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Innovative Office Technology and Management Practices for Enhancing Knowledge-Based Economy in Tertiary Institutions in Imo State

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Abstract

The study examined the Innovative Office Technology and Management Practices for Knowledge-Based Economy in Federal Tertiary Institutions in Nigeria. The population of the study consisted of 15 Business Educators in Federal Polytechnic Nekede and 30 Business Educators in Alvan Ikoku Federal University of Education. A total of 45 Business Educators made up the sample size. Purposive sampling technique was used to administer questionnaire and instrument was validated for reliable decision using a test-retest method and Pearson Product Moment Correlation Coefficient (PPMCC) which yielded a reliability coefficient of 0.86. The data collected were analyzed using mean rating and standard deviation for the research questions. The study revealed that innovative office technologies in tertiary institutions in Imo State have not been adopted. The study also revealed hindrances to the adoption of innovative office management technologies in the study area. Investment in reliable power supply and high-speed internet partnerships as well as adequate training for staff should be adopted to ensure smooth and speedy actualization of office activities and goal attainment. The study recommended that government and financial institutions should offer grants, low-interest loans, and subsidies for acquiring and maintaining modern office technologies, and continuous professional development programs should be established to equip staff with necessary technological skills. Also, institutions should collaborate with professional technologists for proper training.

Keywords: *Innovative, Office Technology, Management Practices, Tertiary*

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Background to the Study

In the 21st century, the global economy has increasingly shifted towards knowledge-based paradigms, characterized by the predominance of information, technology, and innovation as core economic drivers. This transition has necessitated the evolution of office technology and management practices, as organizations and higher institutions strive to remain competitive in a rapidly changing digital landscape. Across the world, the integration of advanced technologies into office environments has become crucial for enhancing productivity, fostering innovation, and achieving sustainable economic growth. Innovation in tertiary institutions and office management practices has experienced a continuous increase in demand, worldwide. The emergence of global events, such as the COVID-19 pandemic, has accelerated the adoption and implementation of this innovation. The use of cloud computing, Artificial intelligent (AI) and Internet of Things (IoT) has improved the collection, analysis, interpretation, storage, and retrieval of data in the daily activities of tertiary institution workers. For example, cloud computing enables worker or office technology users to store and access vast amounts of data remotely, facilitating collaboration and flexibility (Johnson et al., 2020). AI-driven tools have automated routine tasks, enhanced efficiency and allowing employees to focus on higher-value activities (Chui & Manyika, 2021). The IoT connects devices and systems, providing real-time data that can be leveraged for knowledgeable decision-making and improved operational efficiency (Rao & Prasad, 2019).

These technological advancements are accompanied by innovative management practices that emphasize quickness, continuous learning, and employee empowerment. Organizations and higher institution of learning are increasingly adopting flexible work arrangements, such as remote work and hybrid models, which have become more prevalent due to the COVID-19 pandemic (Kniffin et al., 2021). These practices not only contribute to employee satisfaction but also enhance institutional resilience and adaptability. Using emerging technology and openness to change in higher institutions and training of employees to level of innovation increases and promotes performance and productivity.

Innovation cannot be isolated from educators' competence and commitment because it is safeguarded by specialized fields, such as office technology and management practice. In higher institutions, innovative technologies and management practices is a critical component in fulfilling a high-quality educational goal that promotes socio-cultural, economic, and democratic values and principles needed in contemporary society (Al-Husseini & Elbeltagi, 2016). Office management constitutes a crucial aspect required for the running of professional systems such as higher institution. This is regarded as one of the most critical factors in determining whether a nation is wealthy or poor. However, several challenges impede the widespread adoption of these technologies especially in higher institutions. Infrastructure deficits, such as limited internet connectivity, high cost of equipment, inadequate training for staff, unreliable power supply, among others has remain significant barriers to the actualization of this innovation. (World Bank, 2020).

Several African countries are making strides in embracing office technology and innovative management practices. For example, Kenya has emerged as a regional technology hub, with initiatives such as the Konza Technopolis, aimed at creating a smart city that leverages technology for sustainable knowledge-based economy (Waema & Ndung'u, 2019). Similarly, Rwanda's Vision 2020 strategy emphasizes the role of ICT in transforming the country into a knowledge-based economy, highlighting the government's commitment to digital innovation (Rwirahira, 2020). Nigeria economy exemplifies the potential and progress of adopting innovative office technology and management practices in organization and educational sectors. With a rapidly growing population and a dynamic entrepreneurial ecosystem, Nigeria is well-positioned to harness the benefits of digital transformation. The Nigerian government has recognized the importance of technology management and practices in driving economic growth and quality education standard, with regards to its positive impact on employees in higher institution, as it increases the urge to acquire new knowledge and become creative, and has implemented various policies to support the ICT sector. For instance, the National Digital Economy Policy and Strategy (2020-2030) aims to create a digital Nigeria by promoting digital skills, infrastructure, and innovation (Federal Ministry of Communications and Digital Economy, 2019). Innovation in office technology management and practices is highly reliant on transformational knowledge base economy. Also, the rate of utilization of technologies, such as cloud computing, internet of thing, Artificial intelligence, remote work and hybrid model's systems determine the quality of innovation in offices in higher institutions in Imo State. It is against this background that this study sought to assess the Innovative Office Technology and Management Practices for Enhancing Knowledge-Based Economy in Tertiary Institutions in Imo State, Nigeria.

Statement of the Problem

The transition to a knowledge-based economy driven by innovative office technology and management practices has become a global imperative. However, many developing regions, including Nigeria, face significant barriers that hinder the full realization of these advancements. In Nigeria tertiary institutions, infrastructural inadequacies such as limited internet connectivity, high cost of modern office equipment, inadequate training of staff on the utilization of office technologies, unreliable power supply among other are significant impediments to the adoption of these innovative practices. The ability to effectively use new technologies by employees in higher institutions is a prerequisite to innovation as it increases the urge to acquire new knowledge and become more efficient in office practices. It was observed that majority of the higher institutional workers lack the necessary digital skills for efficient office technology management, which hampers the smooth running of routines and innovation within the offices. These skills gap is a significant barrier to the effective implementation of advanced office technologies and innovative management practices. Despite these challenges, there have been notable efforts to promote a digital economy in Nigeria.

The government's National Digital Economy Policy and Strategy (2020-2030) outlines a comprehensive approach to promoting digital skills, infrastructure, and innovation (Federal

Ministry of Communications and Digital Economy, 2019). These initiatives indicate a growing recognition of the importance of digital transformation for standard and quality institutions' knowledge-base. However, traditional office cultures and resistance to change such as flexible work arrangements and continuous learning model further complicate the adoption of innovative management practices. Many institutions and offices are still entrenched in conventional hierarchical structures that do not readily accommodate the flexibility and agility required in a digital office or knowledge-based economy. This resistance to change can stifle innovation and hinder the overall progress towards a knowledge-based economy. This study is therefore important for understanding the level of adoption of office technology and management practices in higher institutions in Imo State, identify key barriers to their adoption, and proposing strategies to overcome these challenges. It is against this backdrop that this study sought to assess the Innovative Office Technology and Management Practices for Enhancing Knowledge-Based Economy in Federal Tertiary Institutions in Imo State, Nigeria.

Purpose of the Study

The purpose of this study is to assess the Innovative Office Technology and Management Practices for Enhancing Knowledge-Based Economy in Tertiary Institutions in Imo State, Nigeria. Specifically, the Objectives are:

i. To ascertain the current levels of adoption of innovative office technology and management practices in tertiary institutions in Imo State.
ii. To assess the primary infrastructural challenges hindering the adoption of office technology and management practices federal in tertiary institutions in Imo State.
iii. to investigate strategies that can be developed to overcome the barriers to enhancing innovative office technologies and management practices in tertiary institutions in Imo State.

Research Questions

i. What are the current levels of adoption of innovative office technology and management practices in federal tertiary institutions in Imo State?
ii. What are the primary infrastructural challenges hindering the adoption of office technology and management practices in tertiary institutions in Imo State?
iii. What strategies can be developed to overcome the barriers to enhancing innovative office technology and management practices in tertiary institutions in Imo state?

Review of Literature

Office Technology and Management (OTM) is a multifaceted discipline that integrates technology with administrative and organizational practices to enhance workplace efficiency and productivity. Office Technology Management encompasses a range of components including hardware and software, digital tools, automation, information management, project management, workflow optimization, and human resource management. The primary objective of OTM is to improve office operations through the strategic use of technology and management practices, which in turn lead to increased efficiency, better communication and

collaboration, enhanced information accuracy, security, and greater adaptability and innovation within offices or organizations (Akinyemi & Okeke-Uzodike, 2020). The role of OTM in educational environment or organizations is crucial due to the rapid advancements in technology and the increasing complexity of organizational operations. By leveraging OTM, institutions can reduce operational costs through the automation of routine tasks and the optimization of workflows. This not only improves productivity but also contributes to better decision-making and high-quality education by providing timely and accurate data through improved information management systems. Office Technology and Management enhanced administrative activities by ensuring that offices or organizations can respond swiftly and accurately to information and needs of the institution (Egwu, 2019).

In the contemporary global economy, the transformation from traditional work activities to knowledge-based economies has become increasingly significant. This shift emphasizes the role of knowledge, technology, and innovation as central drivers to achieving educational goals and competitiveness. Knowledge-based economies are characterized by their reliance on intellectual capabilities rather than physical inputs or natural resources, and this has profound implications for how institutions operate. In this context, innovative office technologies and management practices is important in facilitating the efficient production, dissemination, and utilization of knowledge and office practices. For instance, the use of AI-and cloud computing virtual assistants is becoming commonplace in organizations and higher institutions of learning, providing quick and efficient responses to information, learning and freeing up human agents to handle more complex issues. According to Gartner (2019), by 2021, 85% of office activity interactions were expected to be handled without human agents, highlighting the growing reliance on Artificial Intelligence (AI) in office activities in developed world. Moreover, the concept of innovative offices is gaining attention; where internet of things (IoT) devices and sensors are used to create intelligent work environments that enhance productivity and employee well-being. Innovative or modern offices can automate lighting, heating, and air conditioning based on occupancy and environmental conditions, improving energy efficiency and creating a more comfortable workspace. Research by JLL (2020) indicates that adequate office technologies can lead to a 30% reduction in energy costs and a significant improvement in employee satisfaction which leads to knowledge-based economy.

A knowledge-based economy is one where the generation and exploitation of knowledge play a predominant part in the creation of wealth. It is marked by a high degree of technological innovation, a substantial investment in education and training, and a robust infrastructure supporting information and communication technologies (ICT). According to the Organization for Economic Co-operation and Development (OECD) (2019), knowledge-based economy depends heavily on the abilities of the workforce to generate, process, and share knowledge efficiently. These economies are typified by organizations that have a significant intellectual component, such as information technology, and education. Office technology refers to the tools, systems, and devices that aid in the creation, storage, and dissemination of information within an office environment. This includes hardware like computers, servers, and mobile devices, as well as software solutions such as databases, and

communication platforms. The integration of office technology into office activities and teaching and learning, facilitates real-time communication, and enables efficient data management and analysis. Cloud computing is a quintessential example of office technology driving the knowledge-based economy. Cloud services provide scalable, on-demand access to computing resources, allowing offices or institutions of higher learning to store and process large amounts of data without the need for significant upfront investment in physical infrastructure. This technology supports collaborative work environments, enabling employees to access and share information from any location. According to Zhang (2020), cloud computing not only reduces operational costs but also enhances flexibility and scalability, which are critical for innovation and rapid response to information and learning.

Artificial intelligence (AI) is another transformative technology in modern offices. AI applications ranging from machine learning systems to natural language processing tools are revolutionizing how institutions and modern offices manage, utilize and store data for office activities. AI can automate routine tasks, provide insights through predictive analytics, and improve decision-making processes. As noted by Brynjolfsson and McAfee (2020), AI-driven automation enhances efficiency and productivity, enabling organizations and higher institutions that have large number of population and clerical activities to focus on higher-value activities that require human creativity and critical thinking.

The Internet of Things (IoT) also plays a significant role in modern office environments by connecting various devices and systems to the internet, facilitating real-time data collection and analysis. IoT-enabled devices that can monitor and optimize office conditions, manage energy consumption, and ensure the security of physical assets. The integration of IoT in office technology and management practices in higher institutions can lead to smarter, more responsive workspaces that enhance employee productivity and satisfaction (Atzori et al., 2019).

Management practices in a knowledge-based economy are evolving to keep pace with technological advancements and the changing nature of work. Innovative office technology and management practices in this context involve fostering a culture of continuous learning and innovation, promoting collaboration and knowledge sharing, and leveraging data-driven decision-making. One key aspect of modern management practices is the emphasis on flexible work arrangements. The rise of remote work, facilitated by advancements in communication technologies, has reshaped traditional office dynamics. Flexible work practices, such as telecommuting and flexible hours, can improve employee satisfaction and work-life balance, leading to increased productivity and retention. According to a study by Bloom (2021), organizations that adopt flexible work arrangements report higher levels of employee engagement and lower turnover rates. Data-driven decision-making has also become a cornerstone of modern management practices. The ability to collect, analyze, and interpret large volumes of data allows organizations to make informed decisions based on empirical evidence rather than intuition. Business intelligence tools and data analytics platforms enable workers to identify trends, predict outcomes, and optimize operations. As Davenport and

Harris (2020) highlight, organizations that leverage data analytics in their decision-making processes tend to outperform their peers in terms of operational efficiency and responsiveness.

In Nigeria, tertiary institutions are increasingly recognizing the importance of integrating innovative office technologies and management practices to enhance their operational efficiency and academic performance. The adoption of these technologies is important for developing a knowledge-based economy where education is central if it must be achieved. One area of focus is the implementation of e-learning platforms and digital resources to enhance the teaching and learning process. The COVID-19 pandemic accelerated the adoption of online learning, highlighting the need for robust digital infrastructure and effective online teaching methodologies. Higher institutions are investing in learning management systems (LMS) that facilitate the delivery of online courses, virtual classrooms, and digital assessments. According to Adedoyin and Soykan (2020), the successful adoption of e-learning platforms can significantly improve access to education and support the development of a skilled workforce. Chukwudi and Chinedu (2021) reported that Nigerian tertiary institutions are exploring the use of AI and data analytics to improve administrative functions and decision-making processes. AI-powered systems can streamline admissions, manage student records, and provide personalized learning experiences. Data analytics can help institutions identify trends in student performance, optimize resource allocation, and develop targeted interventions to support student success.

While the potential benefits of adopting innovative office technologies and advanced management practices in tertiary institutions in Imo state are significant, several challenges need to be addressed to realize these benefits fully. The adoption of innovative office technologies and management practices in tertiary institution in Nigeria faces numerous challenges, with different authors highlighting various perspectives on these issues. According to Akinyemi and Okeke-Uzodike (2020), the lack of consistent and reliable power supply severely hampers the adoption of technology in offices and businesses. Frequent power outages mean that institutional offices cannot rely on electronic systems for their operations, leading to inefficiencies and increased operational costs due to the need for alternative power sources like generators. Egwu (2019) points out that the initial capital investment required for purchasing modern office equipment, software licenses, and necessary infrastructure upgrades is often beyond the reach of many higher institutions. The ongoing costs for maintenance, updates, and training can further strain limited budgets and compounded by the broader economic challenges facing the country, such as fluctuating exchange rates and inflation, which affect the affordability of imported technologies. Aina and Ojo (2020), highlights that employees in Nigerian organizations or offices may be hesitant to adopt new technologies due to concerns about job security. The automation of routine tasks, for instance, can be perceived as a threat to job stability, leading to resistance. Furthermore, there is often a lack of training and support to help employees' transition to new systems, exacerbating their reluctance to change.

The skills gap among workers in tertiary institution is another critical issue. Many employees lack the necessary digital literacy and technical skills to effectively use new office technologies. This skills gap is a result of the broader educational system, which has historically placed less emphasis on digital skills and technology-oriented training. According to Okoye and Eze (2021), the Nigerian education system needs significant reforms to produce graduates with the skills required for a knowledge-based economy. There is a need for greater emphasis on vocational training programs that focus on practical technology skills. Moreover, on-the-job training is often insufficient. Regulatory and policy challenges also play a significant role in hindering the adoption of innovative office technology and management practices in tertiary institutions. Inconsistent and unclear policies can create an uncertain environment for investment in new technologies. Nwosu and Ifejiofor (2019), note that regulatory hurdles, such as complex licensing requirements and lack of standardization, can impede the adoption of new technologies. They argue that there is a need for more streamlined and supportive policies that encourage technological innovation and adoption. Furthermore, data privacy and cyber security regulations are often not robust enough to address the concerns that come with the adoption of new technologies. As tertiary institution moves towards digital solutions, ensuring the security of sensitive data becomes paramount. However, inadequate regulatory frameworks can leave tertiary institution vulnerable to cyber threats, discouraging them from adopting new technologies.

Addressing these challenges requires an all-inclusive approach involving government, and educational tertiary institutions. The government and tertiary institutions must collaborate to improve power supply and internet connectivity across the country. Initiatives like the National Broadband Plan are steps in the right direction, but sustained efforts and investments are necessary to bridge the infrastructural gap (Nigerian Communications Commission, 2020). Adeleye and Ebohon (2019) asserted that public-private partnerships, grants, and subsidies can provide the necessary funding for technology adoption. Moreover, local financing solutions that offer low-interest loans or leasing options for technology acquisition can help organizations overcome initial capital barriers. Ibrahim (2020) noted that training and development programs should be prioritized to equip employees with the necessary skills and knowledge to adapt to new technologies.

Creating a culture that values innovation and continuous learning can also help mitigate resistance educational reforms is crucial for addressing the skills gap. The curriculum should be updated to include more technology-oriented subjects, and vocational training programs should be expanded. Collaborations between educational institutions and the private sector can ensure that training programs are aligned with institution's needs (Okoye & Eze, 2021). Improving the regulatory environment is also essential. The government should streamline regulatory processes, provide clear guidelines, and create supportive policies that encourage technological innovation and adoption. Strengthening data privacy and cyber-security regulations will also build trust and confidence in digital solutions (Nwosu & Ifejiofor, 2019).

Method

Descriptive survey research design was used for the study. The design enabled the researchers to collect the opinions of the respondents towards answering the research questions. The population consists of 15 business educators in Federal Polytechnic Nekede, Imo State and 30 business educators from Alvan Ikoku Federal University of Education, Owerri, Imo State. A total of 45. Business Educators of the two institutions made up the sample size of the study. The entire population was used for the study hence there was no sampling. A self-researcher designed instruments titled Innovative Office Technology and Management Practices for Knowledge-Based Questionnaire (IOTMPKBQ) was used for data collection. This questionnaire was used for the collection of data from the business educators. The questionnaire requested responses on a four (4) – point scale format. The responses rating scales of: Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD). To ensure the face and content validity of the instrument (IOTMPKBQ), copies of the instrument was given to an expert in business education and measurement and evaluation departments respectively. After all the identified corrections have been made, the final drafted copy was used to gather the required data for the study. Reliability test of the instrument (IOTMPKBQ) was done using a test-retest method. In this case, copies of the instruments (IOTMPKBQ) were administered on business educators of both tertiary institutions that are not part of the sample size within a week interval. The collected data from the administration of the instruments were analyzed using Pearson product moment reliability statistic. The reliability coefficient of the instrument was reported as 0.86. Descriptive statistics of mean and standard deviation were used for answering research questions.

Results

Research Question One: What are the current levels of adoption of innovative office technology and management practices in tertiary institutions in Imo State**?**

Table 1: Levels of Adoption of Innovative office Technologies Tertiary

S/N	Items	SA	A	D	SD	Mean	Dec.
1	Our institution uses cloud-based services for data storage, academic management, and communication	2	4	14	22	1.66	Disagreed
2	Our institution employs artificial intelligence (AI) tools for administrative tasks, academic analysis, and student support services	1	3	17	20	1.63	Disagreed
3	Our institution uses Internet of Things (IoT) devices for campus management, security, and resource monitoring.	18	10	12	8	2.50	Agreed
4	Our institution offers frequent training programs for staff and students on new technologies	4	6	14	17	1.92	Disagreed
5	The Institution provides strong support for technology adoption in our institution	21	13	5	5	2.54	Agree
6	Our institution relies heavily on innovative technologies for operational and academic tasks	2	6	14	19	1.78	Disagreed
7	The technologies are used for both academic and administrative functions	3	3	15	20	1.73	Disagreed
8	Our institution has adopted new technologies for data management, student services, operational efficiency, and communication	4	5	14	18	1.87	Disagreed

Table 1 above shows the current levels of adoption of innovative office technologies in tertiary institutions in Imo State. Majority of the items in the table are below the bench mark of 2.5. This shows that innovative office technologies in tertiary institutions in Imo State have not been adopted.

Research Question Two: What are the primary infrastructural challenges hindering the adoption of office technology tertiary institutions in Imo State?

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Table 2: Infrastructural Challenges hindering the Adoption of office Technology

S/N	Item	SA	A	D	SD	Mean	Dec.
1	Our institution experiences frequent internet connectivity issues that hinder the adoption of new technologies	19	16	4	2	3.27	Agreed
2	Unreliable power supply is a significant barrier to implementing new office technologies in our institution	17	15	6	3	3.12	Agreed
3	Our institution has an insufficient number of modern computers and other necessary hardware to support the adoption of new office technologies	20	14	4	3	3.24	Agreed
4	There are no dedicated spaces or facilities for housing technological equipment and resources in our institution	17	18	5	2	3.19	Agreed
5	Limited funding and budget constraints are major obstacles to acquiring and implementing new office technologies in our institution	20	16	2	3	3.29	Agreed
6	There is a lack of clear policies and guidelines from educational authorities on the adoption and use of advanced technologies	8	6	17	18	2.21	Disagreed
7	Concerns about data security and privacy hinder the adoption of cloud-based and other online office technologies in our institution	3	4	13	21	3.27	Disagreed
8	Our institution lacks adequate security measures (e.g., firewalls, encryption) to protect against cyber threats	19	13	7	2	3.19	Agreed

Table 2 above shows the primary infrastructural challenges hindering the adoption of office technology tertiary institutions in Imo State. The table shows that all the items is above the bench mark of 2.5. This shows majority of the respondents agreed that all the items in the table are hindering the adoption of innovative office management technologies.

Research Question Three: What strategies can be developed to overcome the barriers to adopting innovative office technologies and management practices in tertiary institutions in Imo state?

Table 3: Strategies to Overcome the barriers of Adopting Innovative office Technologies and management practices

S/N	Items	SA	A	D	SD	Mean	Dec.
1	Partnering with internet service providers could improve bandwidth and reliability in your institution	18	14	7	2	3.17	Agreed
2	Implementation of backup power solutions like generators and UPS to ensure continuous operation during power outages	17	16	5	3	3.15	Agreed
3	Provision of sufficient number of modern computers and other necessary hardware to support the adoption of new office technologies	20	15	4	2	3.29	Agreed
4	Application applies for grants and seek external funding from government and NGOs to support technological adoption	21	14	3	3	3.29	Agreed
5	Provision of regular training and development programs for staff to enhance their digital literacy and technology management skills	18	15	4	4	3.14	Agreed
6	Development of clear institutional policies that support the adoption and integration of new technologies to overcoming barriers	9	8	21	2	2.18	Disagreed
7	Establishment of dedicated spaces, such as technology hubs or innovation labs, for housing technological resources and fostering innovation	15	14	9	3	3.00	Agreed
8	Implementation of robust cybersecurity measures, including firewalls, encryption, and regular security audits, in your institution	9	8	18	21	2.15	Disagreed

Table 3 above shows strategies to overcome the barriers to adopting innovative office technology and management practices. The table shows that majority of the items is above the bench mark of 2.5. The respondent agreed that most of the items are strategies to overcome the barriers to adopting innovative office technologies and management practices.

Discussion of Findings

The finding of this study shows that innovative office technologies in tertiary institutions in Imo State have not been fully adopted. This finding collaborates with the assertion of Adeoye and Elegbeleye (2020) who noted that many tertiary institutions are still entrenched in conventional hierarchical structures that do not readily accommodate the flexibility and agility required in a digital economy. Aina and Ojo (2020) also highlight that employees in Nigerian tertiary institutions may be hesitant to adopt new technologies due to concerns

about job security. Also, they noted that traditional office cultures and resistance to change further complicate the adoption of innovative management practices, such as flexible work arrangements and continuous learning models. According to Adedoyin and Soykan (2020), the successful adoption of e-learning platforms can significantly enhance access to education and support the development of a skilled workforce. However, Chukwudi and Chinedu (2021) reported that some Nigerian tertiary institutions are beginning to explore the use of AI and data analytics to improve administrative functions and decision-making processes. They noted AI-powered systems can streamline admissions, manage student records, and provide personalized learning experiences. Data analytics can help institutions identify trends in student performance, optimize resource allocation, and develop targeted interventions to support student success.

The study also revealed that majority of the items in table 2 above is the primary hindrances to the adoption of innovative office management technologies. This finding is in alignment with the findings of Akinyemi and Okeke-Uzodike (2020) who reported that lack of consistent and reliable power supply severely hampers the adoption of technology in Nigerian tertiary institutions and organizations. Frequent power outages mean that organizations cannot rely on electronic systems for their operations, leading to inefficiencies and increased operational costs due to the need for alternative power sources like generators. Egwu (2019) also points out that the initial capital investment required for purchasing modern office equipment, software licenses, and necessary infrastructure upgrades is often beyond the reach of many organizations. Moreover, Nwosu and Ifejiofor (2019) note that regulatory hurdles, such as complex licensing requirements and lack of standardization, can impede the adoption of new technologies. They argue that there is a need for more streamlined and supportive policies that encourage technological innovation and adoption.

Furthermore, the study revealed that majority of the items in table 2 are strategies to overcome the barriers to adopting innovative office technologies and management practices. This finding concurs with the findings of Adeleye and Ebohon (2019) who asserted that public-private partnerships, grants, and subsidies can provide the necessary funding for technology adoption. They also suggested that local financing solutions that offer low-interest loans or leasing options for technology acquisition can help organizations or tertiary institutions overcome initial capital barriers. Ibrahim (2020) noted that training and development programs should be prioritized to equip employees with the necessary skills and knowledge to adapt to new technologies. They suggested that government should streamline regulatory processes, provide clear guidelines, and create supportive policies that encourage technological innovation and adoption. Strengthening data privacy and cybersecurity regulations will also build trust and confidence in digital solutions. Moreover, Abubakar and Ibrahim (2019) reported that developing a supportive technological ecosystem requires investment in local tech industries and encouraging the growth of local software development companies and technical support services can provide organizations with accessible and context-specific solutions. This ecosystem development can be supported through incentives, incubators, and investment in research and development.

Conclusion

The study assessed the Innovative Office Technology and Management Practices for Enhancing Knowledge-Based Economy in Tertiary Institutions in Imo State, Nigeria. Evidence obtained in this study showed that innovative office technologies in tertiary institutions in Imo State have not been fully adopted which is as a result of absence of necessary infrastructures needed for the full adoption of office technology in tertiary institutions in Imo State. However, the study found out strategies to overcome the barriers of adopting innovative office technologies and management practices.

Recommendations

To enhance the adoption of innovative office technologies and management practices in Nigerian tertiary institutions, the following recommendations are proposed:

1. Government and institutions should investment in reliable power supply and high-speed internet partnerships (PPPs) should be utilized to upgrade infrastructure.
2. Government and financial institutions should offer grants, low-interest loans, and subsidies for acquiring and maintaining modern office technologies.
3. Continuous professional development programs should be established to equip staff with necessary technological skills. Institutions should collaborate with technology companies for training.
4. Government should streamline regulatory processes and develop supportive policies for technological innovation. Strengthen data privacy and cybersecurity regulations.

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