



## PERCEIVED IMPACT OF DIGITIZATION ON SUPERVISION IN PUBLIC SECONDARY SCHOOLS IN MAKURDI LOCAL GOVERNMENT AREA OF BENUE STATE, NIGERIA

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### **Abstract**

*The study investigated perceived impact of digitization on supervision in public secondary schools in Makurdi Local Government Area of Benue State, Nigeria. The purpose of the study was to find out perceived impact of digitization on supervision in public secondary schools. The study adopted descriptive survey research design. The population comprised 697 teachers in 21 public secondary schools in Makurdi Local Government Area of State, Nigeria. A sample of 349 teachers was selected using simple random sampling of purposive sampling technique. The instrument for data collection was a researchers' structured questionnaire titled: Digitalization and Supervision Questionnaire (DSQ). The instrument was validated by two research experts in the Department of Educational Foundations, Benue State University Makurdi. It was trial tested on 30 teachers who were not part of the sampled schools using Cronbach Alpha statistical tool and the result yielded a reliability correlation coefficient of 0.92. Data collected were analyzed using Mean Scores and Standard Deviations to answer the research questions. The decision rule for agreeing or disagreeing with an item using Mean score was 2.50 where any item with a Mean Score of 2.50 was agreed while any item with a Mean Score of less than 2.50 was disagreed. The hypotheses were tested using Chi-square at 0.05 level of significance. The findings of the study showed that digitization has significant perceived impact on supervision of instruction and school facilities in public secondary schools. It was recommended among that school administrators should ensure integration of digitization in school supervision by using digital devices such as computers, cameras, projectors, smartphones and digital video records to carry out supervision of instruction and school facilities in public secondary schools in Makurdi Local Government Area of Benue State, Nigeria.*

**Keywords:** Digitization, supervision, instruction, school facilities

### **Introduction**

Supervision has become one of tools for maintain standard and improving performing in many organizations especially public secondary schools across the globe. Supervision in education also known as instructional supervision generally aims at improving teaching learning situation, identifying demanding needs of the school with a view to finding appropriate solutions. It is a supportive service given to teachers to upgrade their knowledge by learning and detecting what their problems are and then seeking the best method of solving them towards the realization of better learning (Amanda, Salam, & Saggaf, 2017). It may also be seen as a helping assistance by the supervisor given to the subordinates in order to perform effectively. Public secondary schools provide basic education for students to be competent and self reliant to take up social and economic roles for their benefit and the benefit of the society (Federal Republic of Nigeria, 2014). Supervision



is therefore necessary to set standard and maintain quality in public secondary schools to achieve this objectives. This is because Tappo (2016) opines that supervision is a two way dynamic process which is carried out for a particular purpose geared towards fulfilling the goal of the organization. Without supervision of activities and staff, the organization may find it difficult to achieve the stated goals and objective even though some organizational members may not be willing to work under supervision of their superior.

Supervision is essential in detecting problems in the school setting, identifying teachers' areas of deficiency and seeking out ways to address those problems and deficiencies for better results (Sule, Ameh & Egbai, 2015). Supervision needs to be effective so that required result must be achieved. Effective supervision is that which addresses the issues that teachers face and could influence the improvement of work quality in schools. In the 21<sup>st</sup> century, advancement in technology has ushered in the era of digitization through which various activities are carried out in organizations such as public secondary schools. Ma'rufah (2022) states that digitization is now being used in all aspects of education. Digitization in education is the process of turning traditional methods of teaching such as paper document, sounds and more to a digital format that can be understood by pupils or students toward the achievement of educational goals and objectives (Falasteen, 2018). It is the central way of making digital representations of geographical features, storing images, creating of electronic charts by turning electronically traditional paper documents, graphs or images (Sosa, Salinas & De Benito, 2019). In the context of this paper it could mean the process of using technological or digital devices to carry out supervisory functions by school administrators. Digital devices such as Skype, computers, cameras, Podcasting with Digital Audio Recording, Moodle (a course management system), Wikis (collaborative encyclopedias) and Blogs seem to be redefining the way educational activities are carried out and supervision is not in exception (Misra, 2017). With digitization, school administrators could ensure quality supervision of instruction and school facilities.

Supervision of instruction is one of the duties of school administrators who are by status required to always visit classrooms for check activities of teachers and students for quality teaching and learning. Oliveira, Feyzi, Behnagh, Mohsinah, Burgess and Guo (2019) found that rapid advancement in technology has created an urgent need for educators to understand how quality supervision of instruction is mediated by digitization. In the light of this, Glatthorn (2019) asserts that supervisors must integrate digital tools from different perspectives for the development of different subsystems in which it operates. Generally, supervisors carry out supervisory activities – to observe the teachers, evaluate the performance of the teachers and take appropriate action (Eziuzo, 2016). Their activities involve inspecting, checking, telling, rating and monitoring and for the development of these activities, supervisors behave as coordinators, consultants, group leaders and evaluators. Finding by Afshari and Abubakar (2018) indicates that information and communicate technologies are valuable means by which functions and processes of supervision of instruction are enhanced in schools. Apart from supervision of instruction, digitization could impact on supervision of schools school facilities.

School facilities refer to the physical expression of the school curriculum in the construction, internal and external arrangements of the buildings, equipment, grounds, surroundings, general appearance which includes the flower beds, paths, orchards, shrubs, playgrounds, classrooms, assembly hall, dining hall, desks and school farms (Uko, 2015). These facilities provide a comfortable atmosphere for the achievement of educational goals. Digitization in education brings major differences in effective and efficient administrative process in which quality supervision of school facilities seems to be positively impacted. The proliferation of digital devices in form of mobile phones, computer, internet, tele-conferencing and other devices help school administrators to carry out supervision of school facilities (Anderson, 2017). Supervisors can utilize digital devices such as cameras, computers and video to carry out supervision of schools facilities such as classroom, libraries, equipment, instructional materials and tools while sitting their office (Ming-Hung, Huang-Cheng & Kuang-Sheng, 2019). This could help in maintain the standard and quality of school facilities because it immediate actions may be taken where there is need to put the facilities in proper conditions.

### **Statement of the Problem**

The perceived ineffective performance of teachers' instructional duties to offer quality instruction to students by using suitable instructional materials in many public secondary schools in Makurdi Local Government Area of Benue State, Nigeria seems to raise a lot of concern by relevant stakeholders such as government, parents and teachers regarding supervision. This concern concerns continue to trigger as teachers seem to find no comfort in carrying out duties given the seeming deteriorating nature some classroom buildings, furniture, staff offices, irregular electrical power supply, poor library, laboratories and workshop



facilities in many public secondary schools in the study area. The researchers observed that there is little or no supervision in many schools and this could be attributed to digitization.

It appears that some public secondary school administrators in Makurdi Local Government Area of Benue State, Nigeria despite the advent of digitization they are yet to fully tap its potentials to improve school supervision. Digital devices such as computers, cameras, smartphones, video recorders and telecommunication seem to improve supervision in many schools around the world. However, the state instructional supervision and school facilities in public secondary schools in Makurdi Local Government Area of Benue State, Nigeria which seem to create unconducive atmosphere for work has raised a question of what is perceived impact of digitization on supervision in public secondary schools in Makurdi Local Government Area of Benue State, Nigeria.

### **Purpose of the Study**

The purpose of the study was to investigate perceived impact of digitization on supervision in public secondary schools in Makurdi Local Government Area of Benue State, Nigeria. Specifically, the study sought to:

1. find out perceived impact of digitization on supervision of instruction in public secondary schools in Makurdi Local Government Area of Benue State, Nigeria.
2. ascertain perceived impact of digitization on supervision of school facilities in public secondary schools in Makurdi Local Government Area of Benue State, Nigeria.

### **Research Questions**

The following research questions guided the study.

1. What is perceived impact of digitization on supervision of instruction in public secondary schools in Makurdi Local Government Area of Benue State, Nigeria?
2. What is perceived impact of digitization on supervision of school facilities in public secondary schools in Makurdi Local Government Area of Benue State, Nigeria?

### **Hypotheses**

The following hypotheses were formulated and tested for the study at .05 level of significance:

1. Digitization has no significant perceived impact on supervision of instruction in public secondary schools in Makurdi Local Government Area of Benue State, Nigeria.
2. Digitization has no significant perceived impact on supervision of school facilities in public secondary schools in Makurdi Local Government Area of Benue State, Nigeria.

### **Methodology**

The study adopted descriptive survey research design. The population comprised 697 teachers in 21 public secondary schools in Makurdi Local Government Area of State (Benue State Teaching Service Board, 2023). A sample of 349 teachers representing fifty per cent (50%) of the population was selected using simple random sampling of purposive sampling technique. 50% was used to select the sample because according to Emaikwu (2021) for a population of less than 1000, 20% percent and above is ideal. The instrument for data collection was a researchers' structured questionnaire titled: Digitalization and Supervision Questionnaire (DSQ). The questionnaire comprised 10 items on the two variables of the study. Items 1-5 were structured to elicit data on perceived impact of digitization on supervision of while items 6-10 were structured to elicit data on perceived impact of digitization on supervision of school facilities. The instrument was validated by two research experts in the Department of Educational Foundations, Benue State University Makurdi. It was trial tested on 30 teachers who were not part of the sampled schools using Cronbach Alpha statistical tool and the result yielded a reliability correlation coefficient of 0.92. The instrument was designed on a 4-point Likert scale of Strongly Agreed (SA=4), Agreed (A=3), Disagreed (D=2) and Strongly Disagreed (SD=1). This was because the study was descriptive in nature. Data collected were analyzed using Mean Scores and Standard Deviations to answer the research questions. The decision rule for agreeing or disagreeing with an item using Mean score was 2.50 where any item with a Mean Score of 2.50 was agreed while any item with a Mean Score of less than 2.50 was disagreed. The hypotheses were tested using Chi-square at 0.05 level of significance.



## Results and Discussion

The results are presented, analyzed and interpreted as follows:

### Research Question One:

1. What is the perceived impact of digitization on supervision of instruction in public secondary schools in Makurdi Local Government Area of Benue State, Nigeria?

Table 1:

*Mean Scores and Standard Deviations of Perceived Impact of Digitization on Supervision of Instruction in Public Secondary Schools in Benue State, Nigeria*

Item No.	Items Description	N	SA	A	D	SD	Mean	Std.	Remark
1	Interactive whiteboard is used for demonstrating teaching methods for instructional improvement during supervision.	349	173	42	71	63	2.95	1.01	Agree
2	Projectors enhancing visual interaction with teacher in classrooms during instructional supervision.	349	177	113	44	15	3.49	.79	Agree
3	Cameras are to observe classroom activities leading quick decision making to solve instructional problem during supervision.	349	120	151	39	39	3.29	.92	Agree
4	Laptop computers enhance data collection on teachers' teaching practices during supervision for instructional improvement.	349	138	173	39	35	3.34	.91	Disagree
5	Smartphones enhance information sharing for timely feedback during supervision for instructional improvement.	349	134	103	56	56	3.21	1.05	Agree
<b>Grand Mean and Standard Deviation</b>							<b>3.26</b>	<b>0.94</b>	<b>Agree</b>

Source: Field Survey, 2024

Table 1 showed that teachers' Mean responses of items 1 to 5 were 2.95, 3.49, 3.29, 3.34 and 3.21 with corresponding standard deviations of 1.01, .79, .92, .91 and 1.05. Based on the cut-off point of 2.50, teachers' Mean scores were agreed on all the items. This implies that interactive whiteboard is used for demonstrating teaching methods for instructional improvement during supervision, projectors enhancing visual interaction with teacher in classrooms during instructional supervision, cameras are to observe classroom activities leading quick decision making to solve instructional problem during supervision, laptop computers enhance data collection on teachers' teaching practices during supervision for instructional improvement and smartphones enhance information sharing for timely feedback during supervision for instructional improvement. The cluster Mean Score of 3.26 was agreed since it was above the 2.50 Mean Score cut off point. This showed perceive impact of digitization on suppression of instruction in public secondary schools in Benue State.

### Research Question 2:

What is the perceived impact of digitization on supervision of school facilities in public secondary schools in Makurdi Local Government area of Benue State, Nigeria?





Table 2:

*Mean Scores and Standard Deviations of Perceived Impact of Digitization on Supervision of School Facilities in Public Secondary Schools in Benue State, Nigeria*

Item No.	Item Description	N	SA	A	D	SD	Mean	Std.	Remark
6	Computers are used to supervise classroom facilities	349	133	132	35	49	3.28	.98	Agreed
7	Office facilities are supervised through the use of smartphones	349	139	122	48	48	3.02	.85	Agreed
8	Cameras enhance supervision of library facilities	349	221	151	59	53	3.12	1.00	Agreed
9	Digital video recorder assist in supervision of school laborer facilities	349	86	200	40	23	3.28	.81	Disagree
10	Video cassette recorders enables effective supervision of recreational faculties	349	135	162	85	43	3.05	.97	Agreed
<b>Grand Mean and Standard Deviation</b>							<b>3.19</b>	<b>0.92</b>	<b>Agree</b>

Source: Field Survey, 2024

Table 2 showed that teachers' Mean responses of items 6 to 15 were 3.28, 3.02, 3.12, 3.28, 3.05, 3.07, 3.26, 3.24, 3.25 and 3.32 with corresponding standard deviations of .98, .85, 1.00, .81, .97, 1.03, .84, .87, .87 and .99. Based on the Mean Score cut-off point of 2.50, all the items were agreed. This implies that computers are used to supervise classroom facilities, office facilities are supervised through the use of smartphones, cameras enhance supervision of library facilities, digital video recorder assist in supervision of school laborer facilities and video cassette recorders enables effective supervision of recreational faculties. The cluster Mean Score of 3.19 was agreed since it was above the Mean Score of 2.50 cut off point. This showed perceived impact of digitization on supervision of school facilities in public secondary schools in Makurdi Local Government Area of Benue State, Nigeria.

### Hypothesis One:

Digitization has no significant perceived impact on supervision of instruction in public secondary schools in Makurdi Local Government area of Benue State, Nigeria

Table 3:

*Chi-square Analysis of the Perceived Impact of Digitization on Supervision of Instruction in Public Secondary Schools in Benue State, Nigeria*

Response	Observed Frequency	Expected Frequency	Df	$X^2_{cal}$	P	Remark
SA	173	87.25	3	96.727 <sup>a</sup>	.000	Sign.
A	42	87.25				
D	71	87.25				
SD	63	87.25				

From Table 3, the calculated value of Chi-square  $X^2_{cal} = 96.727^a$ ;  $P < .05$  at 3df. Therefore the null hypothesis which states that digitization has no significant perceived impact on supervision of instruction in public secondary schools in Makurdi Local Government Area of Benue State, Nigeria is rejected. This implies that digitization has significant perceived impact on supervision of instruction in public secondary schools in Makurdi Local Government Area of Benue State, Nigeria.

### Hypothesis Two:

Digitization has no significant perceived impact on supervision of school facilities in public secondary schools in Makurdi Local Government area of Benue State, Nigeria



**Table 3:**

*Chi-square Analysis of the Perceived Impact of Digitization on Supervision of School Facilities in Public Secondary Schools in Benue State, Nigeria*

Response	Observed Frequency	Expected Frequency	Df	$X^2_{cal}$	P	Remark
SA	146	87.25	3	333.504 <sup>a</sup>	.000	Sign.
A	129	87.25				
D	20	87.25				
SD	54	87.25				

From Table 3, the calculated value of Chi-square  $X^2_{cal} = 96.727^a$ ;  $P < .05$  at 3df. Therefore the null hypothesis which states that digitization has no significant perceived impact on supervision of school facilities in public secondary schools in Makurdi Local Government Area of Benue State, Nigeria is rejected. This implies that digitization has significant perceived impact on supervision of school facilities in public secondary schools in Makurdi Local Government Area of Benue State, Nigeria.

### Discussion of Findings

The findings of the study showed that digitization has significant perceived impact on supervision of instruction in public secondary schools in Makurdi Local Government Area of Benue State, Nigeria. This implies that interactive whiteboard is used for demonstrating teaching methods for instructional improvement during supervision, projectors enhancing visual interaction with teacher in classrooms during instructional supervision, cameras are to observe classroom activities leading quick decision making to solve instructional problem during supervision, laptop computers enhance data collection on teachers' teaching practices during supervision for instructional improvement and smartphones enhance information sharing for timely feedback during supervision for instructional improvement. This finding agreed with Oliveira, Feyzi, Behnagh, Mohsinah, Burgess and Guo (2019) who found that rapid advancement in technology has created an urgent need for educators to understand how quality supervision of instruction is mediated by digitization. The finding also agreed with by Afshari and Abubakar (2018) whose finding indicates that information and communicate technologies are valuable means by which functions and processes of supervision of instruction are enhanced in schools.

The findings also showed that digitization has significant perceived impact on supervision of school facilities in public secondary schools in Makurdi Local Government Area of Benue State, Nigeria. This means that computers are used to supervise classroom facilities, office facilities are supervised through the use of smartphones, cameras enhance supervision of library facilities, digital video recorder assist in supervision of school laborer facilities and video cassette recorders enables effective supervision of recreational faculties. This finding agreed with Anderson (2017) that the proliferation of digital devices in form of mobile phones, computer, internet, tele-conferencing and other devices help school administrators to carry out supervision of school facilities. The finding is also in line with Ming-Hung, Huang-Cheng & Kuang-Sheng, (2019) who maintained that supervisors utilize digital devices such as cameras, computers and video to carry out supervision of schools facilities such as classroom, libraries, equipment, instructional materials and tools while sitting their office.

### Conclusion

Based on the discussion above, it was concluded that digitization has paved way for effective supervision in public secondary schools. Its application has significant perceived impact on supervision of instruction and school facilities in public secondary schools in Makurdi Local Government Area of Benue State, Nigeria.

### Recommendations

Based on the findings of the study, it was recommended that:

1. Principals who serve as instructional supervisors in their respective schools should endeavour to integrate digitization in supervision of instruction by using various digital tools like computers,



- projectors, interactive whiteboards and cameras. This may help in ensure quality supervision of instruction in public secondary schools in Makurdi Local Government Area of Benue State, Nigeria.
2. School administrators should also strengthen use the use of digital devices such as computers, smartphones, cameras, digital video recorder among others in carrying out supervision of school facilities in their respective schools.

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