use technology as a medium for learning, social interaction, and academic task completion. The massive digital transformation in higher education encourages students to be more adaptive; however, this adaptation is not always linear. Some students are highly proficient and capable of innovation, while others still depend heavily on lecturers' instructions and have not been able to optimally utilize technology for self-development. This phenomenon is consistent with studies indicating that digitalization often creates capability gaps within a community due to differences in experience and access (Handayani, 2023). Therefore, the role of educational institutions becomes essential in ensuring that digital transformation does not create new gaps between adaptive students and those who are left behind.

On the other hand, in the aspect of digital law, students show a relatively low level of understanding. Most of them are not aware of the regulations governing technology use, intellectual property rights, or sanctions for violations in digital spaces. Students tend to perceive digital activities as free spaces, even though digital environments are regulated by various laws related to data protection, copyright, and digital security. This condition is relevant to analyses stating that technological development requires strong legal protection so that

digital activities can take place safely and do not result in violations that harm society (Supono & Dewata, 2024). The lack of students' understanding of digital legal aspects indicates the need for more intensive socialization and education programs.

The research findings indicate that students of UIN Sunan Kudus demonstrate adaptive capabilities in the use of digital technology; however, these capabilities are not yet fully accompanied by strong understandings of digital ethics, security, responsibility, and legal aspects. The behavioral patterns formed show that students are currently in a transitional phase between technical skills and ethical competence in technology use. More structured digital citizenship education is needed so that students become not merely users of technology, but also responsible, critical, and ethical digital citizens in all digital activities.

Implications of Strengthening Technological Ethics in Higher Education

Strengthening technological ethics in higher education has strategic implications for the formation of students' digital character, particularly in responding to the increasingly complex development of information technology. Higher education institutions must ensure that students not only master technology as a tool, but also understand the ethical consequences of its use. In this context, technological ethics serves as a foundation for building a healthy, responsible, and value-oriented digital culture. Strengthening these ethics becomes increasingly important as the intensity of digital platform usage in students' academic and social activities continues to rise. The success of such efforts will determine the quality of students' digital interactions and simultaneously create a safe and productive campus environment (Ariani, 2014). Moreover, the digital era, which is filled with paradoxes in technology utilization, makes students vulnerable to information misuse, plagiarism, misinformation, and unethical digital behavior; therefore, the urgency of implementing ethical standards becomes even stronger (Bimantoro, 2021).

Efforts to strengthen technological ethics also have implications for enhancing students' digital literacy. Strong digital literacy not only includes technical competence, but also a deep understanding of moral responsibility in using technology. Higher education institutions that implement value-based digital literacy programs have proven capable of shaping students' mindsets to become more selective, critical, and wise in interacting within digital spaces. The experiences of institutions that have integrated digital literacy into community service activities, such as optimizing technology for da'wah and education, show positive results in increasing participants' ethical awareness (Dyah Apriliani,

2022). This indicates that a similar approach can be applied to strengthen the digital literacy of university students. In addition, various studies on the role of technology in social transformation indicate that the success of technology utilization is strongly influenced by users' ethical understanding (Ferdiansyah, 2020).

Another implication is the increasing need for higher education curricula that are responsive to digital challenges. The curriculum must be designed not only to convey technical knowledge, but also to build students' ethical awareness and social responsibility. Several studies on curriculum development indicate that the integration of ethical values into learning materials can enhance the quality of education and students' character formation (Mahabatillah, 2024). This is in line with the need for higher education institutions to develop digital literacy curricula oriented toward shaping responsible digital citizens. Furthermore, curricula designed by considering digital dynamics can help reduce the risk of technology misuse among students, including the spread of hate speech, digital plagiarism, and violations of data privacy.

Strengthening technological ethics also affects the effectiveness of digital learning processes in higher education. Students' levels of acceptance of learning technologies such as e-learning have been shown to be influenced by their perceptions of the benefits and risks of such technologies (Kurnia, 2020). Various studies employing the UTAUT model reveal that technology acceptance is influenced not only by technical factors, but also by perceptions of security, integrity, and the ethics of technology use (Narayana, 2019; Nasir, 2013). Therefore, higher education institutions that integrate digital ethics into academic activities will be better able to build students' trust in the use of technology. This trust is essential for creating digital learning processes that are effective, safe, and sustainable.

In addition, strengthening technological ethics has implications for shaping students' character as digital citizens with integrity. Digital ethical values instilled through both formal education and non-formal activities can reinforce students' character in facing digital challenges. Studies on the internalization of Islamic values in professional ethics indicate that the integration of spiritual and moral values can strengthen an individual's ethical commitment at work and in social interactions (Makmur, 2025). The same principle can be applied in the context of technological ethics, where the formation of students' digital character requires a strong value foundation so that they are able to act wisely in various digital situations. In a broader context, strengthening digital character also reflects the goals of national education to form ethical and responsible citizens (Sujana, 2019).

Strengthening technological ethics also carries implications for the quality of internal regulations in higher education institutions. Educational institutions

need to formulate comprehensive digital ethics guidelines to regulate students' behavior in various technological activities. The experiences of several studies highlighting aspects of digital regulation, including freedom of da'wah within ITE regulations, indicate that clear and structured rules are essential to prevent technology misuse (Rintaningrum, 2025). In addition, the implementation of value-based regulations can encourage the formation of a disciplined campus digital culture oriented toward the common good.

The final implication is the increasing collaboration between lecturers, students, and institutions in building a healthy campus digital ecosystem. Digital literacy programs, ethical development, technology education, and digital security training need to be conducted in an integrated manner. Various community service studies on technology education, such as fintech and smart home training, indicate that collaborative activities are able to enhance participants' competencies and ethical awareness (Munzir, 2023; Suparmin, 2020). Thus, higher education institutions can develop similar programs involving all elements of the academic community to strengthen students' technological ethics. Through such collaboration, the campus digital ecosystem can evolve into an environment that is safe, productive, and reflective of scholarly values and academic morality.

CONCLUSION

This study on the Analysis of Students' Technological Ethics from the Perspective of the Digital Citizenship Framework in Higher Education shows that the digital behavior of students at UIN Sunan Kudus is influenced by their levels of digital literacy, moral awareness, and the support of the academic environment. The increasingly intensive use of technology in learning and academic communication opens great opportunities to expand access to knowledge, accelerate interaction, and improve the quality of learning. However, this study also finds that some students still face ethical dilemmas in the use of social media, data security, digital plagiarism, and responsibility in online interactions. These findings affirm that technical competence alone is insufficient; students require a deep understanding of digital norms, communication ethics, information security, and the consequences of behavior in cyberspace as emphasized in the Digital Citizenship Framework.

Strengthening technological ethics in higher education has strategic implications for shaping students' character as responsible, critical, and integrity-driven digital citizens. Higher education institutions need to restructure value-based digital literacy curricula, strengthen internal regulations related to digital behavior, and provide developmental spaces that involve lecturers, educational staff, and students collaboratively. The habituation of polite academic

communication, the protection of digital privacy, respect for copyright, and the avoidance of misinformation are key to building a healthy digital ecosystem. Therefore, strengthening technological ethics is not merely an academic necessity, but also part of the broader effort to shape a young generation that is able to adapt intelligently, morally, and harmoniously to technological development in accordance with Islamic values and the principles of modern digital citizenship.

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