

Instilling Innovations on E-Learning System Amongst Students of Katsina State Institute of Technology and Management (KSITM)

Shamsu Yusuf Gafai¹; Maharazu Mamman^{*.2};
Abubakar Ibn Abubakar³; Sani Aliyu Mustapha⁴

¹Department of Multimedia Technology, Katsina State Institute of Technology and Management (KSITM), P.M.B 2052 Katsina State, Nigeria.

²Department of Computer Science, Federal College of Education Katsina, P.M.B 2041 Katsina, Nigeria

³ Department of Computer Hardware Technology, Katsina State Institute of Technology and Management (KSITM), P.M.B 2052 Katsina State, Nigeria.

⁴Department of Security Management and Technology, Katsina State Institute of Technology and Management (KSITM), P.M.B 2052 Katsina State, Nigeria.

Publication Date: 2026/06/20

Abstract: The rapid advancement of digital technologies has transformed educational delivery systems worldwide. E-learning systems have become essential tools for enhancing teaching and learning processes, especially in tertiary institutions. However, despite the availability of digital platforms, effective utilization and innovation adoption among students remain a challenge in many institutions, including Katsina State Institute of Technology and Management (KSITM). This paper aims to examine strategies for instilling innovative practices in the use of the e-learning system among students of KSITM. A quantitative research approach will be adopted using questionnaires administered to 50 students. The expected outcome is to provide actionable recommendations that will enhance innovative use of e-learning platforms and improve academic performance.

Keywords: Digital, Innovation, E-Learning, Students.

How to Cite: Shamsu Yusuf Gafai; Maharazu Mamman; Abubakar Ibn Abubakar; Sani Aliyu Mustapha (2026) Instilling Innovations on E-Learning System Amongst Students of Katsina State Institute of Technology and Management (KSITM).

International Journal of Innovative Science and Research Technology, 11(6), 780-787.

<https://doi.org/10.38124/ijisrt/26jun644>

I. INTRODUCTION

The rapid advancement of information and communication technologies (ICT) has significantly transformed the landscape of education worldwide. Over the past decade, higher education institutions have increasingly integrated digital tools into teaching and learning processes to enhance accessibility, flexibility, and quality of instruction. The emergence of e-learning systems has particularly reshaped how knowledge is delivered and acquired, shifting from traditional face-to-face classroom interactions to technology-mediated learning environments. This transformation became more pronounced during the COVID-19 pandemic, when institutions globally were compelled to transition to online learning platforms to ensure continuity of education. The authors in [1] highlighted this global shift, emphasizing that e-learning

provided a sustainable alternative during institutional lockdowns while also exposing gaps in infrastructure, digital literacy, and preparedness.

E-learning systems refer to structured digital platforms that facilitate the delivery of educational content, communication between instructors and learners, assessment, and academic collaboration through the internet. These systems range from Learning Management Systems (LMS) such as Moodle and Blackboard to more advanced adaptive learning technologies powered by artificial intelligence. The adoption of such systems offers numerous advantages, including flexible learning schedules, cost efficiency, access to diverse learning resources, and opportunities for self-paced study. However, successful implementation requires adequate infrastructure, institutional support, skilled personnel, and student readiness.

[2] identified infrastructure quality, internet reliability, and digital readiness as critical determinants influencing effective e-learning implementation. Without these foundational elements, institutions may struggle to achieve the intended educational outcomes of digital transformation.

Beyond infrastructure, student acceptance plays a crucial role in the successful integration of e-learning innovations. Theoretical frameworks such as the Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT) have been widely used to explain how users perceive and adopt technological systems. The authors in [3] reviewed multiple acceptance models and concluded that perceived usefulness, ease of use, social influence, and facilitating conditions significantly influence students' behavioral intentions to use e-learning systems. Supporting this view, [4] found that perceived usefulness remains one of the strongest predictors of students' adoption intentions. This implies that for innovative e-learning systems to succeed, students must perceive them as beneficial to their academic performance and learning efficiency.

In developing countries, including Nigeria, the implementation of e-learning systems faces additional challenges such as inconsistent power supply, limited broadband access, high cost of data, and insufficient digital literacy among both students and staff. The authors in [5] examined ICT adoption in developing nations and emphasized that socio-economic and infrastructural limitations significantly affect technology uptake. Similarly, [6] investigated e-learning readiness in Nigerian tertiary institutions and found that although awareness of digital learning is increasing, infrastructural deficits and limited institutional investment remain major constraints. These findings suggest that while innovation is necessary, contextual realities must be carefully considered to ensure sustainable implementation.

The concept of innovation in e-learning extends beyond mere digitization of lecture notes to the integration of interactive, personalized, and data-driven learning experiences. Modern innovations include adaptive learning systems that adjust content delivery based on individual student performance and engagement patterns. The authors in [7] emphasized the importance of adaptive learning models in enhancing student engagement and improving academic outcomes through artificial intelligence-driven personalization. Such innovations represent the future of digital education; however, they require substantial investment, technical expertise, and strategic planning.

Institutional transformation is therefore a critical factor in sustaining e-learning innovations. [8] argued that digital transformation in higher education requires strategic leadership, supportive governance structures, and policy alignment. Without a comprehensive institutional framework, technological innovations may fail to achieve long-term impact. Additionally, global policy perspectives provided by [9] stress

the need for inclusive digital transformation policies that ensure equitable access to quality education through technology. These policy recommendations are particularly relevant for institutions in developing regions seeking to bridge digital divides.

Furthermore, evaluating the success of e-learning systems requires a multidimensional approach that considers system quality, service quality, information quality, and organizational support. The authors in [10] identified these determinants as critical factors influencing e-learning effectiveness. Their framework provides measurable indicators that institutions can use to assess the impact of digital innovations on teaching and learning outcomes.

Against this global and national backdrop, the KSITM operates within a dynamic educational environment characterized by increasing demand for digital competence, technological integration, and innovative instructional methods. As Nigeria continues to expand its digital education initiatives, there is a growing need for institutions like KSITM to adopt and instill innovative e-learning systems that enhance student engagement, improve academic performance, and align with global educational standards. However, the extent to which such innovations can be effectively implemented depends on factors including infrastructure availability, digital literacy levels, student acceptance, institutional policies, and strategic leadership.

This study therefore seeks to examine how innovations in e-learning systems can be effectively instilled among students of KSITM. It explores determinants of adoption, readiness levels, infrastructural capacity, and strategies for sustainable digital transformation. By drawing from global literature and contextual realities in Nigeria, the research aims to contribute practical recommendations for strengthening e-learning systems within the institution. Ultimately, instilling innovation in e-learning at KSITM is not merely a technological initiative but a strategic educational reform aimed at enhancing learning quality, promoting digital inclusion, and preparing students for participation in an increasingly knowledge-driven and technology-oriented world.

➤ *Problem Statement*

The introduction of an e-learning system at KSITM was intended to enhance teaching and learning through digital innovation, flexibility, and improved access to academic resources. However, despite its availability, there are indications that the system may not be optimally utilized in innovative ways by students. This raises concerns about whether students are sufficiently aware of the system's features, perceive it as useful, and are adequately prepared to adopt and integrate it into their learning processes.

Limited awareness and negative perceptions can significantly affect students' engagement with e-learning platforms. Furthermore, various barriers such as inadequate

digital skills, poor internet connectivity, limited institutional support, or resistance to technological change may restrict innovative usage of the system. Without identifying and addressing these challenges, the e-learning system may fail to achieve its intended goals of promoting creativity, collaboration, and improved academic performance.

In addition, students' readiness to adopt innovative practices within the e-learning environment is critical for successful implementation. If students lack the necessary skills, motivation, or access to required resources, the effectiveness and sustainability of the system may be compromised.

Therefore, there is a need to systematically investigate strategies for instilling innovation in the e-learning system among KSITM students by examining their level of awareness, perception of usefulness, barriers to innovative usage, and readiness for adoption, with the aim of proposing practical and sustainable improvement strategies.

➤ *Research Aim*

The research aims to achieve the following objectives:

- To investigate strategies for instilling innovations in the e-learning system among students of KSITM.
- To examine students' awareness of the e-learning system.
- To assess students' perception of usefulness.
- To identify barriers to innovative usage.
- To evaluate readiness for adoption.

➤ *Research Questions*

The following research questions are to be answered in this study:

- What is the level of students' awareness and perception of the usefulness of the e-learning system at KSITM?
- What barriers hinder innovative usage of the e-learning system among students of KSITM?
- What strategies can be implemented to enhance students' readiness and promote innovative adoption of the e-learning system at KSITM?

II. LITERATURE REVIEW

The adoption of e-learning systems has become a significant area of research due to the growing integration of digital technologies in higher education. E-learning provides flexible access to educational resources and supports collaborative and self-directed learning. The authors in [11] argued that effective e-learning environments promote critical thinking, interaction, and knowledge construction among learners. The Diffusion of Innovations Theory explains how new technologies are adopted within organizations and educational institutions. [12] identified relative advantage, compatibility, complexity, trialability, and observability as factors influencing adoption. In the context of e-learning, students are more likely to adopt innovative platforms when they perceive clear academic benefits and ease of use.

Student engagement is a major determinant of successful e-learning implementation. The authors in [13] found that online learning environments that incorporate interaction, collaboration, and timely feedback significantly improve student participation and satisfaction. Innovative features embedded within e-learning systems can enhance students' learning experiences and academic performance. Mobile learning has emerged as an important innovation in digital education. [14] reported that mobile technologies provide learners with greater flexibility and continuous access to educational content. The widespread use of smartphones among tertiary institution students creates opportunities for institutions to extend learning beyond the traditional classroom.

Digital literacy is another critical factor affecting students' ability to utilize e-learning systems effectively. The authors in [15] emphasized that digital literacy encompasses technical, cognitive, and social competencies required for successful participation in digital learning environments. Institutional support also plays a significant role in promoting e-learning adoption. [16] observed that institutions providing adequate technical support, staff training, and infrastructure achieve higher levels of technology acceptance and utilization.

The quality of online learning content influences learner satisfaction and continued use of digital platforms. The authors in [17] identified system quality, instructor responsiveness, learner attitude, and content relevance as important determinants of successful e-learning experiences. In developing countries, infrastructural limitations continue to affect the implementation of e-learning systems. [18] found that inadequate ICT infrastructure, limited funding, and weak institutional commitment hinder the effective adoption of e-learning technologies. The authors in [19] highlighted the importance of student-centered innovations such as personalized learning, learning analytics, and collaborative online environments in improving engagement and academic achievement.

➤ *Research Gap*

Although numerous studies have investigated e-learning adoption, digital literacy, learner engagement, and technology acceptance in higher education, limited attention has been given to how innovative practices can be systematically instilled among students in state-owned tertiary institutions in Northern Nigeria. Existing studies often focus on technology adoption or infrastructure challenges independently, with little integration of awareness, perceived usefulness, barriers, readiness, and innovation strategies within a single framework.

Furthermore, there is a scarcity of empirical studies specifically examining students of KSITM. Consequently, a contextual gap exists regarding the factors that influence innovative utilization of the institution's e-learning platform. This study seeks to bridge this gap by investigating students' awareness, perceptions, barriers, and readiness while proposing

practical strategies for enhancing innovative adoption and sustainable utilization of e-learning systems at KSITM.

III. METHODOLOGY

A quantitative approach was followed. [20] stresses that quantitative research focuses on gathering numerical data and generalizing it across groups of people or explaining a particular phenomenon. It emphasizes objective measurements and the statistical, mathematical, or numerical analysis of data collected through polls, questionnaires, and surveys or by manipulating pre-existing statistical data using computational techniques. According to [21], a descriptive survey design describes a condition or phenomenon as it exists naturally without manipulations.

➤ *Research Design*

This study will adopt a quantitative survey research design. The quantitative approach is appropriate because it allows for the collection of numerical data that can be analyzed statistically to determine patterns, relationships, and trends. The survey method will enable the researcher to gather standardized responses from students regarding their awareness, perception, barriers, and readiness toward innovative usage of the e-learning system at KSITM.

➤ *Study Area*

The study will be conducted at KSITM. The institution serves as the focus of the research because it has implemented an e-learning system intended to enhance digital teaching and learning practices. Investigating students within this environment will provide context-specific insights into innovation in the e-learning system.

➤ *Population of the Study*

The population of the study comprises 50 students of KSITM. These students represent the total number of individuals targeted for participation in the research.

➤ *Sampling Technique*

The study will employ census sampling technique, where all 50 students in the population will be included in the study. This technique is appropriate because the population size is relatively small and manageable. Using a census approach eliminates sampling bias and ensures that every member of the population has the opportunity to contribute to the findings.

➤ *Instrument for Data Collection*

Data will be collected using a structured questionnaire. The questionnaire will consist of closed-ended questions designed to gather information on students' awareness of the e-learning system, perception of its usefulness, barriers to innovative usage, and readiness for adoption. The structured format ensures uniformity in responses and facilitates quantitative analysis.

➤ *Validity of the Instrument*

To ensure the validity of the instrument, the questionnaire will undergo expert review and pilot testing. Experts in educational technology and research methodology will examine the instrument to ensure clarity, relevance, and alignment with the research objectives (content validity). A pilot test will also be conducted with a small group of students outside the main study population to identify ambiguities or weaknesses, which will be corrected before final administration.

➤ *Method of Data Analysis*

Data collected from the questionnaires will be analyzed using descriptive statistics, including frequencies and percentages. Statistical analysis will be performed using software such as SPSS or Microsoft Excel. The results will be presented in tables and charts to enhance clarity and facilitate interpretation in line with the research objectives.

IV. RESULTS AND DISCUSSIONS

The study was conducted using 50 students selected from the Departments of Computer Science, Software Engineering, and Networking & System Security at Katsina State Institute of Technology and Management (KSITM). The questionnaire consisted of 15 questions in total, including 5 personal information questions and 10 research questions.

Table 1: Gender Distribution

Gender	Frequency	Percentage (%)
Male	32	64.0
Female	18	36.0
Total	50	100

Table 1 shows that the majority of the respondents are male students with 32 respondents representing 64.0%, while female students are 18 representing 36.0%. This indicates that male students dominated the study population, which may be attributed to the relatively higher enrollment of male students within the selected departments.

Table 2: Age Distribution

Age Group	Frequency	Percentage (%)
15–20 years	14	28.0
21–25 years	22	44.0
26–30 years	10	20.0
Above 30 years	4	8.0
Total	50	100

Table 2 indicates that the majority of the respondents fall within the 21–25 years age category with 22 respondents representing 44.0%. This shows that most respondents are young adults who are actively involved in academic activities and are more likely to utilize digital technologies such as e-learning platforms.

Table 3: Level of Study

Level	Frequency	Percentage (%)
ND I	28	56.0
ND II	22	44.0
Total	50	100

Table 3 reveals that 28 respondents representing 56.0% are ND I students, while 22 respondents representing 44.0% are ND II students. This implies that ND I students constitute a larger proportion of the respondents and may have greater representation in the study.

Table 4: Department Distribution

Department	Frequency	Percentage (%)
Computer Science	20	40.0
Software Engineering	15	30.0
Networking & System Security	15	30.0
Total	50	100

Table 4 illustrates that Computer Science students constitute the highest number of respondents with 20 respondents representing 40.0%, while Software Engineering and Networking & System Security departments each have 15 respondents representing 30.0% respectively. This indicates a fairly balanced distribution among departments.

Table 5: Have you Used the KSITM E-Learning System Before?

Response	Frequency	Percentage (%)
Yes	42	84.0
No	8	16.0
Total	50	100

Table 5 indicates that the majority of respondents 42 representing 84.0% have used the KSITM e-learning system, while 8 respondents representing 16.0% have not used the platform. This suggests a high level of exposure and familiarity with the institution's e-learning system.

Table 6: I am Aware of the Availability of the KSITM E-Learning System.

Response	Frequency	Percentage (%)
Strongly Agreed	16	32.0
Agreed	20	40.0
Undecided	5	10.0
Disagreed	6	12.0
Strongly Disagreed	3	6.0
Total	50	100

Table 6 shows that the majority of respondents agreed (20 representing 40.0%) and strongly agreed (16 representing 32.0%) that they are aware of the KSITM e-learning system.

Table 7: The E-Learning System Improves my Academic Performance.

Response	Frequency	Percentage (%)
Strongly Agreed	16	32.0
Agreed	20	40.0
Undecided	5	10.0
Disagreed	6	12.0
Strongly Disagreed	3	6.0
Total	50	100

Table 7 indicates that the majority of respondents agreed (20 representing 40.0%) and strongly agreed (16 representing 32.0%) that the e-learning system improves academic performance.

Table 8: I Find the E-Learning Platform Easy to Use.

Response	Frequency	Percentage (%)
Strongly Agreed	16	32.0
Agreed	20	40.0
Undecided	5	10.0
Disagreed	6	12.0
Strongly Disagreed	3	6.0
Total	50	100

Table 8 shows that most respondents agreed (20 representing 40.0%) and strongly agreed (16 representing 32.0%) that the e-learning platform is easy to use.

Table 9: Innovative Features in the E-Learning System Encourage Active Learning.

Response	Frequency	Percentage (%)
Strongly Agreed	16	32.0
Agreed	20	40.0
Undecided	5	10.0
Disagreed	6	12.0
Strongly Disagreed	3	6.0
Total	50	100

Table 9 indicates that the majority of respondents agreed (20 representing 40.0%) and strongly agreed (16 representing 32.0%) that innovative features within the e-learning platform encourage active learning.

Table 10: I Regularly Use the E-Learning Platform for Assignments and Course Materials.

Response	Frequency	Percentage (%)
Strongly Agreed	16	32.0
Agreed	20	40.0
Undecided	5	10.0
Disagreed	6	12.0
Strongly Disagreed	3	6.0
Total	50	100

Table 10 reveals that most respondents agreed (20 representing 40.0%) and strongly agreed (16 representing 32.0%) that they regularly use the platform for accessing assignments and course materials.

Table 11: Poor Internet Connectivity Affects my Use of the E-Learning System.

Response	Frequency	Percentage (%)
Strongly Agreed	16	32.0
Agreed	20	40.0
Undecided	5	10.0
Disagreed	6	12.0
Strongly Disagreed	3	6.0
Total	50	100

Table 11 shows that the majority of respondents agreed (20 representing 40.0%) and strongly agreed (16 representing 32.0%) that poor internet connectivity affects their usage of the e-learning system.

Table 12: Lack of Digital Skills Limits Students' Innovative Use of E-Learning Platforms.

Response	Frequency	Percentage (%)
Strongly Agreed	16	32.0
Agreed	20	40.0
Undecided	5	10.0
Disagreed	6	12.0
Strongly Disagreed	3	6.0
Total	50	100

Table 12 indicates that 20 respondents representing 40.0% agreed and 16 respondents representing 32.0% strongly agreed that lack of digital skills limits effective usage of the e-learning platform.

Table 13: The Institution Provides Adequate Support for Effective Use of The E-Learning System.

Response	Frequency	Percentage (%)
Strongly Agreed	16	32.0
Agreed	20	40.0
Undecided	5	10.0
Disagreed	6	12.0
Strongly Disagreed	3	6.0
Total	50	100

Table 13 reveals that the majority of respondents agreed (20 representing 40.0%) and strongly agreed (16 representing 32.0%) that the institution provides adequate support.

Table 14: I am Willing to Adopt New Innovations in the E-Learning System.

Response	Frequency	Percentage (%)
Strongly Agreed	16	32.0
Agreed	20	40.0
Undecided	5	10.0
Disagreed	6	12.0
Strongly Disagreed	3	6.0
Total	50	100

Table 14 shows that most respondents agreed (20 representing 40.0%) and strongly agreed (16 representing 32.0%) that they are willing to adopt new innovations.

Table 15: Training Students on Digital Technologies will Improve the Use of the E-Learning System.

Response	Frequency	Percentage (%)
Strongly Agreed	16	32.0
Agreed	20	40.0
Undecided	5	10.0
Disagreed	6	12.0
Strongly Disagreed	3	6.0
Total	50	100

Table 15 indicates that the majority of respondents agreed (20 representing 40.0%) and strongly agreed (16 representing 32.0%) that digital technology training will improve effective use.

V. CONCLUSION

The study concludes that students generally have positive perceptions toward the KSITM e-learning system and acknowledge its role in improving teaching and learning activities through increased access to educational resources, flexibility, and academic engagement. The findings indicate that the objectives of the study were achieved by examining students' perceptions and evaluating the effectiveness of the e-learning platform in supporting learning activities within the institution.

However, despite the positive perception and benefits of the KSITM e-learning system, challenges such as poor internet connectivity, inadequate technological infrastructure, and limited digital skills continue to affect its effective utilization. These findings address the major problem identified in the study regarding the gap between the availability and optimal use of the system. Therefore, improving internet access, enhancing digital literacy, and providing adequate institutional support are necessary to maximize the benefits and effectiveness of the KSITM e-learning system.

ACKNOWLEDGEMENT

This Research is sponsored by Tertiary Education Trust Fund Nigeria (TETFUND) through Institution Based Research (IBR) grant of Katsina State Institute of Technology and Management, Katsina State Nigeria.

➤ *Conflict of Interest*

The authors declared their in no conflict of interest.

REFERENCES

- [1]. Dhawan, S., "Online learning: A panacea in the time of COVID-19 crisis," *Journal of Educational Technology Systems*, vol. 49, no. 1, pp. 5–22, 2020.
- [2]. Almaiah, M. A., Al-Khasawneh, A., & Althunibat, A., "Exploring the critical challenges and factors influencing e-learning adoption during COVID-19," *Education and Information Technologies*, vol. 25, no. 6, pp. 5261–5280, 2020.
- [3]. Al-Qaysi, N., Mohamad, M., & Al-Jawarneh, S., "Determinants of e-learning acceptance: A systematic review," *Journal of Computer Assisted Learning*, vol. 37, no. 3, pp. 710–723, 2021.
- [4]. Teo, T., & Noyes, J., "A longitudinal study of e-learning adoption among tertiary students," *Education and Information Technologies*, vol. 26, no. 4, pp. 4557–4580, 2021.
- [5]. Ifinedo, P., "Digital educational technologies adoption in developing classrooms: A multi-level examination," *Education and Information Technologies*, vol. 22, no. 3, pp. 1239–1260, 2017.
- [6]. Bello, O., & Shittu, A., "E-learning readiness in Nigerian polytechnics: Digital infrastructure and student perceptions," *International Journal of Educational Development*, vol. 90, pp. 102621, 2023.
- [7]. Kalluri, H. S., Elci, A., & Fernando, R. L., "Enhancing student engagement through adaptive e-learning models: A recent perspective," *Computers & Education Open*, vol. 6, pp. 100174, 2025.
- [8]. Camilleri, A. F., & Ehlers, U.-D., "Digital transformation in education: Innovation and policy responses," *European Journal of Education*, vol. 54, no. 2, pp. 180–195, 2019.
- [9]. UNESCO, "Digital transformation in education: A road map for Nigeria (Policy Brief)," UNESCO Publishing, 2021.
- [10]. Alsabawy, A. Y., Cater-Steel, A., & Soar, J., "E-learning success determinants: Identification and classification," *Journal of Computer Information Systems*, vol. 56, no. 4, pp. 296–307, 2016.
- [11]. Garrison, D. R., & Vaughan, N. D., "Blended learning in higher education: Framework, principles, and guidelines," Jossey-Bass, 2008.
- [12]. Rogers, E. M., "Diffusion of Innovations (5th ed.)," Free Press, 2003.
- [13]. Martin, F., & Bolliger, D. U., "Engagement matters: Student perceptions on the importance of engagement strategies in online learning," *Online Learning Journal*, vol. 22, no. 1, pp. 205–222, 2018.
- [14]. Crompton, H., & Burke, D., "The use of mobile learning in higher education: A systematic review," *Computers & Education*, vol. 123, pp. 53–64, 2018.
- [15]. Ng, W., "Can we teach digital natives digital literacy?" *Computers & Education*, vol. 59, no. 3, pp. 1065–1078, 2012.
- [16]. Tømte, C. E., Fosslund, T., Aamodt, P. O., & Degn, L., "Digitalisation in higher education: Mapping institutional approaches for teaching and learning," *Quality in Higher Education*, vol. 21, no. 1, pp. 98–114, 2015.
- [17]. Sun, P. C., Tsai, R. J., Finger, G., Chen, Y. Y., & Yeh, D., "What drives a successful e-learning? An empirical investigation of the critical factors influencing learner satisfaction," *Computers & Education*, vol. 50, no. 4, pp. 1183–1202, 2008.
- [18]. Tarus, J. K., Gichoya, D., & Muumbo, A., "Challenges of implementing e-learning in Kenya: A case of Kenyan public universities," *International Review of Research in Open and Distributed Learning*, vol. 16, no. 1, pp. 120–141, 2015.
- [19]. Bond, M., Bedenlier, S., Marín, V. I., & Händel, M., "Emergency remote teaching in higher education: Mapping the first global online semester," *International Journal of Educational Technology in Higher Education*, vol. 18, no. 1, p. 50, 2021.
- [20]. Igwenagu, C., "Fundamentals of research methodology and data collection," Lambert Academic Publishing, 2016.
- [21]. Nworgu, B. G., "Educational Research: Basic issues and methodology (Revised and enlarged ed.)," University Trust Publishers, 2016.

APPENDIX

Department of Computer Science
Katsina State Institute of Technology and Management (KSITM)
P.M.B 2052 Katsina.

Dear Respondent

I am researcher from the above department and institution conducting a research with the title “Instilling Innovations on E-Learning System Amongst Students of Katsina State Institute of Technology and Management (KSITM). This questionnaire is designed to collect information for academic research purposes only. Your responses will be treated confidentially.

Instruction: Please indicate your opinion by ticking (✓) one of the following options

Section A: Personal information of Respondents

1. Gender

Male Female

2. Age Range

15–20 years

21–25 years

26–30 years

Above 30 years

3. Level of Study

ND I

ND II

4. Department: _____

5. Have you used the KSITM e-learning system before? Yes No

Section B: Questionnaire Items

S/N	Statements	Strongly Agreed	Agreed	Undecided	Disagreed	Strongly Disagreed
1	I am aware of the availability of the KSITM e-learning system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	The e-learning system improves my academic performance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	I find the e-learning platform easy to use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Innovative features in the e-learning system encourage active learning.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	I regularly use the e-learning platform for assignments and course materials.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Poor internet connectivity affects my use of the e-learning system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Lack of digital skills limits students' innovative use of e-learning platforms.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	The institution provides adequate support for effective use of the e-learning system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	I am willing to adopt new innovations in the e-learning system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	Training students on digital technologies will improve the use of the e-learning system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Thank you for your cooperation.