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Technological Innovations for Global Competitiveness in Public Tertiary Institutions in Rivers State

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Abstract

The study investigated technological innovations for global competitiveness in public tertiary institutions in Rivers State. It adopted descriptive research design. Five research questions and four null hypotheses guided the study. The population of the study consists of 1, 635 management staff in the six public tertiary institutions in Rivers State. A sample size of 300 respondents was used for the study representing 18% of the population. Simple random sampling techniques was used to drawn the sample. A self-structured questionnaire titled "Technology Innovation in Educational Management Questionnaire (TIEMQ). The questionnaire consists of two sections, section A dealt with items on demographic data of the respondents, while section B dealt with the question items in cluster of the independent variables. The response pattern was a 4 points Likert scale patterns as Very High Extent (VHE), High Extent (HE), (Low Extent (LE) and (1) Very Low Extent (VLE). The instrument was validated two experts and their correction and comments were used to draft the final copy of the instrument. A test retest method was carried out on 20 management staff of tertiary institutions that were outside the sample population to determine the reliability of the study. Mean and standard deviation scores were used to answer the research questions, while t-test was used to test the null hypotheses at 0.05 level of significance. The findings of the study showed that to a high extent technological innovation like SPSS, RMS, power point, blended learning influenced global competitiveness in public tertiary institutions in Rivers State. It was concluded that technological innovations in educational management influenced global competitiveness. Based on the findings, it was recommended among other that: Government should employ more digital personalities to positions of management staff in all the tertiary institutions in Rivers State, Procurement of adequate technological equipment, and facilities for all tertiary institutions in Rivers State to provide opportunity for school personnel management to switch to new technology in carrying out their managerial functions, School administrators should implement all the policies of the government in the schools on use of technologies to promote technological innovations in education, Management staff in all the tertiary institutions in Rivers State should undergo training and retraining program to update their personal skills in technological driving world and finally, management of all the tertiary institutions in Rivers State should provide adequate technologies in all the offices and other lecturers offices and lectures halls in the schools.

INTRODUCTION

Technology has become an important source of innovation and improvement for many sectors across the globe. Thus, in the education sector particularly, the application of digital facilities has become a critical part of the management, teaching and learning process both inside and outside the classroom setting. According to Albini (2020), some stakeholders considered digital facilities as an effective facility and have invested huge amount of money to adopt them in the education system during the last two decades. Studies proved that most country that have fully adopted digital facilities have recorded immense advancement in terms of learning outcome and improvement of teaching and learning methods. It is, however, clear what effect the applications of digital facilities have on the administration of students' examination. According to Olaniyi (2006), digital facilities are all about the use of computers in the administration, monitoring and recording of examination.

Digital facilities adoption in this context is understood as a gradual switching over to automation of the educational process not only in administrative activities like student's admission, registration, and evaluation but also developing a customized method of examination using computers. The teachers as well as the students are allowed access to the digital facilities along with its all services and the specialized online tools. The adoption of digital facilities in some Nigerian schools has reportedly facilitated the educational processes to a great extent. However, there are varying opinions on the centrality of digital facilities in the examination processes in schools. For some, ICT is the thing in modern learning and failure to switch over to digital facilities -based learning is seen as failure in learning process enhancement. While some educationist views the traditional instruction method as retaining its core relevance irrespective of digital facilities innovations, others see the traditional method as outdated mode that needs to be enhanced through the adoption of digital facilities. According to Hamidi, Meshkat, Razaee and Jafari (2020) digital facilities are very rarely seen as central to the overall learning process rather it is adopted for the purpose of emphasis. According to them, even in the most advanced schools in advance countries, digital facilities are generally considered central to the teaching and learning process. They further noted that digital facilities in education initiatives in many less developed countries seek (at least in their rhetoric) to place digital facilities as central to teaching and learning. Similarly, Capan (2019) stated that one of the important of the 21st century education planning is the application of technology before education. According to him, educational planners and technology advocates think of the technology first and then investigate the educational applications of this technology.

On the other hand, strong advocates of digital facilities are of the view that the use of digital facilities makes learning easier for the learning and reduces the task of the teachers as illustrations can easily be made with the use of digital facilities. According to Chien (2020), digital facilities are tools for effective instructions of weak learner, who through repetitive illustrations can comprehend what they may not be able to understand at first instance in the classroom. Furthermore, Albini (2020) noted that the use of digital facilities makes learning less passive and more interactive hence, toning up the enthusiasm of learning and passionately bring them to the corridors of knowledge. For Gulbahar and Guven (2019), the adoption of digital facilities use in teaching and learning improves learning outcome. Learning outcome or students' academic performance refers to the enhancement of the students' current state of knowledge and skills reflected in their result averages and also in the formulation of their personality and academic growth from lower levels of study to higher levels. The rationale of studying academic performance in the context of ICT adoption is to present a significant relationship that exists between the two variables.

The increasing utilization of technology in the modern-day human activities, especially in management of education and teaching and learning with regards to computers and the

Internet cannot be overemphasized. In a global context, technology is increasingly accessible and influential. Therefore, most countries of the world see technology as a gate for the raising of educational standards (Noor-UI-Amin, 2013). This increased has impinged on educational systems in terms of aims and methods of teaching and learning. This is because, over the past years, information and communication technology (ICT) resources has drastically changed the way we teach and learn, our beliefs, values, culture, religion and the entire way of life of people. It is obvious that in making an effort to keep up-to-date with some of the new advances, acceptance and applications of these newly discovered technologies to teaching and learning has become very essential. Apart from educational system, other most relatively affected areas include commerce and industry, manufacturing process, and the entire social system. In the present day, computers, intranet and internet services and other technological resources are used in teaching and learning in schools. Technology can impact student learning when educators understand how to use it and integrate it into the curriculum. Already, the role of technology and e-learning in teaching and learning process is acknowledged by the Nigeria National Policy on Education (FRN, 2014) as it states that, government shall provide facilities and necessary infrastructure for the promotion of technology and eLearning".

The aim of this is that through technology, images can easily be used in teaching and learning process to improve the retentive memory of the students. This is to also help the teachers to easily explain complex instructions and ensure students' understanding and enable the teachers to create interactive classes that will make the lessons more participatory, enjoyable as well as enhance students' attendance and concentration. Thus, the modern technology provides a good opportunity to reflect on the existing practice of teaching and learning process and consider how schools can retain what is best, while changing to meet the needs and demands of the new world (Taylor & Hogenbirk, 2011). This implies that the new instructional method (e-learning) that uses technology provide a different modality of instrument for instruction. Today, schools use a diverse set of technology tools to communicate, create, disseminate, store and manage information (Blurton, 2020). For the students, e-learning method allows for increased individualization of learning. It facilitates learning supports and reinforces the introduction of the new process of teaching and learning that conform with the educational demands of the 21 Century knowledge and information society. For instance, e-learning method of teaching can assist skilled teachers to create rich learning environments where students are introduced to new ideas, develop new skills, and expand their perspectives. The informed use of e-learning in teaching and learning process can engage students in new experiences and create a community of learners across geographical boundaries.

The increasing prevalence of new technologies in our daily lives has affected most of socio-economic activities. This is partly because over the past decade Electronic-Learning resources (eLearning) systems has drastically changed our beliefs, value, culture, religion and entire way of life. These technologies used for teaching-learning are internet facilities, power point, Microsoft word, projectors e-notes, video enhanced learning software, projectors and e-mail, Google classroom app, digital classroom and smart board. Philip (2013) defined technology innovation teaching as the any teaching process through the use of electronic devices. Philip furthered reiterated that use of these technologies teaching and learning becomes interested to both teachers and students. Thus, most relatively affected areas include commerce and industry, manufacturing process, social and education systems. It is obvious that in attempting to keep abreast with some of the new advances, acceptance and applications of these newly discovered technologies to teaching and learning has become imperative. Philip (2013), opined that organizational ability to learn and subsequent applications of learnt concepts could determine its survival, progress, development and proper ranking of institutions in the world-wide global competitive markets. This type of growth in part could be dependent upon ability to quick response to changes and adaptation to new-found technology.

The placement can be achieved through appropriate training of staff by use of appropriate information and communication technology support system in teaching-learning. Quality education is one that provides all learners with capabilities they require to become economically productive, develop sustainable livelihoods, contributes to peaceful and democratic societies and enhances individuals' well-being. Bandele (2016) opined that e-learning library resource is a revolution that involves the use of tools such as computers, internet and other telecommunication technology in every aspect of human endeavour. Ofodu (2017), defined e-learning as electronic or computerized learning-devices that assist human and other interactive materials for a wide range of teaching and learning and for public or personal uses. Alexander (2018), Okebukola (2015), & Johnson (2017), stressed the fact that the traditional methods of managing education and transmitting knowledge and skills are rapidly becoming inadequate to deal with the accelerated changes in the educational system. He suggested that effective usage of the wide writing of facilities offered by technology opens up unprecedented opportunities for Researchers appear to agree that e-learning resources-revolution is centered upon the main use of internet, computers and telecommunication technologies in most aspect of societal and human activities. Bandele (2016), Jimoh (2017) & Ofodu (2017). The above-mentioned systems are regarded as electronic super-high-way through which information can be transmitted, shared and applied for the benefit of mankind as earlier stated. The merits of the systems include fast processing time, huge handling capacity, and variety of information processing methods, well organized learning and teaching process that suites the current generation of learners, precision and accuracy.

STATEMENT OF THE PROBLEM

Managing the education system nowadays is not the same job as it was century ago. With the advancement of technology, management becomes more engaging and interactive for stakeholders, teachers and learners. The role of the educational managers has changed from knowledge transmitter to that of facilitator, knowledge navigator and sometimes co-managers. Public universities in Rivers state, Nigeria are struggling to implement technological resource based management, teaching and learning development programs that can effectively improve leaders' productivity towards the attainment of quality education. This is a result of several factors, including inadequate funding, inadequate ICT facilities, and a lack of training and professional development opportunities among others. Without these necessary resources and support, educational managers may not be able to effectively engage in their management process. This can lead to lower productivity, reduced leadership skills of managers, poor and inaccurate statistical data, and lack of attainment of the desire quality education.

Aim and objectives of the Study

The main aim and objectives of this study is investigating technology innovation in educational management: approaches for global competitiveness. Specifically, the study sought to:

Identify the various technological innovations in educational management for global competitiveness in public tertiary institutions in Rivers State.
Determine the extent use of power point as technological innovation in educational management influence global competitiveness in public tertiary institutions in Rivers State.
Ascertain the extent use of SPSS as technological innovation in educational management influence global competitiveness in public tertiary institutions in Rivers State.
Ascertain the extent use of RMS as technological innovation in educational management influence global competitiveness in public tertiary institutions in Rivers State.
Ascertain the extent use of blended learning as technological innovation in educational management influence global competitiveness in public tertiary institutions in Rivers State.

Research Questions

The following research questions were posed to guide the study.

What are the various types of technological innovation that influence global competitiveness in public tertiary institutions in Rivers State?
To what extent does the use of power point as technological innovation influence global competitiveness in public tertiary institutions in Rivers State?
To what extent does the use of SPSS as technological innovation influence global competitiveness in public tertiary institutions in Rivers State?
To what extent does the use of RMS as technological technology innovation influence global competitiveness in public tertiary institutions in Rivers State?
To what extent does the use of blended learning as technological innovation influence global competitiveness in public tertiary institutions in Rivers State?

Hypotheses

The following hypotheses were formulated to guide the study.

There is no significant difference in the mean ratings of male and female management staff on the extent use of power point as technological innovation influence global competitiveness in public tertiary institutions in Rivers State.
There is no significant difference in the mean ratings of male and female management staff on the extent use of SPSS as technological innovation influence global competitiveness in public tertiary institutions in Rivers State.
There is no significant difference in the mean ratings of male and female management staff on the extent use of RMS as technological innovation influence global competitiveness in public tertiary institutions in Rivers State.
There is no significant difference in the mean ratings of male and female management staff on the extent use of blended learning as technological innovation influence global competitiveness in public tertiary institutions in Rivers State.

THEORETICAL REVIEW

This study is anchored on two theories of technology usage in the educational system. They are theory of diffusion of innovations by Rogers (2015), and the gratification theory by Katz, Blumler and Gurevitch (1974).

Theory of Diffusion of Innovations

The theory of Diffusion of Innovations propounded by Rogers's theory in 2015 stated the process by which an innovation is communicated through certain channels and over time among the members of a social system. The process will start with "knowledge" of the first channel that represents characteristics of the decision-making unit by the ICT users in order to integrate the technology. And it ends with "confirmation" by the users to accept the technology and integrate it accordingly.

Rogers went to posit that, adoption of a new idea, behaviour, or product (i.e., "innovation") does not happen simultaneously in a social system; rather it is a process whereby some people are more apt to adopt the innovation than others. Researchers have found that people who adopt an innovation early have different characteristics than people who adopt an innovation later. When promoting an innovation to a target population, it is important to understand the characteristics of the target population that will help or hinder adoption of the innovation. According to the Rogers'technological innovation' is communicated through certain channels overtime among the members of a social system; Rogers (1977). Technological innovation refers to a scientific change or shift from the norms and every day practice. According to Rogers (1977), technological innovation refers to any technical idea, practice or project perceived as being new in any social system irrespective of whether that concept has been in use a long time ago or not.

From this perspective, new ICTs such as the internet are seen to have a high degree of relative advantage, as Rogers (2001) continues: "compared to postal mail, email via the internet is faster, cheaper and quicker. Compared to books or other sources of information, the World Wide Web is a more convenient means of searching for information (that is, if an individual has access to a computer and modern)". The Rogers diffusion of innovation theory as relates with this study shows that the recent craze for information all over the world has given rise to the opening of info-net ways thus the advocate for the adoption of ICTs into the educational system globally. In the context of this study, information and communication technology (ICT) is an innovation which though not entirely new, but due to the dynamics in the educational system; and the need to adopt it (ICT) into the educational system, administrators may perceive it as new, then it may still be an innovation for them. The theory in agreement with this study advocates that information and communication technology is an innovation which brings about change in behaviour so that man is enabled to adapt to the demand of any new technological concept. In addition, the theory further advocates the need to gradually assimilate ICT into our teaching-learning environment. ICTs as technological innovations undergo phases. These phases in relation to the teaching with the aim of achieving all round enhancements in secondary education can be viewed diagrammatically thus:

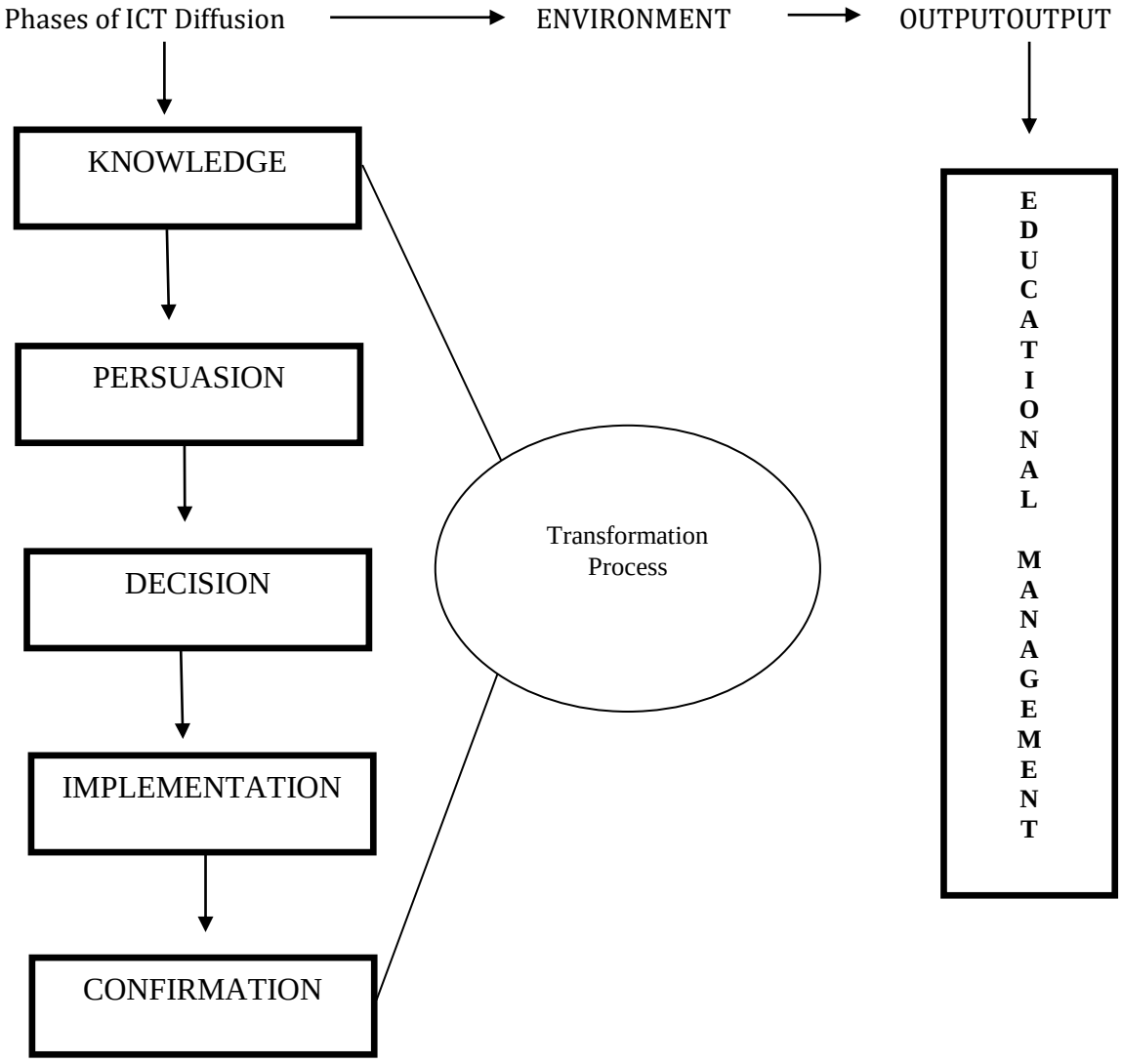

Figure 1: ICT Diffusion Phases with (theoretical schema) Source: James R. G (2001)

With the aid of the diagram above, the inter phase between information and communication technology in teaching can be explained thus;

Knowledge is the exposure to the existence of ICT. It enables the School administrators understand the functions of ICT. In the diffusion of innovation process, knowledge is an important variable. Relating knowledge to the context of this study, School administrator understanding the functions of information and communication technology as well as school heads embracing and adopting the knowledge of ICT particularly in administrative activities.
Persuasion refers to a favourable attitude to ICT. This deals with School administrators being encouraged to embrace ICT in the administrative processes within the classroom settings and school environment at large. In agreement with this second phase in the adoption of ICT, James (2008) posited that to convince or encourage School administrators to adopt ICT in administrative activities is to enlighten them on the uses and significance.

Decision is commitment to the adoption of ICT. Decision here at this third phase of ICT adoption, deals more with the resolution to adopt ICT into administration. Research has shown that individuals are known to contest change especially those changes not familiar to them. However, in the opinion of Achuonye (2008), 'adaptation and acceptance of change comes from within'. The means therefore that for information and communication technology to improve administrative activities, educational stakeholders must resolve to adopt and adapt to ICT and its components (computers, internet services, e-learning services, e-library and projectors) in schools.

Implementation simply means 'putting to use'. At this stage, educational stakeholders have accepted and embraced ICTs as a means of enhancing administrative task. However, School administrators must constantly use ICT components in administrative process. Implementation stage according to Engorere-Febabor (2005) is also the effective stage of application, operation and Implementation of the use of ICT to teach with the aim of enhancing effective administration.

Confirmation is the motivational stage which is usually based on positive outcome from any innovation programme. This stage is often associated with the total appraisal and feedback stage. In relating this stage with this study, enhanced School administrator's readiness which is a variable in this study, is the confirmation stage of ICT. This further means that the acceptance and application of ICT to administration will yield enhanced performance.

The relevance of Rogers' diffusion theory to this research work is that it will provide a logical insight into the prediction of the variables or components of information and communication technology for enhancing administrative processes.

The Gratification Theory by Katz, Blumler and Gurevitch (1974)

The gratification theory by Katz, Blumler and Gurevitch (1974) places more emphasis on "what people do with media" rather than "what media do to people". Uses and Gratifications theory is the study of the gratifications or benefits that attract and hold audiences to various types of media and the types of content that satisfy their social and psychological needs. Social networking sites as new media of communication also lends itself to uses and gratifications approach, in part due to its interactive nature (Grant, 2005). Uses and gratifications research has typically focused on how media are used to satisfy cognitive and affective needs involving personal needs and entertainment needs (Rubin, 2002). This hypothesis specifically puts power in the hands of the crowd. Instead of expecting that media messages have immediate, uniform impacts on the individuals who devour them, the Uses and Gratifications point of view suggests that beneficiaries make planned, purposeful choices about the media messages they open themselves to and at what recurrence taking into account individual needs and cravings independent of its impact on them-positive or negative. Relating this theory to this current

study, it shows that university management use Social networking sites like Facebook, WhatsApp, 2go, twitter etc just to satisfy their needs- which may either be physical or psychological- irrespective of the direction of its influence on the management of university. Besides, it offers explanations to suggest that school management use this site for varying reasons. In other words, users select media based on how well each one helps them meet specific needs or goals.

CONCEPTUAL CLARIFICATION

Concept of Technology Innovation

Technology Innovation is a mode of information communication technology to support, enhance, and optimise the delivery of information (instructions) to students. In conjunction with preparing students for the current digital era, the educational managers as the key players in using ICT in their daily duties. This is due to the capability of ICT in providing dynamic and proactive teaching-learning environment (Arnseth & Hatlevik, 2017). While, the aim of ICT Technology Innovation is to improve and increase the quality, accessibility and cost-efficiency of the delivery of instruction to students, it also refers to benefits from networking the learning communities to face the challenges of current globalization (Albirini, 2018, p.6).The process of adoption of ICT is not a single step, but it is ongoing and continuous steps that fully support teaching and learning and information resources (Young, 2016).

Yusuf (2015) opined that Technology Innovation in educational management generally means technology-based management process that closely relates to the utilization of technologies in schools.

Use of Technology Innovation in Educational Management for Global Competitiveness

In the area of education, Danciu and Grosseck (2011) found out that more and more colleges and universities from all over the world are widening their curriculum landscape beyond technology by integrating different forms of digital facilities, such: zoom, Google classroom, WhatsApp, audio-visual, radio, cell phones etc as discussed below.

Zoom

Zoom is a video and audio technology that is mainly used for video conferences. Zoom's widespread use during the COVID-19 pandemic has ensured that face-to-face interaction can take place between teachers and learners to some extent (Major, 2020). Although many educational software applications are widely available and highly effective, many of them were developed to serve as a supplement to traditional learning environments, and this is the aspect in which Zoom differentiates itself according to the research findings of Ryan & Poole (2019). According to Stefanie (2020), one major issue that is currently faced by teachers, learners, and, indeed, parents as they make use of Zoom is attaining mastery in the usage of the software while still maintaining a high level of teaching. Other challenges faced by users of the Zoom platform include highly limited social interaction and technical constraints such as the time limit on Zoom video sessions. Furthermore, the integrity of the results of assessments cannot be guaranteed because there is no way to fully ensure that students do not receive assistance from an outside source during an assessment. The use of video and audio has helped give the teacher a higher level of supervision, but those features are offset by factors such as network connectivity problems and hardware problems that the learners might experience.

Google Classroom

Google classroom is an e-learning system designed and maintained by google. It is a cloud-based learning system that was developed with the aim of helping teachers upload class work, projects, and assignments to the platform in order for the students to gain access to them at a convenient time. Any user of the system must have a google account. It is designed to be

used only by teachers in schools that have registered for the Google education suite. Apart from uploading assessments for students to the platform, google classroom also creates provision for teachers to host virtual discussions for students. It is very easy to use as it is free and is optimized for usage on both traditional computers and mobile devices such as Android phones. One of the benefits of this tool is that it can be used collaboratively with other groups (Izenstark & Leahy, 2015). Another important benefit is that it increases the ability of the users to achieve efficient online collaboration. Teachers can send messages to their students to begin an e-learning session. Similarly, students have the opportunity to share information and get feedback from their fellow learners by posting messages directly to google classroom (Alim, Linda, Gunawan, &Saad, 2019).

WhatsApp

WhatsApp is a mobile application that is used to share text messages and multimedia files. It was created in 2009 and has grown to become the most popular and one of the most widely used social media applications (Fawzi, 2015). WhatsApp can be installed on a smart phone, tablet, or computer. WhatsApp has many features that make it a very good e-learning platform. Etim et al. (Etim, Udosen, & Ema, 2016), suggested a significant positive influence of WhatsApp on the AP of students as it enabled students to have easy access to the taught subject matter, thus improving their performance. This conclusion is consistent with the findings of Augustine and Nwaizugbu (Augustine & Nwaizugbu, 2018), who posited that WhatsApp made it easier and more affordable for people to engage in e-learning. On the other hand, Mingle & Adams (2015), concluded that WhatsApp had a negative impact on the AP of learners. They went further to suggest that the major issue with WhatsApp as it relates to e-learning is the presence of distractions as a student can have e-learning content sent by the teacher but might instead choose to spend time engaging in personal activities instead of participating in e-learning.

Worldwide Research (2021) also found that Technology Innovation is useful in the following:

Using technology in education has made it possible for students to keep on learning irrespective of where they are.
Teachers can send assignments to students and they can complete and submit them even without physically stepping into the classroom and so learning never has to stop.
The use of technology in education has become more than just an option.
For effective learning, the education sector stakeholders have found ways of Technology Innovation in every day learning processes.
Technology Innovation encourages distance learning.
Technology Innovation in education is for proper recording and video conferencing facility.

Concept of Power Point

Power point is also known as digital slide show use in the presentation of lecture for a large group of people. The use of power point makes teaching and learning process easy most especially advance countries. The lecture is prepared in slides which describe specific issues. With power students present their assignments, seminar and pass other information in the school.

Benefits of power point in teaching:

It motivates students when used rightly
It allows adding more creativity and interactivity into the classroom
It encourages student's participation in lesson thereby draw student's attention towards learning.
Teachers use power point to prepare lectures and presentation by helping instructors refine their materials to salient points and contents.
With power point students retain long memory.

Concept of Power Point

Power point is a presentation software that is incorporated into Microsoft office suite package. It offers word processing, outlining drawing, graphic and presentation management tools. A power point presentation consists of slide that can contain text, graphic, charts and other data types. With power point, one can easily create slide shows, trainers and other presenters use slide shows to illustrate their presentation. In power point 2007, how a window display depends on the size of the window, the size of the monitor and the resolution to which your monitor can display.

Uses of Power Point in the Management of Education

Power point is useful in the educational management in the following ways:

Class Preparation

Power point can be used to prepare lectures and presentations by helping instructors refine their material to salient points and contents. Class lectures can be typed in outline format which will be refined as slides. Lecture notes can be printed as noted pages and can also be given as handouts to students. In other ways school managers can also use power point for senate meeting, workshops, among others.

Students Learning Preference

Using power point can address students learning preferences through the projection of colors, images, video and shapes for visual learners, sound and music for auditory learners, and interactive slides.

Others uses of power point in educational management include:

Engages students in collaborative learning.
It saves time and energy, once presentation has been created.
It is easy to update and modified.
Power point is very portable and can easily share with students and colleagues.
Power point support multimedia instruction such as video, audio, images and animation.

Concept of Result Management System (RMS)

RMS stands for Result Management System (RMS). This is a software application that automates the managing and analysis of results. It eliminates tedious manual tasks such as data entry, analysis, and report generation. It also provides school administrators and managers and teachers with real-time insights into students' performance. A result management system is therefore a valuable tool for educational institutions, exam boards, and other organizations that deal with students' results. It improves the processes of computing results, enhances data analysis and achieves better outcomes. So, it a more efficient way to compute results and track students' performance. Result management system often focuses on ease of use, data integrity and security, and the sophistication to handle complex process of computing results.

Benefits of Result Management System in Educational Management

Keith McCormick and Jesus Salcedo (2011) say stated that RMS is very useful to educational management in the following ways:

Streamlining Results Management

This is a significant benefit of implementing the result management system in schools. Traditionally managing students' results is long and tedious process. However, the process is simpler and faster with a student result management system.

Data Accuracy and Security

Using a student result management system eliminates the risks of errors and inconsistencies. Errors and inconsistencies can hurt your school reputation. It can tamper with the perceived performance of a student. The RMS captured data directly from different sources, including exams, assignments, and assessment test.

Timely Communication

Teachers can easily communicate with parents about their children (wards) performance. Real-time communication takes away the waiting time for parents to receive a report cards or schedule a Parent-Teachers' association (PTA) meeting.

Improved Analysis and Decision-making

Having a result management system helps schools to have detailed and accurate data of student's performance. It provides insights into the strength and weakness of the school teaching methods, curriculum and staff. School administrators and managers, and teachers can quickly and easily analyze data, including test scores, attendance, behavior and other metrics.

Concept of SPSS

SPSS stands for Statistical Package for the Social Sciences. It is a widely used software package for statistical analysis and data management. It was first released in 1968 and has since become a standard tool in various fields, including social sciences, healthcare, marketing, and education.

Basic Features of SPSS

Andy Field (2009) posited that SPSS offers a wide range of features and capabilities, including:

Data Management: SPSS allows users to create, edit, and manipulate datasets.
Data Analysis: SPSS provides a variety of statistical procedures, including descriptive statistics, inferential statistics, and advanced statistical techniques.
Data Visualization: SPSS offers various data visualization tools, including charts, graphs, and plots.
Programming Language: SPSS has its own programming language, which allows users to automate tasks and create custom procedures.
Integration with Other Software: SPSS can integrate with other software packages, including Microsoft Office and R.

Advantages of using SPSS in Educational Management

Walson (2024) outlines several advantages of SPSS in the educational management such as:

User-Friendly Interface: SPSS has a user-friendly interface that makes it easy to use, even for those without extensive statistical knowledge.
Wide Range of Statistical Procedures: SPSS offers a wide range of statistical procedures, making it a versatile tool for data analysis.
Data Management Capabilities: SPSS has robust data management capabilities, allowing users to easily manipulate and analyze large datasets.
Integration with Other Software: SPSS can integrate with other software packages, making it a convenient tool for data analysis and reporting.

Concept of Blended Learning

The concept of blended learning has its roots in the 1960s, when educators began experimenting with combining traditional teaching methods with emerging technologies, such as television and computers. However, it wasn't until the 1990s and 2000s that blended learning began to gain widespread acceptance, with the advent of online learning platforms, learning management systems, and other digital tools.

Blended learning is an educational approach that combines traditional face-to-face instruction with online learning elements. This hybrid model aims to provide students with a more personalized, flexible, and effective learning experience. It is essential in allowing access to contemporary global mainstreams education.

Characteristics of Blended Learning

Combination of face-to-face and online learning: Blended learning integrates traditional classroom instruction with online components, such as video lectures, online discussions, and interactive activities.
Flexibility and autonomy: Blended learning provides students with the flexibility to learn at their own pace, anytime, and anywhere.
Personalization: Blended learning allows for tailored instruction to meet individual students' needs, abilities, and learning styles.
Technology integration: Blended learning leverages technology to enhance the learning experience, increase engagement, and improve outcomes.

Types of Blended Learning Models

Rotation Model: Students rotate between face-to-face instruction and online learning activities.
Flex Model: Students work online, and teachers provide support and guidance as needed.
Self-Blend Model: Students take online courses in addition to traditional face-to-face classes.
Online Lab Model: Students work on online activities in a lab setting, with teacher support.
Face-to-Face Driver Model: Teachers deliver instruction face-to-face, and online activities supplement the learning needs of students.

Benefits of Blended Learning to Teaching and Learning Processes

The benefit of blended learning to teaching and learning processes is discussed on three areas namely: benefits to students, teachers and educational institutions.

Benefits to Students

Personalized learning: Blended learning allows students to learn at their own pace and in their own style.
Increased flexibility: Students can access online materials and complete assignments on their own schedule.
Improved engagement: Blended learning can include interactive and immersive online activities that increase student engagement.
Access to resources: Students can access online resources and materials that may not be available in the classroom.

Benefits to Teachers

Increased efficiency: Blended learning can automate administrative tasks and free up time for teachers to focus on instruction.
Improved student data: Blended learning platforms can provide teachers with detailed data on student performance and progress.
Enhanced professional development: Blended learning can provide teachers with opportunities for professional development and training.
Increased student support: Blended learning can provide teachers with tools and resources to support students who need extra help.

Benefits to Institutions

Cost savings: Blended learning can reduce costs associated with traditional face-to-face instruction.

Increased scalability: Blended learning can reach a larger number of students, making it an effective solution for large-scale education.
Improved student outcomes: Blended learning can lead to improved student outcomes, including increased graduation rates and better job placement.
Enhanced reputation: Institutions that offer blended learning programs can enhance their reputation and attract more students.
Digital native and digital immigrants as tools for blended learning as technology innovation in educational management.
Digital natives and digital immigrants are terms coined by Marc Prensky in 2001 to describe the differences in how people interact with technology based on their age and exposure to digital technologies.

Who are Digital Natives?

Digital natives are people who were born and have grown up with digital technologies like computers, smartphones, and the internet, and are therefore familiar with them from an early age. They are typically:

Born after 1980: Digital natives are generally considered to be people born after 1980, who have grown up with digital technologies.
Familiar with digital technologies: Digital natives are comfortable using digital technologies and have a natural affinity for them.
Native speakers of the digital language: Digital natives are fluent in the language of digital technologies and are able to navigate them with ease.

Who are Digital Immigrants?

Digital immigrants are people who have had to adapt to digital technologies later in life often due to the rapid pace of technological change. They are typically:

Born before 1980: Digital immigrants are generally considered to be people born before 1980, who have had to learn digital technologies as adults.
Less familiar with digital technologies: Digital immigrants may be less comfortable using digital technologies and may need to learn new skills to adapt.
Non-native speakers of the digital language: Digital immigrants may struggle to navigate digital technologies and may require training or support to become proficient.

Differences between Digital Natives and Digital Immigrants

The differences between digital natives and digital immigrants are:

Age: Digital natives are generally younger, while digital immigrants are older.
Familiarity with technology: Digital natives are more familiar with digital technologies, while digital immigrants may need to learn new skills.
Learning style: Digital natives tend to prefer interactive, hands-on learning, while digital immigrants may prefer more traditional teaching methods.

METHODOLOGY

The study adopted descriptive research design. The population of the study consists of 1,635 academic staff in the six public tertiary institutions in Rivers State. The distributions of population of academic staff are as follows: University of Port Harcourt 550, Ignatius Ajuru University of Education 350, Rivers State University 330, Captain Elechi Amadi Polytechnic 208, Ken Benson Saro Wiwa Polytechnic Bori 120, and Federal Polytechnic of Oil and Gas Bonny 108. The sample population of the study was 300 management staff in the six public tertiary institutions in Rivers State comprises of 200 male lecturers and 100 female management staff representing 18% of the population. Stratified random sampling technique was used to select the sampled. University of Port Harcourt 100, Ignatius Ajuru University of Education 50, Rivers

State University 50, Captain Elechi Amadi Polytechnic 50, Ken Benson Saro Wiwa Polytechnic Bori 30 and Federal Polytechnic of Oil and Gas Bonny 20. Stratified random sampling technique was use to select the sample. University of Port Harcourt 86, Ignatius Ajuru University of Education 55, Rivers State University 72, Captain Elechi Amadi Polytechnic 46, Ken Benson Saro Wiwa Polytechnic Bori 28, and Federal Polytechnic of oil and Gas Bonny 16. The instrument used for data collection in this study was self-structured questionnaire titled: Technology Innovation in Educational Management Questionnaire (TIEMQ). The questionnaire consists of two sections. Section A dealt with items on demographic data of the respondents, while section B dealt with the questions items in clusters of the independent variables. The response patterns was a 4 points Likert scale patterns of as Very High Extent (VHE =4), High Extent (HE = 3), (Low Extent (LE = 2), and Very Low Extent (VLE=1). The instrument was validated by two experts from the Department of Educational Management of Ignatius Ajuru University of Education. A test re-test method was carried out on 20 management staff of tertiary institutions that were outside the sample population to give a reliability index of 0.78. Mean and standard deviation scores were used to answer the research questions while independent t-test was used to test the null hypotheses at 0.05 level of significance with the aid of Statistical Package for Social Science (SPSS) version 24.

RESULTS

Results of Research Questions

Research Question One: What are the various types of technology innovation in educational management that influence global competitiveness in public tertiary institutions in Rivers State?

Table 1: Mean and Standard Deviation scores of male and female management staff on the various types of technology innovation for global competitiveness in public tertiary institutions in Rivers State.

(Types of technology innovation)	Items	Male Mgt. Staff (N=200)		Female Mgt. Staff (N=100)		Mean Set		Decision
S/N		Mean	STD	Mean	STD	Mean	STD	
1	RMS	2.81	0.80	3.00	0.75	2.92	.97	SA
2	Power point	2.70	1.14	2.6 7	0.99	2.67	.99	SA
3	SPSS	2.98	0.60	2.70	0.66	2.75	.95	SA
4	Blended Leaning	2.83	0.66	3.00	0.65	2.84	1.07	SA
Total	Grand Mean/Std	2.88	0.87	2.94	0.80	2.86	0.96	SA

Results in table 1 showed the summary of mean and standard deviation scores of male and female management staff on the various types of technological innovation for global competitiveness in public tertiary institutions in Rivers State. All items from 1-6 had high mean and standard deviation score above the criteria mean of 2.50. Item 1 had a mean set of 3.12 and standard deviation of 0.80. This implies that the respondents strongly agree that CCTV is a type of types of technological innovation global competitiveness in public tertiary institutions in Rivers State. Item 2 had a mean set of 2.92 and standard deviation of 0.97. This implies that the respondents strongly agree that RMS is a type of technological innovation for global competitiveness in public tertiary institutions in Rivers State. Item 3 had a mean set of 2.67 and standard deviation of 0.99. This implies that the respondents strongly agree that SPSS is a type of technological innovation for global competitiveness in public tertiary institutions in Rivers State. Item 4 had a mean set of 2.75 and standard deviation of 0.95. This implies that the respondents strongly agree that power point is a type of technological innovation for global competitiveness in public tertiary institutions in Rivers State. Item 5 had a mean set of 2.84 and

standard deviation of 1.07. This implies that the respondents strongly agree that blended learning is type of technological innovation for global competitiveness in public tertiary institutions in Rivers State. The cluster mean of 2.86 and 0.96 implies that the respondents strongly agree that the types of technological innovation for global competitiveness in public tertiary institutions in Rivers State are: CCTV, RMS, SPSS, Power point, and blended learning.

Research Question Two: To what extent does power point as a technological innovation influence global competitiveness in public tertiary institutions in Rivers State?

Table 2: Mean and Standard Deviation on the extent use of power point as a technological innovation influence global competitiveness in public tertiary institutions in Rivers State.

(Types of technology innovation)	Items	Male Mgt. Staff (N=200)		Female Mgt. Staff (N=100)		Mean Set		Decision
S/N		Mean	STD	Mean	STD	Mean	STD	
5	It is use to motivates students in the lesson	2.68	1.02	2.68	0.95	2.76	.92	HE
6	With the use of power point students can retain long memory	2.68	0.70	2.70	0.75	2.78	1.07	HE
7	It make classroom to be more interactive	2.58	1.14	2.55	0.99	2.73	.96	HE
8	It encouraged students' participation in the lesson	2.68	0.60	2.54	0.66	2.82	.91	HE
9	Teachers use power point to prepare lectures notes	2.98	0.62	2.76	0.65	2.66	1.07	HE
Total	GRAND MEAN/STD	2.69	0.81	2.64	0.80	2.75	0.98	HE

Results in table 2 show the summary of mean and standard deviation on the extent power Point as technology innovation in educational management motivates students in the lesson. Item 5 had a mean set of 2.76 and standard deviation of 0.92. This implies that the respondents agree to a high extent that with power point as technology innovation in educational management students can retain long memory. Item 6 had a mean set of 2.78 and standard deviation of 1.07. This implies that the respondents agree to a high extent that with the use of power point students can retain long memory. Item 7 had a mean set of 2.73 and standard deviation of 0.96 This implies that the respondents agree to a high extent that power point make classroom to be more interactive. Item 8 had a mean set of 2.82 and standard deviation of 0.91. This implies that the respondents agree to a high extent that power points encouraged students' participation in the lesson. Item 9 had a mean set of 2.66 and standard deviation of 1.07. This implies that the respondents agree to a high extent that Teachers use power point to prepare lectures notes. The cluster mean of 2.75 and 0.98 implies that the respondents that Power Point is a technological innovation that influenced agree to a high extent global competitiveness in public tertiary institutions in Rivers State.

Research Question Three: To what extent does the use of SPSS as technological innovation influence global competitiveness in public tertiary institutions in Rivers State?

Table 3: Mean and Standard Deviation on the extent the use of SPSS as technological innovation influence global competitiveness in public tertiary institutions in Rivers State.

(Types of technology innovation) N=300	Items	Male Mgt. Staff (N=200)		Female Mgt. Staff (N=100)		Mean Set		Decision
S/N		Mean	STD	Mean	STD	Mean	STD	
10	User-Friendly Interface	2.80	1.02	2.68	0.95	2.79	.95	HE
11	Wide Range of Statistical Procedures	2.68	0.70	2.67	0.75	2.80	.92	HE
12	Data Management Capabilities	2.65	1.14	2.65	0.99	2.93	.89	HE
13	Integration with Other Software	2.58	0.60	2.53	0.66	2.83	.86	HE
14	Reduction of errors in data analysis	2.68	0.62	2.65	0.65	2.67	1.03	HE
Total	Grand Mean/Std	2.67	0.81	2.63	0.80	2.80	0.93	HE

Results in table 3 show the summary of mean and standard deviation on the extent SPSS as technology innovation in educational management is user friendly interface. Item 10 had a mean set of 2.79 and standard deviation of 0.94. This implies that the respondents agree to a high extent that SPSS as technology innovation in educational management is user friendly interface. Item 11 had a mean set of 2.80 and standard deviation of 0.92. This implies that the respondents agree to a high extent that SPSS technology innovation in educational management has wide Range of Statistical Procedures. Item 12 had a mean set of 2.93 and standard deviation of 0.89. This implies that the respondents agree to a high extent that PSS as technology innovation educational management has data Management Capabilities. Item 23 had a mean set of 2.83 and standard deviation of 0.86. This implies that the respondents agree to a high extent that SPSS as technology innovation educational management has data Management can integrate with other Software. Item 14 had a mean set of 2.67 and standard deviation of 1.03. This implies that the respondents agree to a high extent that SPSS as technology innovation educational management can reduce errors in data analysis. The cluster mean of 2.80 and 0.93. imples that the respondents agree to a high extent that SPSS as technological innovation influenced global competitiveness in public tertiary institutions in Rivers State.

Research Question Four: To what extent does the use of RMS as technological innovation influence global competitiveness in public tertiary institutions in Rivers State?

Table 5: Mean and Standard Deviation on the extent the use of RMS as technological innovation influence global competitiveness in public tertiary institutions in Rivers State.

(Types of technology innovation) N=300	Items	Male Mgt. Staff (N=200)		Female Mgt. Staff (N=100)		Mean Set		Decision
S/N		Mean	STD	Mean	STD	Mean	STD	
15	It streamlining results management	2.68	1.02	2.54	0.95	2.62	.94	HE
16	Guaranteed data accuracy and security	2.35	0.70	2.30	0.75	2.58	1.03	HE
17	It uses for timely communication	2.58	1.14	2.47	0.99	2.57	1.08	HE

18	It improved analysis and decision-making	2.83	0.60	2.98	0.66	2.76	1.04	HE
19	It offers reliable and fast answers	2.83	0.62	2.69	0.65	2.56	1.07	HE
TOTAL	Grand Mean/Std	2.65	0.81	2.59	0.80	2.61	1.03	HE

Results in table 4 show the summary of mean and standard deviation on the extent RMS as technological innovation influence global competitiveness in public tertiary institutions in Rivers State. Item 15 had a mean set of 2.62 and standard deviation of 0.94. This implies that the respondents agree to a high extent that RMS as technology innovation streamlining results management. Item 16 had a mean set of 2.58 and standard deviation of 1.03. This implies that the respondents agree to a high extent that RMS as technology innovation in educational management guaranteed Data accuracy and security. Item 17 had a mean set of 2.57. and standard deviation of 1.08. This implies that the respondents agree to a high extent that RMS as technology innovation in educational management use for timely communication. Item 18 had a mean set of 2.76 and standard deviation of 1.04. This implies that the respondents agree to a high extent that RMS as technology innovation in educational management improved analysis and decision-making. Item 19 had a mean set of 2.56 and standard deviation of 1.07 This implies that the respondents agree to a high extent that RMS as technology innovation in educational management offers reliable and fast answers. The cluster mean of 2.61 and 1.03. implies that the respondents agree to a high extent that RMS as technological innovation influenced global competitiveness in public tertiary institutions in Rivers State.

Research Question Five: To what extent does use of blended learning as technological innovation in educational management influence global competitiveness in public tertiary institutions in Rivers State?

Table 5: Mean and Standard Deviation on the extent use of blended learning as technological innovation in educational management influence global competitiveness in public tertiary institutions in Rivers State.

(Types of technology innovation) N=300	Items	Male Mgt. Staff (N=200)		Female Mgt. Staff (N=100)		Mean Set		Decision
S/N		Mean	STD	Mean	STD	Mean	STD	
20	It is cost savings	2.68	1.02	2.68	0.95	2.68	1.06	HE
21	It increased scalability	2.68	0.70	2.70	0.75	2.73	1.02	
22	It improved student outcomes	2.58	1.14	2.55	0.99	2.68	.97	HE
23	It enhanced institution reputation	2.68	0.60	2.54	0.66	2.61	1.10	HE
24	It enhanced professional development	2.98	0.62	2.76	0.65	2.70	1.04	HE
Total	Grand Mean/Std	2.72	0.81	2.64	0.80	2.68	1.03	HE

Results in table 5 showed the summary of mean and standard deviation on the extent blended learning as technological innovation influence global competitiveness in public tertiary institutions in Rivers State. Item 20 had a mean set of 2.68 and standard deviation of 1.06. This implies that the respondents agree to a high extent blended learning as technological innovation is cost savings. Item 21 had a mean set of 2.73 and standard deviation of 1.02. This implies that

the respondents agree to a high extent Blended learning as technological innovation increased scalability. Item 22 had a mean set of 2.68. and standard deviation of 0.97. This implies that the respondents agree to a high extent that Blended learning as technological innovation improved student outcomes. Item 23 had a mean set of 2.61 and standard deviation of 1.10. This implies that the respondents agree to a high extent that Blended learning as technological innovation enhanced institution reputation. Item 24 had a mean set of 2.70 and standard deviation of 1.04. This implies that the respondents agree to a high extent that Blended learning as technological innovation enhanced professional development. The cluster mean of 2.68 and 1.03. implies that the respondents agree to a high extent that blended learning as technological innovation influence global competitiveness in public tertiary institutions in Rivers State.

Test of Hypotheses

HO1: There is no significant difference in the mean ratings of male and female management staff on the extent use of power point as technological innovation influence global competitiveness in public tertiary institutions in Rivers State.

Table 6: Independent samples t-test of the significant difference in the mean ratings of male and female management staff on the extent use of power point as technological innovation influence global competitiveness in public tertiary institutions in Rivers State.

Gender	N	$\overline{X}$	SD	df	t-cal	P	Decision
Male	200	14.521	2.303				
				298	.756	.416	Ho1 Rejected
Female	100	14.302	2.421				

From the result presented in table 6 it was revealed that male management staff had a mean value of 14.521 (STD = 2.303), while the female management staff had a mean value of 14.302 (SD = 2.421). This result shows that the male management staff strongly believes that power point as technology innovation in educational management influence global competitiveness in public tertiary institutions in Rivers State. Further testing using independent sample t-test revealed that a t-value of .756 was obtained with a corresponding p-value of .416 which was greater than the chosen alpha value of 0.05. This result therefore indicates that the null hypothesis was rejected and there was significant difference in the mean ratings of male and female management staff on the extent power point as technology innovation in educational management influence global competitiveness in public tertiary institutions in Rivers State.

HO2: There is no significant difference in the mean ratings of male and female management staff on the extent use of SPSS as technological innovation influence global competitiveness in public tertiary institutions in Rivers State.

Table 7: Independent samples t-test of the significant difference in the mean ratings of male and female management staff on the extent use of SPSS as technological innovation influence global competitiveness in public tertiary institutions in Rivers State.

Gender	N	$\overline{X}$	SD	df	t-cal	P	Decision
Male	200	14.619	2.885				
				298	3.177	.002	Ho1 Rejected

Female	100	13.461	2.029

From the result presented in Table 7 it was revealed that male teachers had a mean value of 14.521 (STD = 2.303), while the female management staff had a mean value of 14.302 (SD = 2.421). This result shows that the male management staffs strongly believe that SPSS as technology innovation in educational management influence global competitiveness in public tertiary institutions in Rivers State. Further testing using independent sample t-test revealed that a t-value of .75 was obtained with a corresponding p-value of .002 which was greater than the chosen alpha value of 0.05. This result therefore indicates that there was significant difference in the mean ratings of male and female teachers on the extent SPSS as technology innovation in educational management influence global competitiveness in public tertiary institutions in Rivers State.

HO3: There is no significant difference in the mean ratings of male and female management staff on the extent use of RMS as technological innovation influence global competitiveness in public tertiary institutions in Rivers State.

Table 8: Independent samples t-test of the significant difference in the mean ratings of male and female management staff on the extent use of RMS as technological innovation influence global competitiveness in public tertiary institutions in Rivers State.

Gender	N	$\overline{X}$	SD	df	t-cal	P	Decision
Male	200	14.858	2.989				
				298	2.838	.005	Ho1 Rejected
Female	100	13.748	2.301				

From the result presented in Table 8 it was revealed that male management staff had a mean value of 14.858 (STD = 2.989), while the female management staff had a mean value of 14.302 (SD = 2.421). This result shows that the male management staff strongly believe that RMS as technology innovation in educational management influence global competitiveness in public tertiary institutions in Rivers State. Further testing using independent sample t-test revealed that a t-value of .756 was obtained with a corresponding p-value of .005 which was greater than the chosen alpha value of 0.05. This result therefore indicates that there was significant difference in the mean ratings of male and female management staff on the extent RMS as technology innovation in educational management influence global competitiveness in public tertiary institutions in Rivers State.

HO4: There is no significant difference in the mean ratings of male and female management staff on the extent use of blended learning as technological innovation influence global competitiveness in public tertiary institutions in Rivers State.

Table 9: Independent samples t-test of the significant difference in the mean ratings of male and female management staff on the extent the use of blended learning as technological innovation in educational management influence global competitiveness in public tertiary institutions in Rivers State.

Gender	N	$\overline{X}$	SD	df	t-cal	P	Decision

Male	200	14.652	3.818				
				298	4.203	.000	Ho1 Rejected
Female	100	12.581	4.139				

From the result presented in Table 9 it was revealed that male management staff had a mean value of 14.652 (STD = 3.818), while the female management staff had a mean value of 12.581 (SD = 4.139). This result shows that the male management staffs strongly believe that blended learning as technology innovation in educational management influence global competitiveness in public tertiary institutions in Rivers State. Further testing using independent sample t-test revealed that a t-value of .756 was obtained with a corresponding p-value of .000 which was greater than the chosen alpha value of 0.05. This result therefore indicates that there was significant difference in the mean ratings of male and female management staff on the extent blended learning as technology innovation in educational management influence global competitiveness in public tertiary institutions in Rivers State.

DISCUSSION OF FINDINGS

The result of research question one showed that respondents agreed to a high extent that the various types of technology innovation in educational management influence global competitiveness in public tertiary institutions in Rivers State are: CCTV, RMS, SPSS, power point, and blended learning. These findings tandem with that of Floridi (2009) who outlines some technologies to Whatsapp, zoom, face book, computer, projectors, smart board, pod cast, cell phone, SPSS, RMS, CD writer, modem, laptop, computers, video tape, audio tape, flash drive, virtual library etc.

The result of research question two showed that respondents agreed to a high extent that SPSS as technology innovation in educational management influence global competitiveness in public tertiary institutions in Rivers State. These findings are corroborate with that of Norman, Nie, Hadlai, and Dale (2000) who outlines several advantages of SPSS as: User-Friendly Interface: SPSS has a user-friendly interface that makes it easy to use, even for those without extensive statistical knowledge.; Wide Range of Statistical Procedures: SPSS offers a wide range of statistical procedures, making it a versatile tool for data analysis; Data Management Capabilities: SPSS has robust data management capabilities, allowing users to easily manipulate and analyze large datasets; and Integration with Other Software: SPSS can integrate with other software packages, making it a convenient tool for data analysis.

The result of research question three showed that respondents agreed to a high extent that RMS as technology innovation in educational management influence global competitiveness in public tertiary institutions in Rivers State. These findings are agreed with that of Keith McCormick and Jesus Salcedo (2011) who suggested that RMS is very useful in the following ways: Streamlining results management which is of significant benefit in implementing the result management system in schools. Traditionally managing students' results is long and tedious process. However, the process is simpler and faster with a student result management system housing individual student portal; Data accuracy and security where a students' result management system eliminates the risks of errors and inconsistencies. Errors and inconsistencies can hurt your school reputation. It can tamper with the perceived performance of a student. The RMS captured data directly from different sources, including exams, assignments, and assessment test; Timely communication where teachers can easily communicate with parents about their children (wards) performance. Real-time communication takes away the waiting time for parents to receive a report card or schedule a parent-teachers association (PTA) meeting.

Improved analysis and decision-making where result management system helps schools to have detailed and accurate data of student's performance. It provides insights into the strength and weakness of the school teaching methods, curriculum and staff. School administrators and managers, and teachers can quickly and easily analyze data, including test scores, attendance, behavior and other metrics.

The result of research question four showed that respondents agreed to a high extent that blended learning as technology innovation in educational management influence global competitiveness in public tertiary institutions in Rivers State. These findings are in line with that of Andy Field (2009) who opined that blended learning is beneficial in the following: Cost savings: Blended learning can reduce costs associated with traditional face-to-face instruction; Increased scalability: Blended learning can reach a larger number of students, making it an effective solution for large-scale education; Improved student outcomes: Blended learning can lead to improved student outcomes, including increased graduation rates and better job placement; and Enhanced reputation: Institutions that offer blended learning programs can enhance their reputation and attract more students. The findings are also in line with that of Keith McCormick and Jesus Salcedo (2011) who outlines the following as usefulness of power point to educational management as follows: Class preparation: power point can be used to prepare lectures and presentations by helping instructors refine their material to salient points and contents. Class lectures can be typed in outline format which will be refined as slides. Lecture notes can be printed as noted pages and can also be given as handouts to students. In other ways school managers can also use power point for senate meeting, workshops, among others; and Students learning preference where power point can address students learning preferences through the projection of colors, images, video and shapes for visual learners, sound and music for auditory learners, and interactive slides.

CONCLUSION

Technology has become an important source of innovation and improvement for many sectors across the globe. Thus, in the education sector particularly, the application of digital facilities has become a critical part of the management, teaching and learning process both inside and outside the classroom setting.

RECOMMENDATIONS

The following recommendations were made based on the account of the findings:

Government should appoint employ more digital personalities to positions of management staff in all the tertiary institutions in Rivers state.

Provision of adequate technologies equipment, and facilities in the in all the tertiary institutions in Rivers state to provide opportunity for school personnel to switch to the use of digital facilities.

Management staff in all the tertiary institutions in Rivers state should switch to the technology in carry out their managerial functions.

School administrators should implement all the policies of the government in the schools on use of technologies so as to promote technology innovation in education.

Management staff in all the tertiary institutions in Rivers state should undertake training and retraining program as to update their personal skills in technology driving world.

Management of all the tertiary institutions in Rivers state should provide adequate technologies n all the offices and other lecturer's offices and lectures halls in the schools.

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