Artificial intelligence: The missing link in fighting crimes and insecurity in Nigeria

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Abstract
Artificial intelligence (AI) has become an indispensable tool in combating crimes and insecurities especially in developed countries. AI systems have played a prominent role in ensuring the overall security architecture of many countries. Thus, this study investigates how adopting artificial intelligence can help combat crimes and insecurities in Nigeria. The study found that the traditional means of fighting crimes and insecurities in Nigeria have not yielded significant impacts since the rate of crimes and insecurities in the country is still on the increase. Another finding from the study indicated that artificial intelligence has the potential to significantly improve the state of security in Nigeria by enhancing the speed, accuracy, and efficiency of the country's security operatives. Artificial intelligence can help address crimes and insecurity challenges in the country such as terrorism, piracy, trans-border crime, kidnapping, cybercrime, banditry, Fulani herdsmen–farmer clashes, and other forms of crimes and deviant behaviours. The study also revealed that Artificial intelligence can help in predictive policing, behavioural analysis, content moderation, rehabilitation and support, etc. The study concluded that despite the positive effects of Artificial intelligence, however, the implementation of Artificial intelligence is not without challenges which include inadequate data, lack of military hardware for possible AI integration, non-existent of knowledge base, etc. Finally, the study recommends the effective integration of AI tools into Nigeria's security architecture to help tackle crimes and insecurities.

Keywords: Artificial intelligence, Crimes, Insecurity, Nigeria.

Introduction
The recent upsurge in violent crimes in Nigeria has created enormous uncertainties in the security of lives and property of persons in the society and has affected social stability as well. The incidents of traditional crimes such as armed robbery, arson, drug trafficking and abuse, murder, kidnapping, rape, hired assassinations and ritual killings are examples of the most serious and violent crimes which have been on the increase of recent. Similarly, white collar crimes in the form of Advanced Fee Fraud, contract deals, embezzlement and mismanagement in both the public and private sectors are also on the increase. The aggregate of the traditional crimes mostly committed by the less privileged and white collar crimes mostly committed by the highly placed, does call for a change in the strategies for the prevention and control of crimes in Nigeria, (Ekanem, 2019).

In Nigeria, issues such as the Boko Haram crisis, Niger-delta militancy, Fulani herdsmen, farmers' tussle, cattle rustling, and increase rate in kidnapping, mirror the state of insecurity. This has resulted in the loss of lives and properties, internal displacement of individuals, instability among others (Morgen, 2017), and a deterrent to the achievement of millennium development and sustainability goals, (Ogu & Oyerinde, 2014). Statistics show that between 2009 and 2017, about 75% of North eastern Nigeria's population were either killed, injured, or displaced by the Boko Haram crisis. In 2017, the herdsmen insurgency led to the loss of about 1,425 lives. Similarly, militancy within the Niger Delta region has led to increased loss of lives, abduction of foreign personnel, and vandalism that has resulted in the expanded misfortune of outside coordinate speculation,(Okwor, 2022).

The standard government response to the insurgency is either to send military troops, declare a state of emergency, or dialogue. These counter-measures, which are effective within the past, are incapable of countering the recent wave due to the expanded advancement in the area of the sponsor. Access to the internet has enabled the perpetrators to possess access to more sophisticated equipment and sponsors hence increased government effort within the ways of curbing insecurity, which seems to means false positive bearing within the up-surging rate. Available reports show that between 2015 and 2021, the Nigerian government spent about $12.3 billion on military equipment and kidnapping-related crimes. However, modern warfare is data driven with the success enthusiastic to the rate of data gathering and analysis. Hence, while more is being spent on military equipment, less attention is paid to modern supplementary tools like AI technology – tools that provide increased speed of data processing and analysis and should complement the difficulties faced by security officials.

Artificial intelligence refers to the use of machines to simulate human intelligence. Herein, machines, often replicate actions like learning, logical reasoning among others; that were once considered unique to humans. AI is at the helm bottom of the fourth industrial revolution with a significantly increasing role in sectors like education, health, finance, manufacturing advertising, etc. AI technology has the ability to process massive amounts of data in a relatively short time, and extract what is useful to map the movements of criminals and illicit goods, identify patterns in behaviour and activities and make targeted connections. This ‘frees (police) investigators from the heavy search and comparison activities and greatly improves the efficiency of the investigation, (Du et al, 2022).Predictive policing, facilitated by AI algorithms, allows law enforcement to anticipate ahead of time where and how crime is likely to take place and intervene accordingly, while facial recognition powered by AI allows for the real-time automated detection of potential suspects. For example, police in the United Kingdom (UK) estimate that a relatively simple AI-driven data redaction tool will save 9 500 officer and staff hours per year, (Jacques, 2024)and Miami police estimate that using AI-powered facial recognition software saves their officers ‘weeks’ worth of time, (Murakami, 2024).

The main objective of this study is to investigate how the adoption of artificial intelligence can help in combating crimes and insecurities in Nigeria.

Conceptual review

Artificial intelligence

Artificial intelligence (AI) technology conceptualizes the idea of making machines think, act humanly and rationally by using sets of algorithms. AI is not new but became more prominent due to the recent improvement in machine learning, big data analytics, and deep learning. Over the last decade, AI has continued to transform different sectors, piloting the fourth industrial revolution. With AI technology, streams of data can be easily turned into valuable information. AI has found widespread application in various areas hence can be utilized in tracking criminals and criminal activities. Digital personal assistants, which are features of modern operating systems of mobile phones and computers, rely on AI technology for tasks such as online search, recommendations, voice interpretation among others. Automated personal data banks – database housing digital information (images, fingerprints, insurance details, and vehicle registration, etc.) are maintained using AI tools.

Importance of artificial intelligence

Intelligence machines are influencing nearly every facet of our lives to help improve efficiencies and augment our human capabilities. Artificial Intelligence is so intertwined in all that we do; it's hard to imagine living life without it. Gone are the days when almost everything

was done manually, and now we live in the time where a lot of work is taken over by machines, software, and various automatic processes. In this regard, artificial intelligence has a special place in all the advancement made today. Thus, the importance of Artificial Intelligence includes;

1. A great help for humans:

The Artificial Intelligence systems are efficient enough to reduce human efforts in various areas. In order to perform various activities in the industry, many of them are using artificial intelligence to create machine slaves that perform various activities on a regular basis. The artificial intelligence applications help to get the work done faster and with accurate results. Error free and efficient worlds are the main motives behind artificial intelligence. In the recent years, many sectors have started using Artificial Intelligence technology to reduce human efforts, and also to get efficient and faster results, (Ryan, 2017).

2. Artificial intelligence

It is used in the production unit in most big manufacturing companies. Artificial Intelligence system is used to give a specific shape to an object, move objects from one place to another, etc. This application is also used in the management of most companies to get their tasks efficiently done on time. It is used to keep all the records of an employee, the crucial data of the company is stored and can be easily extracted at the crucial decision making time. Heavy industries are thriving on the AI system because they get their tasks done on time and have the potential to put inaccurate data in their system.

3. National Security

Artificial Intelligence plays a substantial role in national defence. Through its Project Maven, the American military is deploying Artificial Intelligence "to sift through the massive troves of data and video captured by surveillance and then alert human analysts of patterns or when there is abnormal or suspicious activity." (Davenport, 2017). Command and control will similarly be affected as human commanders delegate certain routine, and in special circumstances, key decisions to Artificial Intelligence platforms, reducing dramatically the time associated with the decision and subsequent action.

4. Handling Repetitive Jobs

Repeated jobs are tedious in nature. That kind of jobs can be easily handled with the help of Artificial Intelligence algorithms. These kinds of job do not require much intelligence in between the process. Machines can think much faster than humans and can perform multi-tasking to obtain the best results. Machine intelligence can be employed to carry out the dangerous tasks which may cause injury to the human involved in that. Their parameters can be adjusted is the benefit here. Their speed and time can be customized based on the requirement calculation.

5. Reduction of Error

The advantage of using Artificial Intelligence is that, it helps us for error reduction and increasing the chance of reaching higher accuracy with a greater degree of precision.

Crime: Crime is as acts which are both forbidden by law and revolting to the moral sentiments of the society and also acts forbidden by the law under pain of punishment. A crime is any antisocial behaviour, which falls within the general disapproval of the community.

Insecurity: The concept of insecurity connotes the state of being unsafe, fearful or terrorized or threatened. (Best, 2006) viewed insecurity as a degenerated stage of conflict, threats to human security, and intense violence characterized by fighting, death, injury, etc. According to Olamosu (2000), insecurity is a state or condition in the life of a social unit, system,

organization or society in which the existence of a problem assumes a critical dimension to the extent that the survival or existence of the social system or structure is threatened. Solomon & Solomon (2021) also observed that insecurity is a threat to the organization/society/system.

An overview of insecurity in Nigeria

Multiple security challenges confront Nigeria. These include the resilient Boko Haram Islamist insurgency within the northeast, long-running discontent and militancy within the Niger Delta, increasing violence between herdsmen and farming communities increasing from the central belt southward, and separatist Biafra agitation within the Igbo southeast. Violence, particularly by the Boko Haram insurgency has displaced about two million people, created a huge humanitarian crisis, and prompted the increase of civilian vigilante self-defense groups that pose new policy dilemmas and possible security risks, (Cross Watch, 2020). For instance, in May 2021, the Eastern Security Network (ESN) – the armed body of the Biafra separationist group, allegedly killed 25 national security personnel. Herdsmen – local farmer violence in this Bali area of Taraba state led to the death of about 60 people and the displacement of thousands. Similarly, approximately 14 deaths were recorded in Jos, and 55 in Kastina-Ala and Ado areas of Benue state. Assault of civilians and military bases, gunmen attack reprisal attacks, kidnappings, and abduction of schoolchildren is becoming more frequent, (CrisisWatch, 2020).

In 2020, The Armed Conflict Location & Event Data Project (ACLED) (2020) extrapolated that 2,404 security incidents were recorded in Nigeria, of which 844 were coded as battles, 220 as Blasts/inaccessible viciousness, 297 as riots, and 1043 as savagery against civilians; resulting to 7,699 fatalities,(Armed Conflict Location & Event Data Project, 2021). Recent cases of cattle rustling, local farmers-cattle grazers' clashes, kidnapping, and rape are well documented (see Table 1, Fig. 1). For instance, in Zamfara state, banditry alone caused about 1,321 deaths, 1881 cases of injury to the people, loss of 10,000 cattle, 688 hectares of farmland, and 10,000 houses. Nigeria ranks 5th in the list of most dangerous countries, (Buzz Nigeria, 2020).

Table 1. Incidents and fatalities verified by SBM Intel

Security Challenge	Boko Haram	Cattle Rustling	Fulani Herdsmen	Farmer - Cattle grazer conflict	Niger-Delta Militancy
Fatalities	1,240	470	1,425	1,895	97
Number of Incidents	71	12	47	59	32
Average fatalities per Incident	17	39	30	32	3

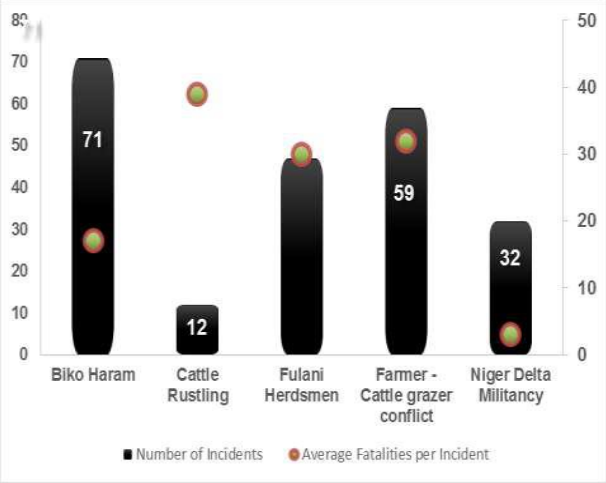

Figure 1. The bar chart on fatalities caused by incidents.

The potential benefits and challenges of Artificial Intelligence in crime and insecurity control in Nigeria

The use of Artificial Intelligence (AI) in crime control has no doubt brought many improvements into the criminal justice system. However, as more developments and advancements are made, there are some negative impacts in using this modern technology. The benefits and challenges of using artificial intelligence will be examined below;

Benefits:

1. Positive, Accurate and Detailed result

The use of artificial intelligence provides real confidence in the results obtained. This technology is fed with information and can accommodate a large amount of data. From the evidential point of view, through the use of surveillance cameras, artificial intelligence facial recognition tools can be used to clarify incidence and to see who carried out the act. In terms of the laser scanner is detailed as it can point out where everything was at the crime. It allows enormous scenes to be captured to the minute details and levels.

2. Prompt Action

When programmed to recognize certain objects, the alarm systems and tracking tools allow prompt actions to be taken and alert law enforcement agents. This prevents further commission of crime and enhances timely recovery of property and rescue in accident cases.

3. Easy and fast detection techniques

Using artificial intelligence alongside cognitive technologies can help make faster decisions. This has made the work of law enforcement agents easier. The cognitive technologies like the roving cameras and surveillance have been able to detect and solve crime especially in cases where there are no eye witnesses.

4. Time saving

The use of artificial intelligence to transmit information, analyse data and process evidence has saved valuable time. Activities that would take months in processing with human capability can be done by a mere command prompt.

5. Easy networking

The ability of this modern technology to link persons, unite agencies and organizations in terms of investigations has facilitated easy flow of information within related agencies. For instance the creation of the National Crime Database in the United States wherein information can be shared is a good example and would help in our criminal justice system.

Challenges:

1. ***Right to privacy***

There has been a lot of controversy on the use of surveillance camera, tracking of mobile phones, information of persons in databases on social media and the right to privacy. Surveillance by phones though good, is like an electronic tracking device that can follow people into their homes and other personal space. If it should be used, it must meet the high legal standard required to obtain a search warrant to enter private places.

2. ***Downsizing and job loss***

As artificial intelligence is seen to be fast, reliable and accurate, it would take the place of human resources.

*3. **Incessant power failure***

This is a setback in Nigeria as it will affect the revolution of technology at a fast rate. Retrieving data, analysing, tracking, setting command prompt for coverage requires uninterrupted supply of power, (Oketola, 2019).

*4. **Manipulation***

The use of sophisticated equipment such that it is artificial intelligence enabled can be manipulated easily by experts who have ill intentions.

*5. **Inadequate data***

There is no accurate statistical data available on most metrics in Nigeria. For example, Nigeria has not been able to conduct accurate census since independence in 1960. This has affected both short and long-term planning in the country. The country still relies on both the census figure of 2006 and extrapolation to provide an estimate of the total number of people in the country.

*6. **Lack of military hardware for possible AI integration***

Nigeria relies heavily on conventional human-directed weapons in its engagements with non-state actors with the country. Such conventional weapons include tanks and small arms and light weapons like bombs, rifles and machine guns. All these does not involve the use of AI systems. Advanced weapon systems like drones, cruise missiles and robots would have required the use of AI systems. However, despite their suitability to the warfare terrain, especially in the vast Sambisa Forest, the stronghold of Boko Haram in Bornu state, they are non-existent in the military arsenal of the Nigerian army. This is partly due to the cost of purchasing such advanced weapon systems and the lack of qualified engineers to maintain the weapon systems.

*7. **Non-existent Knowledge Base***

Successful integration of AI systems into the Nigerian security architecture requires that there should be a ready and continuous pool of both the skillsets needed to generate data and create software. These can be gotten from both the country's educational system and private and public sector partnership in the area of AI research and innovation. However, the educational system that should have been the powerhouse for innovation and research into AI systems and that should have supplied the local manpower need in the areas of software and hardware development had fallen short.

Conclusion and recommendations

This study assessed how the adoption of artificial intelligence can help in combating crimes and insecurities in Nigeria. The importance of AI in human development cannot be overemphasized in all sectors of the Nigerian economy including the fight against insurgency despite its challenges in the country due to natural and artificial factors. Based on the above conclusion, the following recommendations are hereby made**;**

1. Federal Government should invest in Artificial intelligence technology in order to assist the law enforcement agencies to curb the activities of criminals in the nation
2. The FG should partner with the private sector to implement digital verification signature designating data, time, and physical origination of data source.
3. Data Science Nigeria (DSN) should organize more programs to train the youth on the effective use of AI, to stabilize security in Nigeria.
4. The Nigerian government should train its personnel to acknowledge AI in all sectors and agencies to ensure maximum utilization of the AI technologies.

5. The federal government should ensure the inclusion of the AI course in all Nigerian institutions of learning and should be monitored to ensure practical teaching of the course at all levels so that every graduate can operate the peripherals.

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