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APPLICATION OF ARTIFICIAL INTELLIGENCE IN MANAGING POST – BASIC EDUCATION AMIDST ECONOMIC AND SECURITY CHALLENGES IN KATSINA STATE, NIGERIA

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Abstract

This paper examines the possibility of applying artificial intelligence in managing post – basic education amidst economic and security challenges in contemporary Katsina State, Nigeria. The paper is however a possession paper, exploring certain economic and security challenges such as lack of contentment, inflations, wrong Geographical location of school plant as well as banditry activities among others. The highlighted challenges have drastically lessened the rates of students' enrolment and increased the rates of migration of both the teachers and students. With the application of artificial intelligence, learning can be facilitated; thereby making it effective and efficient and so also access to learning facilities could be enhanced. Therefore, the paper concluded and recommended that there is the need for Katsina State Government to strategize the application of artificial intelligence in managing public post basic schools in order to address, particularly the prevalent economic and security challenges affecting post – basic education in the State.

Keywords: Artificial Intelligence, Managing, Post - Basic Education, Economic and Security Challenges

Introduction

The level of education at which Nigerian kids acquire the right knowledge, the right skills and the right attitudes having successfully completed the prescribed basic education is referred to as post basic education. Children at this level are endowed with various opportunities to be wealth and entrepreneurship makers for their personal, communal and societal development in general, purposely because there is no nation that can attain its national development without sound education and purposely because education serves as a 'Scientific process of making learning of skills, values, attitudes and knowledge easy to acquire' (Biesta, 2020). Unfortunately, the success of post basic education gradually is being hindered as a result of both economic and security challenges that have become a nightmare in contemporary Katsina State in particular and the northern Nigerian region at large. In respect of this, this paper explores the possibility of applying artificial intelligence in managing post basic education amidst economic and security challenges in Katsina State, Nigeria.

Factors Responsible for Economic Challenges in Managing Post – Basic Education in Katsina State, Nigeria.

Katsina State is one of the north western states in Nigeria that is affected with economic and security challenges. Ogunide et al (2023) affirmed that economic hardships and high rates of good and services among others had made economic activities unfavourable. Ejiogu (2020) and Ogunad (2020) also agreed that inflations in the educational sector and other sectors in Nigeria had brought economic problems as a result of removal of fuel subsidy, which took effect from May, 2023. In Katsina State, particularly the economic crisis is becoming a hindrance not only to educational sector, rather to the entire sectors in the state.

The security challenges in the contemporary Katsina State have resulted to a total shut down of not less than 500 schools (Oxford Policy Management et al, 2025), though only 9 schools were afterward re-opened. Oxford Policy Management Reports asserted that about 300 students and 14 teachers were kidnapped, where 5 teachers were assassinated in Faskari and Kankara local government areas respectively and consequently 37% of teachers felt not safe and secured in their respective places of primary assignment (Oyekun et al, 2023). In those aforementioned local government areas, kidnapping and violence have engulfed the entire educational communities. Factually, there are certain factors leading to emergence of economic challenges in managing post-basic education in Katsina State, Nigeria. The following may suffice:

1) Corruption:

Receiving and giving bribes have become normal in Nigerian society. This serves as an economic hindrance in the entire Nigerian sectors, including education. CPI (2020) reported that Nigeria was ranked 146th out of 180 corrupted nations in the entire world! This is quite alarming and pestilence for giving and taking bribes cripple every sector of human aspect in Katsina State.

2) Emergence of COVID – 19 Pandemic:

When the cases of pandemic were reported in Nigeria, towards the end of 2020, the entire world was shocked and was panic. The pandemics forced total shut down of educational organisations, industries, factories and other human activities. Fenny (2023) asserted that schools were forced to shut down during COVID – 19 Pandemics and this resulted to an economic and educational setback in contemporary Katsina State and Nigeria at large.

3) Inflations:

The cause of high cost of living in Katsina might not be unconnected to inadequate sources of revenue and over dependency on Federal Government's monthly allocations being approved monthly by the Federal Account Allocations Committee (FAAC). Fjiogu (n.d.) viewed that removal of fuel subsidy resulted to increment of school fees and high running cost in every institution of learning and in both the public and private. However, the effect of the inflation continued to prevail in management of schools, where weakness and lapses are clearly perceived (Obiakor, 2021).

4) Over Dependency on Crude Oil

Nigerian states, especially the North Western States rely heavily on the Federal Government allocations, normally shared by the Federal Executive Council every blessing month. Katsina State is one of the states dependently relies on the Federal Government subventions; unfortunately, fluctuations of crude oil prices continuously give birth to budget deficit. As such, what is being allocated to states is not static. Sometimes, the allocation favours the states and

sometimes does not. Fenny (n.d.) affirmed that there are fluctuations of prices in the world of crude oil, which negatively affects Nigeria.

5) Misuse of Public Funds:

The funds made available to Nigerian states are not being properly utilized by educational leaders. Enriching oneself is the common activity in the Nigerian society in general and Katsina State in particular due to bad governance. Despite the limited resources, the ones available are not being fully utilized by leaders as well as educational leaders in the State – Katsina.

6) Unemployment:

Another factor responsible for economic challenges in the contemporary Katsina State is unemployment. A large of diploma, NCE, H.N.D, Degree and Master Holders are redundant and have no business to do. It is obvious that the state government alone cannot employ all its graduates across the 34 local government areas.

7) Population Expulsion:

The population growth in Katsina State is higher than its neighboring hood states like Kaduna and Zamfara. National Population Commission (2024) Statistics denoted that Katsina State has 10.6 million based on data projections from 2006. Besides, the rate of school's dropout and out of school is quite alarming, simply because there is no society or community that can attain full development without sound education. Two existing challenges occurring simultaneously all in one state without noticing and both of the existing challenges can serve as a causative agent of poverty and instability!

Factors Responsible for Security Challenges in Managing Post – Basic Education in Katsina State, Nigeria

Security challenges have been affecting the management of post – basic education in Katsina State, Nigeria, purposely due to frequent changes that occur in schools' academic calendars, timetable, examinations and other school activities as a result of continuous attacks by bandits. This aligns with what Obi et al (2021) reported in his study. They affirmed that in the south east region, where agitation groups operate, it had been made compulsory for all individual persons in the area to stay at home on every Monday, on 31st May. The following are some factors responsible for security challenges in managing post – basic education in Katsina State, Nigeria.

1) Lack of Patriotism:

Among the dwellers of host communities in Katsina State, where post basic schools located, are some disgruntle elements, who have no future ambition, not to talk of demonstrating the spirit of nationalism. Such kind of people do not concern about the future of the state, not to talk of the future of the country – Nigeria. They allegedly connive with criminals in order to terrorize their communities and their neighbouring for their personal gains. In this regard, their deeds and utterances are always threats to the host communities.

2) Lack of Religious Knowledge:

Holders of traditional titles and some half – baked scholarly people lack the gut to speak out the truth or to reproach social vices in most of the affected host communities, where post basic schools established. For this reason, anti – social behaviours, violence and deviation from the usual social norms are prevalent. Garba & Haruna (2023) posited that disregard for societal norms and violence increase anti – social behaviours.

3) Lack of Contentment

The rich, the poor and politicians in some of the affected Katsina communities are the ones fuelling social un-rest due to lack of contentment. Socio-economic dissatisfaction, crime and

violence, targeting educational organisation increase unrest as well as insecurity. This is a terrible disease which results to so many social challenges that can hinder progress and development of any society.

4) Wrong Geographical Location of School Plant

It is obvious that: 'who fails to plan, plans to fail' (unanimous, n.d). This portrays that any school that is poorly planned in terms of its infrastructure and facilities, the school is liable to break its safety and security, simply because, it exposes its human and material elements to danger (Garba & Haruna, 20223). This entails that its operation is likely to be disrupted by banditry activities.

5) Neighbouring-hood Factors

Katsina State shares boarder with Zamfara, Kaduna and some parts of Sokoto states, where banditry activities are so rampant (Daily Trust, 2021). The North Western Region faces with inter –communal violence and banditry that are quite security challenges (Human Right Watch (2014), citing Alabi eta al (2014). Katsina State's boarders are so porous to the extent that the Nigeria Custom Service complains bitterly about it. Villages neighbouring the affected states have not been cooperating in taking security measures to curve the menace of insecurities in the areas. Some of their youth are being reportedly linked with banditry and armed robbery activities in the areas.

Effects of Economic and Security Challenges on Managing Post – Basic Education in Katsina State, Nigeria

Certainly, economic and security challenges have negative consequences on managing post – basic education in Katsina State due to the following reasons:

1) Economic and Security Challenges decrease student enrolments in Public Post – Basic Schools in Katsina State, Nigeria.

The rate of students' new intake drastically reduces as a result of economic hardships and security challenges in post basic schools in Katsina State, Nigeria. United Nations (2019) reported that persistence of economic and security challenges prevent parents from enrolling their kids, fearing that their children could easily be kidnapped. With this, the management of the affected schools must have felt downgraded.

2) Economic and Security Challenge Impede Educational Practices in Post – Basic Schools in Katsina State, Nigeria

Economic and security challenges affect teaching and learning in Katsina State and its neighborhoods. UNICEF (2024) found out that, as a result of insecurity in Katsina, teaching and learning had become ineffective. This entails that the affected management of schools could not do the needful in terms of supervision and so was the ministry of education in terms of inspection, monitoring and evaluation activities.

3) Economic and Security Challenges Lead to Poor Students' Academic Achievements in Post – Basic Schools in Katsina State, Nigeria

Due to ineffective teaching and learning as a result of insecurity challenges in Katsina State, Nigeria, candidates of public post basic schools recorded poor achievements in the recent senior secondary school examinations conducted by National Examination Council. The State Online (2023) released statistics of the examination scores across the country – Nigeria. Katsina State was ranked 35th out 37 states that participated in the 2023 internal secondary school examinations. However, the percentage of the candidates, who got English language

and Mathematics at the credit level, was 42.89%. This is quite alarming and a big slap on the face of management of all post basic schools in Katsina State, Nigeria.

4) Economic and Security Challenges Weaken School Management in Post – Basic Schools in Katsina State, Nigeria

Funds allocated to public post basic schools in contemporary Katsina State, Nigeria proved to be insufficient for the schools could not afford learning materials, not to talk of teacher – upgrading (Abdullahi et al, 2020). Management of the affected public post basic schools must have found it difficult to run the affairs of the schools. There must be high running cost due to inflations and insufficient funds in the affected schools.

5) Economic and Security Challenges Compel Workforce and Learners to Leave their Respective Post – Basic Schools in Katsina State, Nigeria

Undoubtedly, economic and security challenges have made educational environment unfavourable to both trainers and trainees. According to Oluwale and Obadere (2022), security challenges had created ‘a brain drain’ in states that have security challenges that resulted to ineffective school management. Likewise, implementation of long terms plans becomes difficult to educational managers (Adamu and Ibrahim, 2021).

Application of Artificial Intelligence in Managing Post Basic Education amidst Economic and Security Challenges in Katsina State, Nigeria

With introduction of modern technological tools, managing and supervising as well as teaching and learning are being facilitated in educational institutions, where global practices are their main concern. Unfortunately, in Nigeria and particularly in Katsina State, the application of the technological tools is yet to be fully embraced. Crompton and Burke (2023) opine that that Artificial Intelligence is being deployed in different fields such as government, education, business, medicine, communication, aviation, and engineering among others. Examples of the Artificial Intelligence are: Google assistant, Chatbots ChatGPT and machine learning. among others

Alagbe (2021) viewed Artificial Intelligence is a technological device capable of discharging functions same with humans’ intelligence and has the ability to identify and comprehend things and respond to them in respect of decisions- making and problems – solving. Berglund, et.al (2020) affirmed that artificial intelligence can produce and understand human languages, allowing them to communicate with humans effectively.

Roles of Artificial intelligence in Managing Post – Basic Education in Katsina State, Nigeria

According to Abosede (2025) who cited Aldosari (2020) & Klutka et.al, 2021) the following could be considered as certain roles of AI in managing post – basic education. They are

- 1) Artificial Intelligence makes instructional activities easier thereby making student engagements effective.
- 2) It assists in keeping academic and financial records of any educational institutions.
- 3) It assists in facilitating internal and external communications, using e-mail addresses and virtual platforms.
- 4) It assists in meeting the demands of different students inside and outside the institution of learning.
- 5) It assists in identifying the strength and frailty of individual students.

It can be inferred from the aforementioned roles of the AI that there are issues involving school curriculum and school management as well.

Problems Associated with Application of Artificial Intelligence in Managing Post – Basic Education amidst Economic & Security Challenges in Katsina State, Nigeria

Some of the problems associated with applying Artificial Intelligence in managing post – basic education in Katsina State, Nigeria are:

- 1) Lack of Teacher – Training that would improve educational practices (Akinyele, Akinlabi & Oduneye, 2018).
- 2) Inability of educational leaders to adopt technological innovations, such as artificial intelligence.
- 3) Inadequate of trained and skilful ICT personnel (Abosedo, 2025).
- 4) Lack of involvement of relevant stakeholders like educational managers and educational policy makers.
- 5) Limited Resources such as educational funds (Abosedo, 2025).

Why Application of Artificial Intelligence in Managing Post – Basic Education amidst Economic and Security Challenges is Essentially Significant in Katsina State, Nigeria

Considering the economic and security challenges, engulfing post – basic education in Katsina State, Nigeria, the application of artificial intelligence in managing the post – basic level of education is essentially significant. Abosedo (2025) who cited (Luckin et al., 2018, Zawacki-Richter et al., 2019 and Selwyn, 2019) highlighted some motives behind inapplying artificial intelligence, specifically in the field of education.

They are:

- 1) Integrating artificial intelligence in managing post-basic education will create virtual environment amidst economic and security challenges, thereby allowing virtual interactions between teachers and their post-basic students in Katsina State, Nigeria
- 2) It will make data collection and analysis easier, thereby allowing educational managers to take action and tackle problems in any post basic school in Katsina State, Nigeria.
- 3) It will facilitate record-keeping, in terms of both the academic (Grades) and financial (Tuition fees) records of any post basic school in Katsina State, Nigeria.
- 4) It will assist in economizing the use of time, energy and resources in post basic schools in Katsina State, Nigeria.
- 5) It will assist in making educational practices effective and efficient in post basic schools in Katsina State, Nigeria.

Conclusion

Having explored the possibility of applying artificial intelligence in managing post – basic education amidst economic and security challenges in Katsina State, Nigeria, the paper concluded that it would be worth and essentially significant if the AI could be applied in managing post – basic education due to educational, economic, technological and other reasons for effective teaching and learning in public post basic schools in Katsina State, Nigeria.

Suggestions

The paper further suggests the following on the basis of highlighted challenges associated with application of artificial intelligence in managing post – basic education in Katsina State, Nigeria.

- 1) There is the need for Katsina State Government to look thoroughly into the issue of recruitments; thereby ensuring only qualified educational personnel are employed by setting

trusted committees and modern technological tools in monitoring such a sensitive exercise in the State.

- 2) There is the need for conducting periodic seminar and workshop for educational leaders on the role of AI in educational sector across the State, thereby making the participations mandatory for all educational managers and teachers. Since that it will involve the 34 local government areas of the state, virtual presentation could be used to economize the use of resources and time and those who live in areas affected by insecurities can benefit from the virtual presentations.
- 3) The State Government shall make it mandatory for all educational managers to undergo training on AI in all the 34 L.G.As in the State since that some educational leaders resist to changes. This will make them computer literates and will kill the fear that engulfs their minds in relation to application of modern technologies in public schools.
- 4) Katsina State Government shall broaden its thinking in getting more helping hands, through collaborations with NGOs for educational purposes.
- 5) There is the need for creating more revenue derives in the State in order to be allocating reasonable percentage for educational sector. This will improve the provision of educational materials in the State.
- 6) The Katsina State Government is supposed to have a comprehensive e-data of its employees and applicants for easier recruitments and replacements of workers whenever the need arises and this can be achieved by creating a reliable cyber on which workers and other applicants can access and upload their resumes.
- 7) High population is never a burden to a state where knowledge reigns; therefore the vast population can be managed and utilized through proper and appropriate documentations at hospitals, primary healthcare centres and public cemeteries in order to be determining the appropriate rate of mortality and fertility in the State

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