



## UTILIZATION OF ONLINE TOOLS AND BUSINESS EDUCATION LECTURERS' JOB PRODUCTIVITY IN CROSS RIVER STATE

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### Abstract

*This study assessed the utilization of online tools and business education lecturers' job productivity in Cross River State. The research design for the study was survey-based. The study was premised on two research questions and two hypotheses to achieve its objective. The population of the study was 140 lecturers in all the tertiary institutions in Cross River State, Nigeria. Due to the manageable size of the population, all one hundred and forty business education lecturers participated in the study. Data were gathered using an 18-item survey titled "Utilization of Online Tools and Business Education Lecturer Job Productivity Questionnaire" (UOTBELJPQ). The University of Calabar's department of vocational education's two experts examined the instrument. Eleven lecturers at Ebonyi State University participated in a trial test, and the aggregate Cronbach's alpha reliability coefficient was 0.89. The data were analyzed using descriptive statistics. The results of the data analysis show that the use of smartphones and cloud computing influences the productivity of business education lecturers. The survey also discovered that there is no statistically significant difference in the average responses of business educators in both public and private institutions on the effect of cloud computing on lecturers' job productivity in tertiary institutions in Cross River State. Based on the study, it was recommended that the management of tertiary institutions provide electronic tools to improve the online content delivered by business education lecturers to enhance their job productivity.*

**Key words:** Utilization, online, tools, lecturers' job and productivity

### Introduction

The goal of higher education in Nigeria is to produce highly skilled labor to support many different areas of the national economy. By enhancing and broadening its educational offerings to meet the nation's high personnel needs and ensuring that the educational materials reflect our national regiments, it will likely contribute to national development (Federal Republic of Nigeria, 2013). Competent classroom instruction, research, and various other related educational endeavours could help accomplish these goals. It is essential that business school lecturers employ technology for communication and information (ICT), often known operationally as "online tools," in order to perform their duties effectively and effectively, particularly in this era of a knowledge economy globalization and technological advances. It's fascinating to note how quickly colleges around the world are integrating technology innovation into every aspect of teaching, research, and administration. In addition to helping students learn more effectively, teachers who successfully incorporate technology innovation into their work procedures also gain personally from enhanced work efficiency (Carlson & Gadio, 2009).

In the view of Atah, Godwin, Kolo, & Idike, (2023), lecturers in business education have a variety of tasks to complete, including evaluating tests and exams, regulating educational projects, assisting learners within consultative roles, finishing exhibitions, volunteering in community organizations, in teaching, research, and publications. They must make use of these online technologies if they are to be productive and efficient. According to Yusuf (2005) and Daniel (2012), the vast majority of instructors in Europe use technology advancements like smartphones to improve their ability to plan classes. The act of completing or carrying out a specific task is one way to explain the job productivity of business instructors. More specifically, it is viewed as the tasks completed by staff members within a specific time in the school system in order to achieve educational objectives. According to Akeke and Atah (2022) the competencies that academic staff should uphold effectively in the school system include efficient instruction and learning, lesson note preparation, effective use of a scheme of work, efficient oversight, interaction in the classroom, productive evaluation practices, tracking work by learners, and multidisciplinary ability. Thushel (2015) used three categories to sum up the role played by business educators in the classroom, including the reason for being scale, the knowledge depth, and the estimation and assessment component.

According to Folorunso, Adewale, and Abodunde (2014), educational staff productivity is crucial because high-quality tertiary education is a crucial step in producing teachers who are necessary to provide free elementary schooling, the skilled medical professionals and social service providers needed to



improve assistance and medical facilities, as well as the certified public accountants, economists, and reporters necessary to improve confidential and government. Nwosu, Bessong, and Atah, (2022) also argued that the university system needs to guarantee that its faculty feel inspired in order for them to make a difference to the standards required for macroeconomic and electoral growth if it is to foster the aforementioned capacities. Therefore, the effectiveness of business education lecturers in completing their given work, their participation in academic conferences, as well as their production of articles for journals and books, among other factors, can be used to assess their job performance. There are a number of online resources that can improve business education lecturers' job productivity in the classroom of the twenty-first century, but in this study, smartphone technology and cloud computing are taken into account (Bessong, Nwosu and Atah, 2022).

Smartphones offer a staggering variety of features. Smartphone use has developed into a crucial necessity and a tool for international communication in the modern world. As a result, many schools, particularly in the West, are utilizing smartphones as an essential teaching tool. Business education teachers have access to a variety of helpful educational apps, can take notes, and can study up on subjects related to their particular field of expertise thanks to smartphones with internet connectivity (Bessong, Atah, & Ititim, 2022). The utilization of smartphones on the job might be having an impact on staff productivity. A range of electronic media can be accessed by instructors at practically any time and location thanks to modern smartphones. Most smartphones today make it simple to carry out common tasks like playing video games, browsing the web, and keeping an eye on social media. Despite the fact that not many researchers have connected any of these activities—outside of using a smartphone—to workplace efficiency. According to Solis (2014), mobile technology use has the ability to enhance the dynamism of instruction. The secret is to see technology as an enabler within a culture of teaching, learning, and collaboration rather than the only answer. Mobile phones toward teaching instruments for lecturers, promote equal opportunities for lecturers whose are unable to purchase them, and in general offer solutions that are reasonably priced (Agim, Atah, and Ochui, 2022). Online tools known as cloud computing are an emerging trend in computing that promises the possibility of offering accessible and affordable immediately computing infrastructures with high levels of service quality (Lamba & Singh, 2011). Today, the term "cloud computing" is frequently used with a variety of meanings and explanations. Four different types of cloud computing are available, as follows: a. Cloud computing comes in a variety of shapes and is offered as a service. The aforementioned types constitute infrastructural as a service (IaaS), as described by Geczy, Izumi, and Hasida (2012), whereupon hardware components like archives, big capacity memories, and computing power are supplied to clients as products on popularity, typically for an expense. Database as a Service. Database as a Service (DaaS), a concept similar to Infrastructure as a Service but more of a type of special storage that provides database capabilities as a service, is a good example of this. The provision of resources to support the entire application developmental lifecycle, encompassing conception, execution, and troubleshooting, is known as platform as a service (PaaS). Compilers are offered with programming software programs all over the internet (Idike, Nyiam, and Atah, 2022). Software as a Service (SaaS) is the practice of providing software programs as online amenities instead of as applications, such as Google Docs, the company's well-known online communication workplace suite. Google Docs belongs to the SaaS category when compared to all of these. Google Docs is a particular category of cloud computing service offered by Google, and it uses a publicly accessible cloud deployment architecture. According to Ukah and Atah (2022), computing in the cloud corresponds to an online computing architecture whereby shared data, software, thereby and other resources are made available to computer and other devices as needed. According to Hurbean and Fotache (2013), cloud computing technologies can be applied in a wide range of architectures, under various services and deployment models, and with other technologies and software design methodologies.

In the words of Lamba and Singh (2011), cloud computing enables learners and educators to collaborate on identical written materials to make changes and enhance them while communicating with one another from any location at any point in time. The traditional method of instruction has been fundamentally altered by cloud computing, which has made the process open with one another subject to peer review, as well as educated about how student achievement can be enhanced (Atah, Ukah, and Crossdale, 2019). When compared to more conventional methods of creating a course or content without gadgets, ICT-oriented learning can be proactively. Cloud computing is currently seen as an emerging technology trend that has a substantial positive impact on innovative approaches to education. Information technology enables the implementation of a variety of cloud-based innovations in education, and academic institutions can utilize cloud services, resources, and assets as needed (Bara, Radenkovi, & Jovani, 2014).



Cloud computing, according to Getov (2011), is the technique of delivering apps and other services in the form of a cloud over the global web as opposed to on the machine being used by the user. Atah, Idike, and Nyiam (2022) asserted that, It makes it possible to view, share, and save data on any internet-connected device. Teachers utilize the cloud to store and distribute electronic textbooks, plans for lessons, clips, and homework assignments. Additionally, it is used to give students the chance to interact live with their professors and fellow students. A new educational approach known as "flipped classrooms," in where learners see a lecture preceding the classroom while spending the remainder of their time in class participating in discussions, group projects, and analyzing exercises, is made possible in a similar vein by the use of cloud computing (Bode, 2018). Social networking is another popular technology advancement that can now be used by the education sector to further its objectives. In leveraging the power of social media, educational institutions are not lagging behind. Actually, the majority of these social networking sites are used by teachers to communicate with their students. Even though they are on separate continents, professors in universities and colleges can contact with one another using social networking sites. Participants are able to plan competitions, gatherings, and discussions using these websites, particularly in their field of study. Therefore, the study looked at how well business education lecturers in Cross River State used internet resources and how productive they were at their jobs.

### **Research questions**

The following research questions were posed as a guide for the study:

1. What is the influence of smartphone usage and lecturers' job productivity in Cross River State?
2. What is the influence of cloud-based computing usage and lecturers' job productivity in Cross River State?

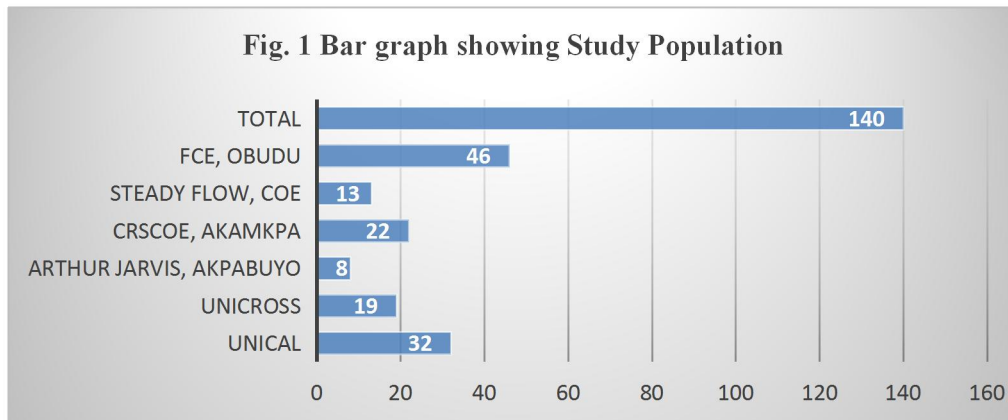
### **Null Hypotheses**

The following assumptions were developed for the research and statistically tested at 0.05 level of significant

1. The mean responds of public and private tertiary institutions in Cross River State addressing the use of smartphone devices and lecturers' job productivity did not differ significantly.
2. The mean responses from private and public tertiary institutions involving the use of cloud-based computing tools and lecturers job productivity show no appreciable differences.

### **Methodology**

To investigate the use of online resources and the job productivity of business education lecturers in Cross River State, the study used a survey research approach. One hundred forty (140) business education lecturers from tertiary institutions in Cross River State made up the study's population. The institutions were, in order, FCE Obudu, Steady Flow COE Ikom, COE Akamkpa, Arthur Jarvis University Akpanbuyo, UNICROSS, and UNICAL. Data were gathered using an 18-item survey named "Utilization of Online Tools and Business Education Lecturers' Job Productivity (UOTBELJPQ)". Eleven business education lecturers from Ebonyi State University were used to test the instrument's internal consistency, and the data were collected and evaluated using the Cronbach Alpha statistical method, which produced an overall reliability coefficient of 0.94. The study included independents t-tests and statistical analyses that were descriptive. Two specialists from the University of Calabar's Business Education department verified the questionnaire for both face and content validity. A mean score of 2.50 or higher is deemed pleasing, whereas a mean score of 2.50 or less is deemed disagreeable, according to the decision rule. With 35 degrees of freedom, all hypotheses were evaluated at the 0.05 level of significance. The graph in Figure 1 depicts the study demographic.



**Results of the findings**

*Research Question 1*

What is the influence of smart phone utilization on lecturers' job productivity in Nigeria?

**Table 1: Mean rating of respondents on utilization of smart phone device on lecturers' job productivity**

S/No	Smart Phone Utilization	N	$\bar{x}$	SD	Decision
1	I used smart phones in blogging with students	140	3.3071	1.05868	Agree
2	I used smart phones in students records podcast	140	3.0071	0.95583	Agree
3	I used smart phones in field research	140	3.2143	0.95047	Agree
4	I used smart phone to preserve lectures	140	3.2643	1.02915	Agree
5	I used smart phones to saved students result	140	3.2071	1.04913	Agree
6	I used smart phones in educational App	140	3.1143	0.95274	Agree
7	I used smart phone to access textbooks	140	2.8143	0.85314	Agree
8	I used smart phone as calculator during lectures	140	3.0643	1.04027	Agree
9	I used smart phone to remembering notes	140	3.1429	1.07671	Agree
	<b>Grand Mean</b>	<b>140</b>	<b>3.126</b>	<b>0.9661</b>	<b>Agree</b>

According to the findings in Table 1, with a grand mean of 3.126, business lecturers concur that the use of smartphone devices affects lecturers' job productivity in higher institutions in Cross River State. The study reveals that items 1 through 9 had mean scores higher than 2.50. The standard deviations show that the mean evaluations of the people who participated are uniform. A cylinder bar graph in Figure 3 is used to further illustrate the outcome.

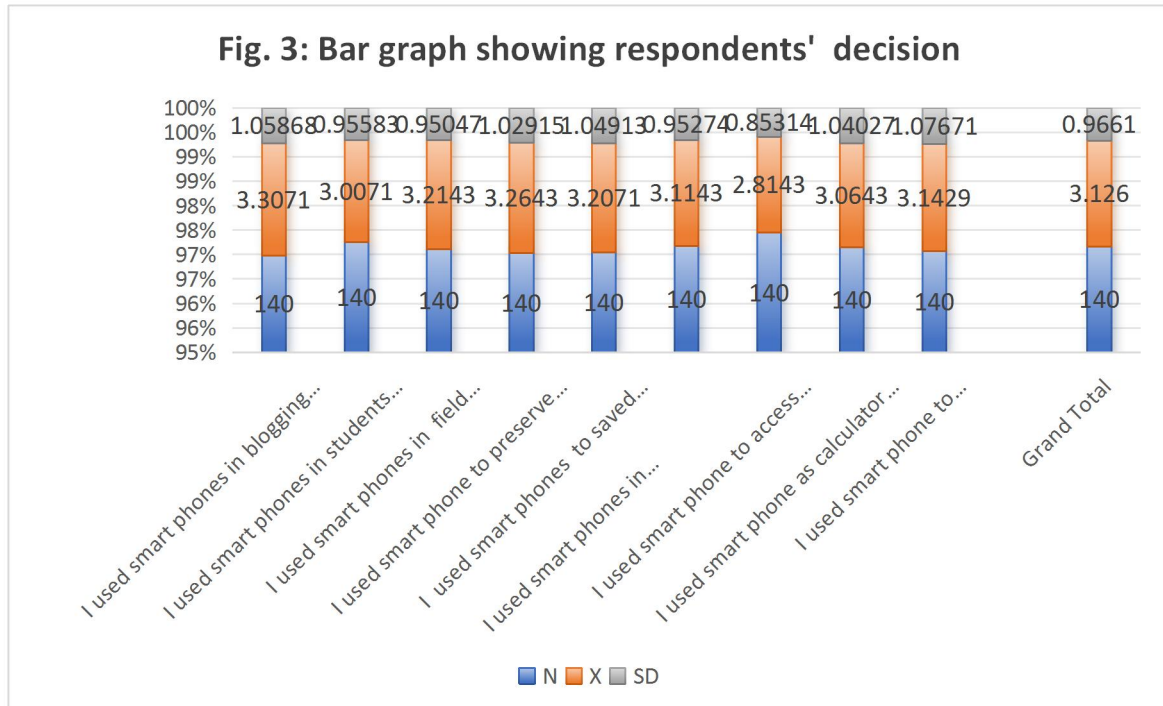


Figure 3: Cylinder bar graph showing the respondents opinion on the utilization of smart phone device

Research Question 2

How does cloud based computing utilization influence lecturers' job productivity?

Table 2: Mean ranting of utilization of cloud computing on lecturers' job productivity

S/No	Utilization of Cloud Computing	X	SD	Decision
10	I used cloud computing in virtual classroom environments	3.12	0.97	Agree
11	I used cloud computing to ease online accessibility	2.96	1.11	Agree
12	I used cloud computing to deliver instruction to students	2.81	0.95	Agree
13	I used cloud computing for active lessons participation	3.06	1.01	Agree
14	I used cloud computing to secure students' data storage	2.90	1.07	Agree
15	I used cloud computing to showcase animations to students	3.05	1.02	Agree
16	I used cloud computing to access education programmes	2.94	1.07	Agree
17	I used cloud computing to minimal hardware requirements	2.87	1.03	Agree
18	I used cloud computing to reduce extensive cost-saving	2.89	1.14	Agree
	<b>Grand Total</b>	<b>2.95</b>	<b>1.04</b>	<b>Agree</b>

According to the findings in Table 2, with a grand mean of 2.9598, business education lecturers concur that the use of cloud-based computing affects lecturers' job productivity in Nigerian tertiary institutions. The standard deviation of the scores for all of the items, from 10 to 18, were above 2.50. The standard deviations for every item fall within the identical range, proving that the mean evaluations of the respondents are uniform. A cylinder bar graph in Figure 4 is used to further demonstrate the outcome.

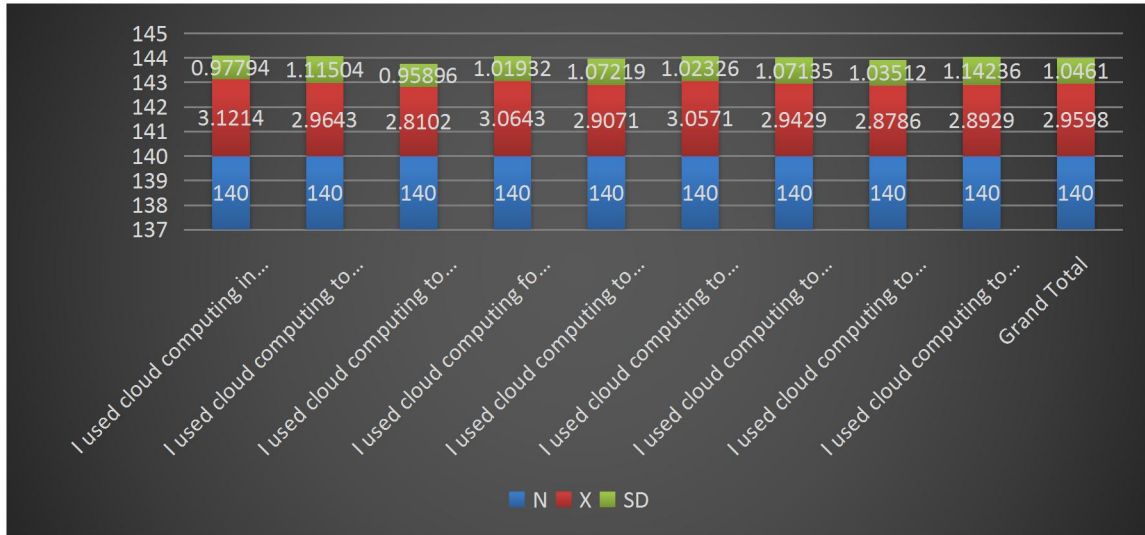


Figure 4: Cylinder bar graph showing the respondents' opinion on the utilization of cloud based computing

Research hypothesis one

There is no significant difference in the mean responses of public and private tertiary institutions on the utilisation of smart phone device on lecturers' job productivity

Table 3: Independent t-test of mean rating of responses of public and private institutions on utilization of smart phone device on lecturers' job productivity

Items	Institutions	N	Mean	SD	t-cal	df	p-val	Decision
1	Public	98	3.2653	1.10809	-.713	138	.477	NS
	Private	42	3.4048	.93859				
2	Public	98	3.0000	1.00514	-.135	138	.893	NS
	Private	42	3.0238	.84068				
3	Public	98	3.1327	.93762	-1.560	138	.121	NS
	Private	42	3.4048	.96423				
4	Public	98	3.2449	1.06550	-.339	138	.735	NS
	Private	42	3.3095	.94966				
5	Public	98	3.1633	1.10008	-.755	138	.452	NS
	Private	42	3.3095	.92362				
6	Public	98	3.0816	.94894	-.618	138	.538	NS
	Private	42	3.1905	.96873				
7	Public	98	2.8163	.87752	.043	138	.966	NS
	Private	42	2.8095	.80359				
8	Public	98	3.0408	1.07376	-.407	138	.685	NS
	Private	42	3.1190	.96783				
9	Public	98	3.1633	1.09067	.341	138	.733	NS
	Private	42	3.0952	1.05483				
	<b>Public</b>	<b>98</b>	<b>27.9082</b>	<b>9.20731</b>	<b>0.466</b>	<b>138</b>	<b>0.622</b>	<b>NS</b>
	<b>Private</b>	<b>42</b>	<b>28.6667</b>	<b>8.41176</b>				

Note: Level of Sig. = 0.05; NS = Not Significant; S = Significant

According to the findings of the t-test analyses shown in Table 3, there is no discernible difference between the mean replies of public and private tertiary institutions regarding the use of smartphone



devices on lecturers' job productivity in Nigeria. This is due to the fact that Table 3's data indicated that all items (items 1–7) had overall p-values of 0.466, which are higher than 0.05. The null hypothesis, which claimed that there is no significant difference in the mean responses of public and private tertiary institutions on the use of smartphone devices on lecturers' job productivity, is maintained because the p-values for all items are greater than 0.05. Radar and scatter graphs are used in figures 5 and 6 to elaborate on the outcome.

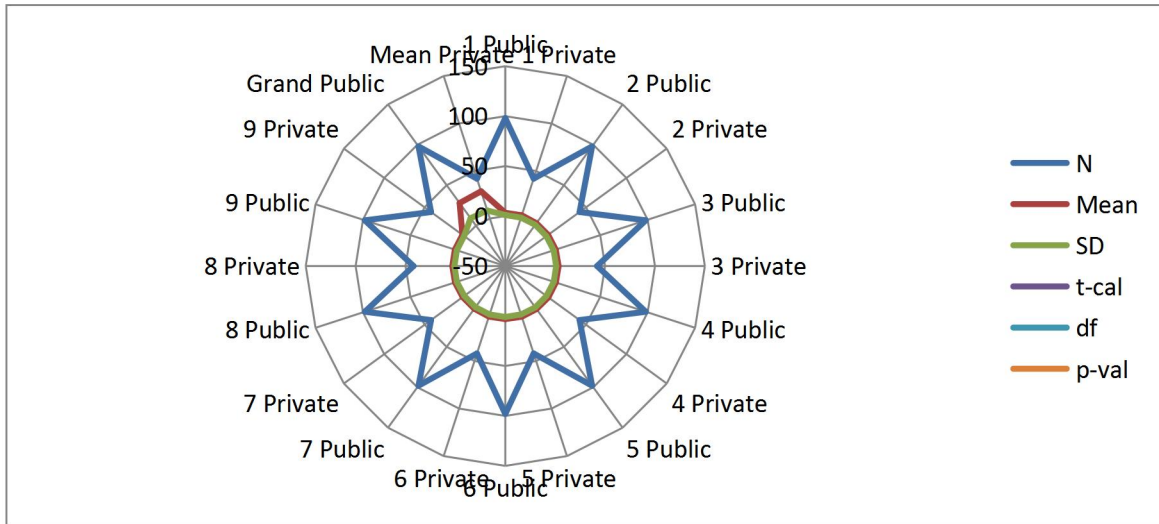


Figure 5: A radar graph showing the respondents opinion of public and private tertiary institutions utilisation of smart phone device

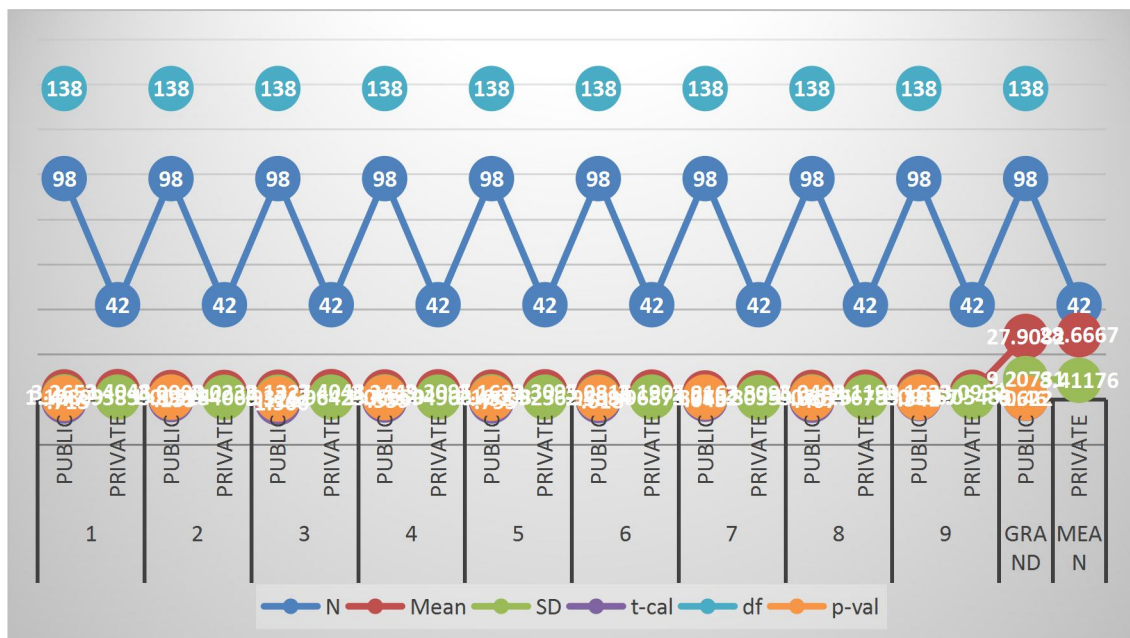


Figure 6: A scatter graph showing the respondents opinion of public and private tertiary institutions utilisation of smart phone device

**Research hypotheses two**

There is no significant difference in the mean responses of private and public tertiary institutions on the utilisation of cloud based computing device on lecturers' job productivity

**Table 4: independent t-test of mean rating of responses utilization on cloud based computing on lecturers' job productivity**



Items	Institutions	N	Mean	SD	t-cal	df	p-val	Decision
10	Public	98	3.0510	.97782	-1.305	138	.194	NS
	Private	42	3.2857	.96993				
11	Public	98	2.8776	1.15111	-1.411	138	.161	NS
	Private	42	3.1667	1.01011				
12	Public	96	2.7917	1.02512	-.345	135	.730	NS
	Private	41	2.8537	.79250				
13	Public	98	3.0204	1.05498	-.777	138	.439	NS
	Private	42	3.1667	.93487				
14	Public	98	2.8571	1.07454	-.842	138	.401	NS
	Private	42	3.0238	1.07040				
15	Public	98	3.0510	1.00895	-.108	138	.914	NS
	Private	42	3.0714	1.06823				
16	Public	98	2.8980	1.07923	-.756	138	.451	NS
	Private	42	3.0476	1.05812				
17	Public	98	2.7857	1.04783	-1.631	138	.105	NS
	Private	42	3.0952	.98301				
18	Public	98	2.7959	1.14837	-1.541	138	.126	NS
	Private	42	3.1190	1.10878				
<b>Grand Mean</b>	<b>Public</b>	<b>98</b>	<b>26.1284</b>	<b>9.56795</b>	<b>0.967</b>	<b>138</b>	<b>0.391</b>	<b>NS</b>
	<b>Private</b>	<b>42</b>	<b>27.82985</b>	<b>8.99595</b>				

Note: Level of Sig. = 0.05; NS = Not Significant; S = Significant

The results of the t-test analyses are shown in Table 4, and they show that there is no discernible difference between private and public tertiary institutions' mean replies to the question of whether lecturers' job productivity in Nigeria is increased by using cloud-based computing equipment. Due to the fact that Table 4's data indicated that the p-values of the nine items (10–18) are 0.967, which is higher than 0.05, this is the case. This suggests that the null hypothesis, according to which there is no discernible difference between private and public tertiary institutions' mean responses to the use of cloud-based computing devices on lecturers' job productivity in Nigeria, is still valid. Radar and scatter graphs are used in figures 7 and 8 to further illustrate the outcome.

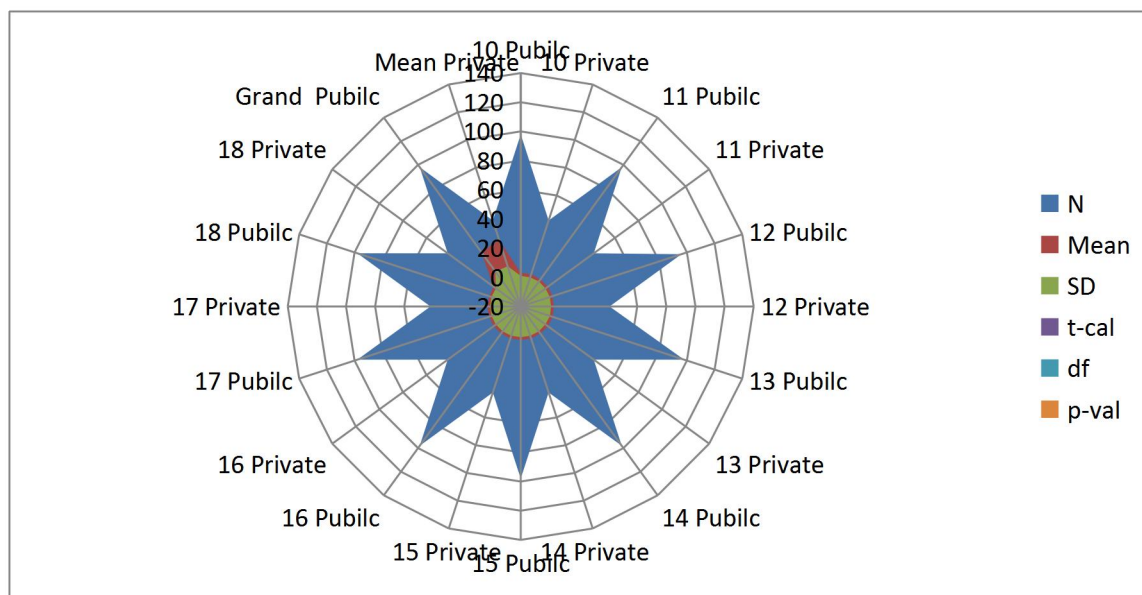
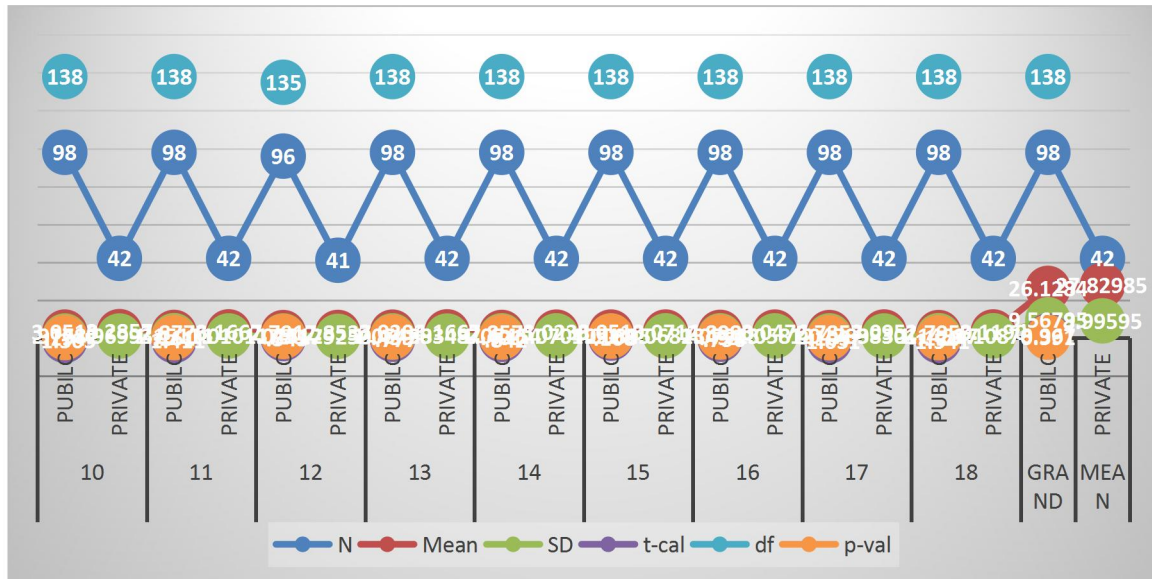


Figure 7





re 7: A radar graph showing the respondents opinion of public and private tertiary institutions utilisation of cloud-based computing



Figur

re 8: A scatter graph showing the respondents opinion of public and private tertiary institutions utilisation of cloud-based computing

### Discussion of results

Based on the data analyzed about the impact of smartphone use on the job productivity of business education lecturers in higher learning institutions, the responses indicated that respondents were in agreement that smartphone use has an impact on the job productivity of business education lecturers in tertiary institutions in Cross River State. This is the case since smartphones offer a staggering variety of functions. The use of smartphones has evolved into a vital necessity throughout today's society and has become a means of international conversation. The result is confirmed by Oseh's (2021) assertion that lecturers who used smart phones outperformed those who did not on a comparable task. Nevertheless, dependent on the smartphone approach, Roland (2011) proposed that business education lecturers' failure to use their mobile devices to perform the ten (10) tasks listed below would impair their performance at work. These tasks include storing telephone numbers, creating task or lists of things to do, managing scheduling, and setting remembrance. Additionally, they perform elementary math using the integrated calculator, communicate via e-mail, access the World Wide Web for news, videos, as well as stocks estimates, engage in activities, watch TV, exchange messages via text message, including integrate PDAs, mobile music players, as well as GPS navigation systems.

Smartphones, PDAs, and other electronic developments have allowed Head of Departments greater access with their staff, increasing their availability and connection to what they do. The business sector is aware that innovations like smartphones have increased employee productivity and improved relations with clients (student happiness). Lecturers in contemporary business education put very long hours at their jobs, frequently departing before sunrise and coming home far into the evening. They are always permitted to communicate with their families via their smartphones for the benefit of workplace morale and retention of employees. But according to the results of the hypothesis test, there is no appreciable difference between the average responses of private and public institutions on the impact of smartphone use on lecturers' job productivity in tertiary institutions. The results are at odds with those of Ware and Stuck in Mahmood and Bokhari (2012), who believed that stereotyped male representations in computing periodicals discouraged women from pursuing careers in technology. In contrast to the findings, Withers in Mahmood and Bokhari (2012) stated that although genders and ICT interact in a variety of complex ways, overall, female participation in ICT courses of study, job opportunities, and leadership is significantly lower than that of males.

According to the data that was analyzed regarding the impact of cloud computing utilization on the job productivity of business education lecturers in tertiary institutions, the respondents' responses were in



agreement that cloud computing utilization has an impact on this job productivity. This is because as technology develops, an increasing number of goods and services switch away from conventional to online delivery. Therefore, educational institutions must make adjustments in order to meet excellence in productivity and be service-oriented, and this cannot be done until higher education institutions make every effort to implement modern developments in IT services, including cloud computing. An innovative technological development and attractive discipline, cloud computing has already had a significant impact on how employees work, interact, and exchange knowledge. Interestingly, this occurs independent of where in space and time knowledge suppliers and consumers actually live. According to Srinivasan and Getov (2011), cloud computing represents a fundamental revolution in the way IT services (information technology) are delivered that has irrevocably altered the computing landscape. The findings support their assertion. The basic goal of cloud computing is to efficiently control, combine, and make accessible towards consumers worldwide where the computing capabilities of higher educational institutions are located, while offloading the maintenance and management of operations responsibilities from the organization to an outside entity.

The results of the hypothesis test, however, revealed that there is no statistically significant difference between the means of business educators at private and public universities with regard to the impact of cloud computing usage on lecturers' job productivity in higher education settings. These institutions offer business education as a program of study, regardless of whether they are universities or colleges of education. Adeogun (2020), who believed that universities, whether they are publicly or privately owned, performed more effectively when their faculty employ relevant technical tools than when they do not, supports the finding. The results go against Babayomi's (2019) assertion that private institutions outperformed public ones because they had more access to high-quality instructional and educational materials for their learners and lecturers. This significance has led to recommendations for schools at all educational levels to be provided with excellent and sufficient educational facilities to improve the delivery of knowledge.

### **Conclusion**

According to the examination's findings, business education lecturers job efficiency in cross-state higher learning institutions was impacted by their use of smartphones and cloud computing. It was determined from the results that the institutional type (private or public) has no bearing on respondents' perceptions of the impact of smartphone and cloud computing usage on business education lecturers' job productivity in tertiary institutions. This is largely due to the critical demand for online tools for material delivery among business education professors across both public and commercial universities. The world is moving away from old methods of doing things and toward digital ones, and because this is the pinnacle of learning, higher institutions must engage alongside it.

### **Recommendations**

The study's findings led the researcher to make the following recommendations:

1. For the delivery of lessons, business education lectures should make use of smartphones and pertinent instructional resources.
2. The administration of tertiary institutions should plan seminars on cloud computing for lecturers' delivery for the academic staff.

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