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MANAGEMENT OF CAMPUS FACILITIES AND ENHANCING THE DELIVERY OF HIGH-QUALITY SERVICES IN UNIVERSITIES IN RIVERS STATE, NIGERIA

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Abstract
The study adopted a correlational research design to measure the relationship between the management of campus facilities and enhancing the delivery of quality service in universities in Rivers State. Three research questions and three hypotheses guided the study. The population of the study was 2,385 academic staff from the three public universities in Rivers State consisting of the University of Port Harcourt 1238, Rivers State University 717, and Ignatius Ajuru University of Education 430 (2019 Nigerian University System Digest). A sample of 716 academic staff representing 30% of the population was drawn using the proportional stratified sampling techniques. Three researcher-designed questionnaires titled Management of Campus Facilities Scale (MCFS) and Quality Service Delivery (QSDS) were used to elicit responses from the respondents using the 4points Likert scale of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD), 4,3,2,1, respectively. A test of internal consistency was carried out using Cronbach's alpha to determine the reliability of the instrument. The internal constituency reliability coefficients of 0.82 and 0.85 were determined for MCFS and QSDS respectively. Pearson Product Moment Correlation was used to answer the research question and hypothesis at a 0.05 level of significance. The findings of the study reveal that investing in the professional development of facility management staff is vital for ensuring high-quality services. Training programmes and workshops can enhance their skills, knowledge, and understanding of best practices in facility management, leading to improved service delivery and effective maintenance practices. The study recommends that universities should enhance security by implementing robust security measures to ensure the safety of students, faculty, staff, and campus facilities among others.
Keywords: *Campus facilities, management, quality service delivery*

Introduction
The school campus is an organized social system that is saddled with the responsibility of accommodating learners and teachers to inculcate the desirable skills and virtues that will help the

individual in the trajectory of life. It consists of pre-primary, post-primary, and higher education. Schools provide a meeting hub where students and teachers meet to interact to help develop the learners and society. To achieve the objectives, certain infrastructures are necessary and without them, it will be difficult to achieve these goals. Some of these infrastructures are school buildings, digital technologies, classrooms, laboratories, libraries, and other consumables the teacher uses in the process of teaching and the students learning. These consumables, infrastructures educational facilities that teachers use to interact with students are called campus facilities or school plants.

Schools plant consists of the school site, structures which could be permanent or non-permanent like physical buildings, recreational space, physical equipment, textbooks, and chalk that are used to ensure that the curriculum is achieved (Josiah & Jacon, 2022). School plants become inevitable if schools must attain educational objectives and the implementation of the educational curriculum. In the same vein, Musa, and Vincent (2022), affirm that a school plan is not only crucial for the attainment of educational goals but determines the relationship that exists between teachers and students.

These campus facilities are multidimensional, and some are consumables, others are physical facilities that depreciate after long use. They are subject to depreciation and that makes it incumbent on the managers of education for constant monitoring and supervision. Gidanmana (2020), writing on facilities management in public universities opines that facilities in universities are those physical structures and their support system that enhance effective teaching and learning, providing a conducive environment for maximum use and optimal output. It is enlightening to mention that these facilities are critical in determining the learning outcome therefore deplorable facilities will pose a threat to the attainment of educational objectives. It is imperative to state that the learning environment becomes pivotal in quality service delivery.

This brings to the fore the need for the management of campus facilities to ensure that it is in the right position, quality, and quantity to ensure the essence of providing such facilities is achieved. Facilities management entails the coordination of all activities associated with the planning, design, and administration of buildings, as well as their systems, equipment, and furnishings. This is aimed at bolstering an organization's capacity to compete equitably in an ever-evolving environment (Gidanmana, 2020). Facility management involves managing space, real estate, and long-range forecasts and equipment inventories.

Campus facilities management ensures that school facilities are available in the right quantity and quality for effective and efficient usage of educational policy and programs. Facilities management becomes the vehicle that supports and provides the enablement for optimal utilization of educational resources for the attainment of educational goals. School facilities encompass various resources in the school environment to enhance academic outcomes, including computers, libraries, charts, and equipment for physical activities, contributing to the school's aesthetic (Nwanakezie, and Ogona, (2021). It involves effective coordination, monitoring, and record keeping and ensuring that the facilities are in good condition and not vandalized. Obi (2019) avers that the essence of school plant management is to ensure that educational facilities are in good condition to meet the requirements of academic programs.

To achieve this, there is a need for regulation and maintenance of facilities and to adopt a

maintenance culture as a school policy. It becomes imperative to state that the management of campus facilities cannot be overstated. Management becomes the life wire if the school facilities must be used optimally, to ensure effective teaching and learning, for the sustainability of the school facilities and the attainment of educational goals. Sur (2023), opines that facilities management helps to reduce environmental impact and improve the efficiency of facilities and in so doing, enhance quality service delivery. To achieve this, the manager of campus facilities will audit educational infrastructure, and upgrade and retrofit facilities to be in tandem with international best practices.

It becomes incumbent on the managers of facilities to be trained and developed in the entirety of facility management. Sfaxi (2023), avers that proper training and development are crucial aspects that offer more sustainable, cost-effective, and quality service delivery. Adequate training and development will help the managers of facilities to minimize the associated pitfalls in facilities management and maximize the benefits.

In the context of a knowledge-driven society, digital technology has significantly reshaped the educational landscape, fostering enhanced inclusivity by extending its reach to previously inaccessible individuals through diverse learning platforms. Notably, information and communication technology is a significant focus in tertiary educational institutions. At inception, service delivery in education was through verbal communication face-to-face contact, and print. The reliance wholly on these modes of teaching is not only outdated and retrogressive but a disservice to the entire educational system. The upsurge of technology has redefined the scenario and technology determines what to learn, how to learn, and where to learn. Technology is used to determine and classify the educational system and to undermine it is at the peril of the institution. Optimal attainment of the goals of facility management requires the integration of emerging technologies to have quality delivery of educational services. Innovative facilities management involves integrating technology with personnel and processes to improve efficiency and effectiveness in service delivery (Sarkar, 2021).

Emerging technologies and the use of smart machines have enhanced the quality of service delivery, enhanced user experiences, operational efficiency, and increased quality productivity in education. Globalization and the interconnectivity of the economy have made it expedient to integrate digital technology into education to prepare students for the computer-driven future. Digitalization of educational institutions has various advantages in service delivery and the attainment of educational goals. According to Echono (2022), the digitalization of education assists the learner in moving from personal learning to personalized learning and ushering in a new ecosystem with new skills and knowledge that will enhance lifelong learning. It is enlightening to note that at the heart of this new paradigm is digital literacy. Digital literacy as one of the 21st learning skills is "literacy that encompasses technology". Put differently, skills that are proficient in the use of technology and knowledge. Furthermore, Haleem, et al, (2022), enumerated the benefits of using technology in education:

i. Improve teaching productivity.
ii. promote distance learning.
iii. facilitate teaching students with exceptional needs.

iv. creating an inclusive education learning environment
v. developing team and communication skills
vi. enhancing access to education
vii. make learning interesting.
viii. encourage students to gain self-learning abilities.
ix. improve students' performance.
x. increase educational opportunities.
xi. access to educational materials, and
xii. a breakdown of educational barriers among others.

The benefits of digital technologies and the use of smart machines are enormous and unexhausted because technology keeps evolving but it is without challenges. There are associated challenges and risks in the use of digital technologies and smart machines. The ubiquitous digital technologies have created new high-level competence skills that educational institutions are battering to fill and, in the process, have rendered some workers redundant. The integration of digital technology into the educational system deserves cognitive ability and digital capabilities like creativity, problem-solving, and emotional skills. (Fleaca at el, 2022). Unfortunately, a digital divide between those who have access to the internet and computers and those without computers. These continue to widen the gap and make it difficult for the acquisition of digital literacy for the less privileged in society. Bailey (2023), states that the use of digital technologies in education does not only encroach on students' privacy from undesirable people who may use the data for improper activities but decreases social connection among peers and family. The author further argues that over-reliance on technology could stifle learning especially when it is used in doing assignments and homework and prevent students from developing critical thinking.

Although it is argued that digital technology improves quality service delivery in universities, quality appears elusive because it is expressed in relative terms and is based on noticeable features in products or services and the perception of an individual. (Wordu, 2023). Interestingly, the National University Commission NUC is the federal government organ saddled with the responsibility of ensuring quality in universities. NUC achieves these through accreditation, course approval giving guidelines for the establishment of private universities and clapping down on illegal universities among other measures.

Despite the various measures by NUC and other stakeholders to ensure that quality is adhered to in the process of teaching and learning. The Nigerian universities are poorly ranked among the universities in the world. In the 2023 universities ranking only two universities made the top one thousand universities in the world among the one hundred seventy universities in Nigeria. (Suleiman, 2023 & Statista,). The graduate unemployment rate keeps surging as the employers of labour complained that university graduates are ill-equipped for the trajectory of the world of work. The World Bank projects that the poverty rate in Nigeria will reach 37% in 2023 with an estimated 84 million Nigerians living below the poverty line. (World Bank, 2023).

This ugly scenario has agitated the minds of Nigerians with various unanswered questions. Why is the educational system nose-diving? Why are Nigerian graduates not being employed?

What are the causes of unemployment in Nigeria? Is there a mismatch between the university outputs and labour market demand? Are educational facilities not in tandem with the knowledge-driven economy? If there is a decline in the quality of educational outputs, what are the factors responsible for the labour decline? It is in a bid to answer some of these questions the researcher decided to examine the management of campus facilities and quality service delivery in universities in Rivers State

In the same view of proffering a solution to the knowledge gap, the study is anchored on System Theory. System Theory was propounded by biologist Ludwig Von Bertanlanffy in 1920. A system is a set of interrelated and interconnected sub-systems that function to achieve the same objective. Within the system, some sub-systems work in synergy with other sub-systems for the betterment of the whole. So, any challenge that has effects on the sub-system has a ripple effect on the entire system. Elujekwute, et al, (2022), state that system theory is a very useful framework in a study where there are various complex variables influencing one another. The system theory is apt for the study because the university educational system consists of various interconnected and interrelated sub-systems that for the survival of the system and the attainment of educational goals the sub-systems need to work in synergy. Consequently, understanding the system cannot be devoid of understanding the sub-system and the relationships that exist therein. In the university system, there are various school facilities that managers of university education must integrate into the educational system for quality service delivery. For the attainment of educational goals, the managers of education must integrate the parts, instructional facilities, and other resources to form a successful system.

Research Questions

1. To what extent do the staff training and development programmes of facilities management correlate with high-quality services provided by universities?
2. What is the correlation between environmental sustainability management and the delivery of high-quality services in Universities in Rivers State?
3. What is the correlation between the implementation of innovative technology-based facilities management systems and high-quality service delivery in Universities in Rivers State?

Hypotheses

1. There is no significant correlation between staff training and development programmes of facilities management and high-quality services provided by universities in Rivers State.
2. There is no significant correlation between environmental sustainability management and the delivery of high-quality services in universities in Rivers State.
3. There is no significant correlation between the implementation of innovative technology-based facilities management systems and high quality of service delivery in Universities in Rivers State.

Methodology

The study adopted a correlational research design to measure the relationship between the management of school plants and quality service delivery in universities in Rivers State. Three

research questions and three hypotheses guided the study. The population of the study was 2,385 academic staff from the three public universities in Rivers State consisting of the University of Port Harcourt 1238, Rivers State University 717, and Ignatius Ajuru University of Education 430 (2019) Nigerian University System Digest). A sample of 716 academic staff representing 30% of the population was drawn using the proportional stratified and simple random sampling techniques. Two researcher-designed questionnaires titled Management of Campus Facilities Scale (MCFS) and Quality Service Delivery (QSDS) were used to elicit responses from the respondents using the 4points Likert scales of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD), 4,3,2,1, respectively. The face and content validity of the instruments were established by experts in higher university administration and measurement and evaluation. A test of internal consistency was carried out using Cronbach's Alpha to determine the reliability of the instrument. The internal constituency reliability coefficients of 0.82 and 0.85 were determined for MDSPS and QSDS respectively. Pearson Product Moment Correlation was used to answer the research question and hypothesis at a 0.05 level of significance.

Results

Research Question One. To what extent do the staff training and development programmes of facilities management correlate with high-quality services provided by universities?

Hypothesis One. There is no significant correlation between staff training and development programmes of facilities management and high-quality services provided by universities.

Table 1: Pearson Product Moment correlation coefficient Analysis of Staff training and development programs Facilities Management and Quality Services.

Correlation

		Staff Training	Quality Services
Staff Training	Pearson Correlation	1	0.75
	Sig (2-tailed)		000
N		716	716
Quality Services	Pearson Correlation	0.69	1
	Sig (2 tailed)	0.00	
	N	716	716

Correlation is significant at the 0.01 level (2-tailed).

The result shows there is a highly positive correlation between staff training in development programmes for facilities management and high-quality services provided by universities (r=0.75) and the relationship is significant (p=0.00). The result means that as scores on staff training increase, there is a corresponding increase in high-quality services. Since the associated P-value was less than 0.05, it, therefore, suggests that there is a significant relationship between staff training and development programmes for facilities management and the high quality of services

provided by universities. The null hypothesis was therefore rejected.

Research Question Two: What is the correlation between environmental sustainability management and the delivery of high-quality services in universities?

Hypothesis Two. There is no significant correlation between environmental sustainability management and the delivery of high-quality services in universities.

Table 2: Pearson Product-Moment Correlation Coefficient analysis of Environmental Sustainability Management and Quality Services.

Correlation

		Environmental Sustainability	**Quality Services**
Environmental Sustainability	Pearson Correlation	1	0.85
	Sig (2-tailed)		.000
	N	716	716
Quality Services	Pearson Correlation	0.85	1
	Sig (2 tailed)	.000	
	N	716	716

Correlation is significant at the 0.01 level (2-tailed)

The result shows there is a very high positive correlation between environmental sustainability management and the delivery of high-quality services in universities (0.85) and the relationship is significant (p=0.00). The result means that as scores on environmental sustainability increase, there is a corresponding increase in quality service. Since the associated P-value was less than 0.05, it, therefore, suggests that there is a significant relationship between environmental sustainability management and the delivery of high-quality services in universities. The null hypothesis was therefore rejected.

Research Question Three: What is the correlation between the implementation of innovative technology-based facilities management systems and high-quality service delivery in universities?
Hypothesis Three: There is no significant correlation between the implementation of innovative technology-based facilities management systems and high quality of service delivery in universities.

Table 4:3 Pearson Product Moment Correlation Coefficient Analysis of Implementation of Innovative Technology and Quality Services.

Correlation

		Innovative Technology	Quality Services
Innovative Technology	Pearson Correlation	1	0.86
	Sig (2-tailed).	000	
	N	716	716
Quality Services	Pearson Correlation	0.86	1
	Sig (2-tailed)	.000	
	N	716	716

Correlation is significant at the 0.01 level (2-tailed)

The result shows there is a very highly positive correlation between the implementation of innovative technology-based facilities management systems and the overall enhancement of service delivery (0.86), and the relationship is significant (p=0.00). The result means that as scores on the implementation of innovation technology increase, there is a corresponding increase in the delivery of high-quality service. Since the associated of P- value was higher than 0.05, it, therefore, suggests that there is no significant relationship between the implementation of innovative technology-based facilities management systems and the overall enhancement of high-quality service delivery. The null hypothesis was therefore rejected.

Discussions of findings

Staff training and Development Programs of Facilities Management and High-Quality Services Provided by Universities.

Data analysis in Table 1 revealed that there is a highly positive correlation between staff training and development programs and high-quality services provided by universities in Port Harcourt. The relationship between staff training and high-quality services was found to be significant at a 0.01 level of significance. The high positive relationship between staff training and high-quality services means that as the score on staff training increases there is a corresponding increase in high-quality service delivery and vice versa. This means equipping staff with the necessary skills and knowledge, universities can enhance facility management, provide exceptional services, and ultimately create an environment conducive to learning and growth. The findings are in line with Asiagodo in Anyaegbu and Wali (2021) who summarized how staff training and development programme affects performance which includes training and development opportunities that will enable them to update their professional knowledge, skills, and abilities for higher productivity, foster a climate that facilitates personal self-fulfilment, effectiveness, creativity, and system renewal. More so, helps to maintain and increase job satisfaction, provide support for career advancement within the organization, and maintain good staff morale and increased productivity.

Environmental Sustainability Management and the Delivery of High-Quality Services in Universities

The result of the analysis in Table 2 showed that there is a very positive correlation between environmental sustainability management and the delivery of high-quality service in Universities in Port Harcourt. The relationship between environmental sustainability management and the delivery of high-quality service was found to be statistically significant at 0.01 level of significance. The very high positive relationship between environmental sustainability management and high-quality delivery means that when environmental sustainability management increases, there is a corresponding increase in the delivery of high-quality services delivery and vice versa. This means factors such as institutional culture, leadership, and stakeholder engagement, can influence this relationship. The finding of the present study is in agreement with Purcell et al, (2019) who argue that universities being locally rooted and globally connected, offer significant opportunities to deliver sustainable development goals, working with faculty, staff, and students as well as their stakeholder community and alumni body. The finding is in line with (Findler et al., 2019) who stated that universities can help facilitate change toward a more equitable society and a better world by adopting Sustainability development goals at the strategic level in pursuit of sustainability and as a means of connecting higher education with business, industry, healthcare, community partners and entrepreneurs.

Implementation of Innovative Technology-Based Facilities Management Systems and High Quality of Services Delivery in Universities.

The result is indicated in Table.3 found that there is a very high positive correlation between the implementation of innovative technology-based facilities management systems and high quality of service delivery in Universities in Port Harcourt. The relationship between the implementation of innovative technology-based and high-quality delivery was found to be statistically significant at 0.01 level of significance. The very highly positive relationship between innovative technology-based and high-quality delivery means that as innovative technology-based increases, there is a corresponding increase in students' delivery of high-quality services and vice versa. This means the implementation of innovative technology-based facilities management systems in universities has been found to positively impact the delivery of high-quality services. These systems enhance efficiency, improve communication and collaboration, enable data-driven decision-making, enhance service quality and satisfaction, lead to cost savings, and contribute to sustainability efforts. By embracing these advancements, universities can better meet the needs of their stakeholders and promote an optimal learning and working environment. The findings of this study are in line with Aderemi (2023) who mentioned the role technology plays in facilities management such as increasing efficiency, lowering costs, and improving overall facility performance also the findings are in support of Plan Radar (2023) who asserts that the transformation of innovative technology is helping to improve services, adapt to changing regulations, and reduce costs.

Conclusion

The findings of the study reveal that investing in the professional development of facility

management staff is vital for ensuring high-quality services. Embracing technology can greatly improve campus facilities management and service delivery and implementing a robust campus management system can streamline administrative processes, ease communication, and provide real-time information on facility usage and maintenance needs. Incorporating sustainable practices in facility management is essential for universities to reduce their carbon footprint and create a healthier campus environment. This includes implementing energy-efficient systems, promoting recycling and waste reduction, and utilizing renewable energy sources whenever possible. Investing in the professional development of facility management staff is vital for ensuring high-quality services. Training programs and workshops can enhance their skills, knowledge, and understanding of best practices in facility management, leading to improved service delivery and effective maintenance practices.

Recommendations

The following recommendations were made based on the findings of the study.

1. The managers of tertiary education should invest in energy-efficient systems, promote recycling and wastage management programmes and encourage the use of renewable energy for the sustainability of campus facilities.
2. The university authorities should collaborate with various heads of departments and teams involved in facilities management to ensure the availability and optimal utilization of campus facilities to enhance teaching, research and community services.
3. Universities should enhance security by implementing robust security measures to ensure the safety of students, faculty, staff, and campus facilities. Utilizing access control systems, CCTV cameras, and emergency response protocols to address security issues to provide a conducive learning environment devoid of molestation and violent-related activities.

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