Principals' Perspectives on the Challenges, and Ways Forward in Digitalizing Management of Secondary School Educational System

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Abstract
This study was carried out to evaluate principals' perspectives on the challenges, and ways forward in digitalizing management of secondary school educational system in Calabar Metropolis of Cross River State, Nigeria. A descriptive survey research design was adopted for the study. Two research questions were formulated to guide this study. The population of the study comprised all the 72 principals in the study area. The study was a census study because all the principals in the study area were used as respondents in the study. A questionnaire was used as the instrument for this study. Data collected were analyzed using frequency counts and percentages. From the result of the analysis, inadequate funding, lack of digital skills, poor ICT training programmes, among others were the challenges in digitalizing management of secondary school educational system. Besides, the way forward in digitalizing management of secondary school educational system was perceived by the principals to include adequate funding, provision of adequate digital tools, among others. Based on the result of the analysis, it was recommended, among others, that provision of digital resources and effective training in the utilization of digital tools by the students, teachers and school principals should be given top priority.
Keywords: digitalization, resources, educational, ICT, management

Introduction
The emergence of COVID-19 pandemic in 2019 has in no low extent made digitalization indispensable in educational system. In line with this assertion, it has been stressed that the digital revolution, which began in the field of education in the early 2000s, maximized its resources during the COVID-19 pandemic (Petrusevich, 2020). Issues bordering on digitalization are a global transformation that applies not only in other sectors of the economy, but across virtually all areas in educational systems. Nowadays, application of digital tools in educational sector has become a common practice in teaching, learning and in the management of educational system in general

school. Since the world is gradually going digital, no doubt, before the emergence of COVID-19 pandemic in 2019, the issue of digitalization in educational landscape has already been embraced in educational management (Imbulgoda, 2022). In this connection, Schmidt and Tang (2020) noted that integration of technology into teaching, learning and in the general school management is not new, but the rapid rate and pace of technological advancement is new, especially regarding Internet, ICT and digital technologies.

The introduction of information and communication technologies into the curriculum of secondary education, just as it is obtainable in other levels of education, is informed by the revolutionary changes in modern technology which has affected all walks of life across the globe (Asuquo et al., 2022). Asuquo et al. further stressed that advancement in information technology results in what is popularly called Information and Communication Technology (lCT) which has been a global issue in the contemporary age and as such, digitization of school management to meet global demands and competitions has since become imperative. Information and Communication Technology (lCT) in educational system has become a crucial component to be given considerable attention. Asuquo et al. (2022) also opined that digitization, in terms of utilization of ICT in teaching and learning and in the general school management is directed towards achievement of educational goals and objectives in terms of provision of trained manpower in information and communication technology. In line with this, digitalization is an important practice in educational management as it adds value to teaching and learning processes and equally helps in organizing and managing educational institutions all over the world.

Digitalization is the implementation of ICT systems for transformation of socio-technical structures formerly mediated by non-digital artefacts into ones mediated by digitized artefacts. It also means transformation of all information types in terms of texts, sounds, visuals, video and other data from various sources into the digital forms (Machekhina, (2017). In a similar line of thought, Parviainen et al. (2017) viewed digitalization as changes in ways of working, roles, and business offering caused by adoption of digital technologies in an organization, or in the operation environment of the organization. In this context, digitalization is specifically referred to as integration, application and effective utilization of digital technologies and tools in educational management processes to enhance effective online teaching, learning, research, staff and student personnel as well as the general school administration in line with the global best practices of the 21st century. It is also regarded here, as changes from traditional approaches, occasioned by the adoption and application of digital technologies (both softwares and hardwares) in all aspects of activities, services, programmes and operations in educational system. The digital tools and equipment commonly used in

educational system include but not limited to a personal computer, a Laptop, tablet, MP3 player, You Tube, Edmodo, Facebook, WhatsApp, Blogging, Telegram, White Board, Wechat, Google Drive, EasyBib, Notability, Projector and Zoom (Asuquo et al., 2022).

There is no doubt that digitalization is a major trend in educational system that changes educational management processes due to the adoption of digital technologies in all educational organizations and in their operating environments. It is common knowledge that application of digital technologies has tremendously reduced staff and students' workload as well as facilitating acquisition of new skills and ideas. Availability, functionality and utilization of digital tools in educational system has helped staff and students to learn more facts at their convenience, improved their competence and develop logical thinking and communication skills in this digital era. Digitalization has brought about changes at several levels such as process level (adaptation of new digital tools to reduce manual operations), organization level (provision of new services by discarding obsolete practices and offering existing services in new way) as well as organization level to change its structure in terms of work and decision making (Parviainen et al., 2017). Digitalization has, in one way or the other, transformed all facets of the society, and educational system is not an exception (Schmidt & Tang, 2020). The need to transform, modernize and digitalize global educational system calls for digitalization of education and as such becomes a powerful trend in the contemporary society.

The transformative potential of digitalization in education is exciting and this has brought about many opportunities and challenges, given new trends and developments in digital technologies (Vorontsova & Vorontsov, 2019). In line with the management of educational system, digitalization is the application of digital technologies in all educational institutional operations (Imbulgoda, 2022). It has also been stressed that the widespread introduction of information and communication technologies in educational activities, programmes and practices is occasioned by the need to train new qualified personnel for the labour market in the digital economy (Imbulgoda, 2022). Over the past years, application of information and communication technology has become one of the practices in educational system and as such, educational organizations at all levels have shown serious interest in its application in teaching, learning, research and in the general school management. Petrusevich (2020) noted that digital technologies are becoming a factual driver of social change around the world. In this connection, researchers have carried out studies regarding factors militating against digitalization in educational sphere.

Hauge (2014) and Aesaert et al. (2015) as cited in Ustundag et al. (2018) have stressed that digitalization initiatives have problems gaining sustainability in schools. It may be

possible that such observation may be due to certain challenges. In line with this, Ukozor and Muhammad (2024) conducted a study to examine factors that militated against digitalization of basic school education in Nigeria. The study identified poor funding, shortage of digital facilities, power problem, poor internet connection, higher cost of digital facilities, poor digital skills and knowledge and shortage of digital experts, poor implementation problem, resistant to change and corruption as major problems that have militated against digitalization of basic education in Nigeria. Effective digitalization of the educational management processes may be impossible in the circumstance where these problems mentioned are not adequately addressed and reduced to the barest minimum. Ukozor and Muhammad's study also stressed that there is need for the government to increase the funding for basic education in Nigeria and more priorities should be given to the development of digital education.

It was also documented that the government should provide adequate digital infrastructure facilities in all the basic schools to aid accessibility and usability and set up hubs in areas where they do not exist to make room for the lapses that occurs in some areas in Nigeria (Ukozor & Muhammad, 2024). The need to address the problem of power generation and distribution across the country and more investment on information communication technology to improve the connectivity level across the country were also stressed (Ukozor & Muhammad, 2024). Although the current study is related to Ukozor and Muhammad's work, nevertheless, there is lacuna because the current study focuses on principals' perception of the challenges and way forward in the digitalization of management of secondary school educational system, hence, the need for the current study to be carried out.

Strokov (2020) conducted a study on the digitalization of education. The study was carried out to determine the prospects for digitalization in education, among other objectives. Among others, equipping educational institutions with high-quality software, promotion of information systems that provide access to educational resources, the introduction of information (distance) technologies, online learning, changing requirements for teachers and students, the formation of new organizational educational structures, inevitable changes in the usual forms and methods of training and value-semantic were identified as the prospects for digitalization in education. In spite of the fact that Strokov's study was on digitalization of education, it was nevertheless not centred on the perception of secondary schools principals' perception of the challenges and way forward in the digitalization of management of secondary school educational system. This gap necessitated the need for the current study to be carried out.

In another study, it was stressed that for digital transformation to take place in the school system, there is need for support at all levels in educational institutions (Pettersson, 2018b, as cited in Ustundag et al., 2018). Besides, to effectively integrate digitalization in schools, it has been documented that there is need for understanding by school leadership, administrators, and development and learning staff, as well as the need to develop common tools for institutional learning (Pettersson, 2021).

Similarly, a study on assessment of digitization of secondary schools in Kogi State, Nigeria was also carried out by Oguche et al. (2023). The population of the study was 60 and 1500 principals and teachers of public secondary schools respectively, across all the 60 government secondary schools in Kogi East. It was found that every area of secondary school can be digitized and that digitization of secondary schools in Kogi East was to a very little extent. Also, inadequate power supply, inadequate trained manpower and poor funding by authorities were the challenges associated with digitization of secondary schools in Kogi East. Although Oguche et al.'s study is closely related with the current study, the need for the current study becomes necessary to refute or support the challenges of digitalization as identified in the previous study.

It has been documented that leadership role of school principals is essential in the school system and as such, there is need to learn more about school principals' ability to utilize their digital capacities to promote and increase effective functioning of teaching and learning and overall school governance (Wilmot, 2024). By implication, school principals themselves need to be capable of using digital tools in the daily managerial responsibilities if they are to manage their schools in line with global best practices. This assertion has made Karakose et al. (2021) to examine teachers' perspectives of school principals' digital leadership roles and technology capabilities during the COVID-19 pandemic. It was found that technology use, managerial skills, and individual skills were the school principals' digital leadership skills needed by the principals in order to realize digital transformation within the context of K-12 education. The study further stressed that school principals must first demonstrate their digital leadership and actively support the establishment of a digital learning culture in their schools. The current study, although on school principals is different from Karakose et al.'s work because it is on the perception of school principals on the challenges and way forward in the digitalization of management of secondary school educational system as opposed to teachers' perspectives of school principals' digital leadership roles and technology capabilities.

Statement of the problem
Issues bothering on digitalization cut across every sector of the economy all over the globe. To achieve educational objectives in the digital era, digitalization seems to be the prerequisite practice because management of educational system depends on digital

resources in a digital society. Nevertheless, the problems of digitalization in educational system have been observed to be associated with poor financing which is manifested in the insufficient supply of digital tools in the school system. Again, conservative attitude of the school administrators, inadequate digital resources, poor maintenance culture of the available digital facilities equally constitute serious problems of digitalization in the school system. Poor and ineffective training programmes and opportunities for staff, students and administrators in the area of ICT are still manifesting as other challenges of digitalization in educational system. This is because, the researchers have observed that, many teachers, students and school administrators are still found wanting vis-à-vis utilization of digital tools for teaching, learning and in the general school administration. The current study was therefore designed to evaluate principals' perspectives on the challenges, and ways forward in the digitalization of management of secondary school educational system with focus in Calabar Education Zone, Cross River State, Nigeria.

Purpose of the study

The main purpose of this study was to evaluate principals' perspectives of the challenges, and ways forward in the digitalization of management of secondary school educational system in Calabar Education Zone, Cross River State, Nigeria.
Specifically, this study evaluated:

1. The perception of principals on the challenges in the digitalization of management of secondary school educational system.

2. The perception of principals on the way forward in the digitalization of management of secondary school educational system.

Research questions

1. What is the perception of principals on the challenges in the digitalization of management of secondary school educational system?

2. What is the perception of principals on the ways forward in the digitalization of management of secondary school educational system?

Methodology

A descriptive survey research design was deemed fit to be adopted in this study. The researchers considered this design appropriate to be adopted in this study in that, it involves the collection of data that will provide a description of individuals, groups and situation. A descriptive survey research design is also suited to be adopted in this study because it is concerned with conditions, practices, and processes that are going on (Asim et al., 2017).

By implication, digitalization in this contemporary era is gradually going on in the school system due to the development and advancement in ICT. The population of this study comprised all the principals of public secondary schools in Calabar Metropolis of Cross River State, Nigeria. Since the population of the study was manageable, the researchers adopted census approach in the study.

Table 1: population distribution in the area of the study

S/N	Local Government Areas in Calabar Metropolis	Number of principals
1.	Calabar Municipality	48
2.	Calabar South	24
	Total	72

The instrument for data collection was developed by the researchers. It was entitled "Principals' Perspectives of the Challenges and Ways Forward in the Digitalization of Management of Secondary School Educational System Questionnaire" (PPCWFDMSSESQ). The instrument had two sections (A and B). Section A was designed to measure Principals' Perspectives on the Challenges in the Digitalization of Management of Secondary School Educational System, while Section B of the instrument measured Principals' Perspectives on the Ways Forward in the Digitalization of Management of Secondary School Educational System. The instrument was validated by two experts from Measurement and Evaluation to ensure that the items on the instrument were structured to measure the variables they were intended to measure. The instrument had response items such as Strongly Agree (A), Agree (A), Disagree (D) and Strongly Disagree (SD) for both Sections A and B. All SA and A responses were considered as Agree. On the other hand, all the D and SD responses were put together and treated as Disagree.

Copies of the instrument were administered directly to the respondents by the researchers. However, research assistants were also involved in the administration of the instrument. At the end of the administration of the instrument on the respondents, the researchers were able to retrieve all the copies of the questionnaire indicating 100% rate of return devoid of attrition. The data obtained were analyzed with the help of frequency counts and percentages.

Presentation of results

Research question 1: What is the perception of principals on the challenges in the digitalization of management of secondary school educational system?

Table 2: Perception of principals on the challenges in the digitalization of management of secondary school educational system (N = 72)

S/N	Items	Agree	Disagree
1.	Inadequate funding	72 (100%)	0
2.	Lack of digital facilities	72(100%)	0
3.	Poor ICT training programmes	72(100%)	0
4.	Resistance among school administrators to move towards digital operations.	70 (97.2%)	2(2.8)
5.	Poor community members' involvement in the provision of digital tool	57(72.2%)	15(20.8%)

The result of the analysis of the research question 1 indicates that inadequate funding, lack of digital skills, poor ICT training programmes, resistance among school administrators to move towards digital operations, poor community members' involvement in the provision of digital tool are the challenges in the digitalization of management of secondary school educational system in Calabar Metropolis of Cross River State, based on the perceptions of the principals.

Research question 2: What is the perception of principals on the ways forward in the digitalization of management of secondary school educational system?

Table 3: Perception of principals on the way forward in the digitalization of management of secondary school educational system

S/N	Items	Agree	Disagree
1.	Adequate funding	72 (100%)	0
2.	Provision of adequate digital tools	72(100%)	0
3.	Effective training in digital resources utilization	72(100%)	0
4.	Willingness among school administrators to move towards digital operations.	68(94.4%)	4(5.6%)
5.	Establishment of uniform standard for the provision of educational services using these technologies.	68(94.4%)	4(5.6%)

From the analysis in table 2, all the principals (100%) showed their agreement that adequate funding, provision of adequate digital tools and effective training in digital resources utilization were the way forward in the digitalization of management of

secondary school educational system. Also, willingness among school administrators to move towards digital operations as well as establishment of uniform standard for the provision of educational services using digital technologies were equally perceived by the majority of principles (94.4%) as the way forward in the digitalization of management of secondary school educational system.

Discussion of the findings
Findings arising from research question 1 indicate that inadequate funding, lack of digital skills, poor ICT training programmes, resistance among school administrators to move towards digital operations, poor community members' involvement in the provision of digital tool are the challenges in the digitalization of management of secondary school educational system in Calabar Metropolis of Cross River State, based on the perceptions of the principals. The results of the current study are in line with the research findings which indicated that poor funding, shortage of digital facilities, power problem, poor internet connection, higher cost of digital facilities, poor digital skills and knowledge and shortage of digital experts, poor implementation problem, resistant to change and corruption are major problems that have militated against digitalization of basic education in Nigeria (Ukozor & Muhammad, 2024). By implication, the issue of digitalization in the management of secondary school educational system may be impossible to be accomplished in the circumstance where the above challenges are not tackled. If these challenges are not addressed as and when due, the issue of digitalization of management of secondary school educational system may perpetually remain a mirage.

The result arising from research question 2 indicates that adequate funding, provision of adequate digital tools, effective training in digital resources utilization, willingness among school administrators to move towards digital operations as well as establishment of uniform standard for the provision of educational services using digital technologies were perceived by the principals as the way forward in the digitalization of management of secondary school educational system. This finding is in consonant with Strokov (2020), who discovered that equipping educational institutions with high-quality software, promotion of information systems that provide access to educational resources, the introduction of information (distance) technologies, online learning, changing requirements for teachers and students, the formation of new organizational educational structures, inevitable changes in the usual forms and methods of training and value-semantic were the prospects for digitalization in education. By implication, adequate funding, provision of adequate digital tools, effective training in digital resources utilization, willingness among school administrators to move towards digital operations as well as establishment of uniform standard for the provision of educational services using digital technologies as perceived by the principals constitute way forward in the digitalization of management of secondary school educational system.

Conclusion

Principals' perspectives of the challenges and ways forward in the digitalization of management of secondary school educational system indicated that the challenges in this regard include inadequate funding, lack of digital skills, poor ICT training programmes, resistance among school administrators to move towards digital operations and poor community members' involvement in the provision of digital tool. On the other hand, principals' perception of the ways forward in the digitalization of management of secondary school were adequate funding, provision of adequate digital tools, effective training in digital resources utilization, willingness among school administrators to move towards digital operations as well as establishment of uniform standard for the provision of educational services using digital technologies.

Recommendations

Based on the findings, the following recommendations were made:

1. Adequate funding should be directed towards procurement of digital resources for utilization in the secondary school system.

2. Effective training in the utilization of digital tools by the students, teachers and school principals should be given top priority.

3. Secondary school principals should be willing to move towards digital operations in their respective schools.

4. Provision by the Ministry of Education should be made for the establishment of uniform standard for the provision of educational services using digital technologies.

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