

**ISSUES ON APPLICATION OF BIG DATA AND ARTIFICIAL INTELLIGENCE ON
THE POLICE LAW AND CRIMINAL PROCEDURES IN NIGERIA**

BY

**EFFIONG EKPO, Ph.D
DEPARTMENT OF HISTORY AND INTERNATIONAL STUDIES
RITMAN UNIVERSITY, IKOT EKPENE,**

**OKON EFIONG OKON
FACULTY OF LAW, UNIVERSITY OF
CALABAR, CALABAR, NIGERIA**

AND

**EDET EFIONG OKON Ph.D
DEPARTMENT OF HISTORY AND INTERNATIONAL STUDIES
RITMAN UNIVERSITY, IKOT EKEPENE**

ABSTRACT

The integration of Big Data and Artificial intelligence into the Nigerian Police System presents a transformative opportunity for improving community based policing, personnel management and oversight mechanisms. This paper explores how these technologies can enhance security operations, strengthen police accountability and foster better community relations. Though the use of AI-powered crime mapping, predictive policing, and real-time data analytics, law enforcement agencies can effectively collaborate with communities to prevent crime and maintain public order. Additionally, a comprehensive police personnel census using biometric identification and big data systems can eliminate ghost workers, reduce impersonation, and ensure transparent deployment of officers. This paper is set to examine AI-driven systems that can also process citizen complaints, monitor police conduct via body cameras, and track officers' performances, thereby promoting a culture of accountability and professionalism. It also x-ray the application of big Data in security, census and community, profiling allows for better understanding of local security needs, adding in resource allocation and strategic planning. It also explains the potential benefits; the implementation of these technologies in Nigeria faces challenges such as inadequate infrastructure, data privacy concerns, cyber risks and resistance to change within the force. The paper instead opines that to overcome these barriers, there must be need for legal reforms, capacity building, ethical AI deployment and community involvement, properly implemented, big data can revolutionize policing in Nigeria, creating a modern, transparent, and citizen-focused security system. The paper applied empirical methods by contacting other texts and relevant journals. The paper concludes that, the implementation of these technologies in Nigeria will face a serious challenge due to inadequate infrastructure, data privacy concerns as well as cyber risk.

Key Words: Biometrics, Police Intelligence, Community Policing, Infrastructure, Cyber Risk, Revolutionize Transparency.

INTRODUCTION

The application of Big Data and Artificial Intelligence in the Nigeria police system represents a transformative approach to policing and criminal justice. These technologies can significantly improve crime prevention and control of investigative processes, judicial efficiency and police accountability and community trust. However, to successfully integrate these tools, Nigeria needs to invest in capacity building, infrastructure development ethical guidelines, and legal frameworks that protect human rights and ensure fair justice administration. AI and Big Data are not only used for controlling criminology but also potent enough in storing and retrieval of criminal information. This agrees with the finding of Olayinka (2025) that stated that the application of Artificial Intelligence (AI) in recent years in logistics and retail can be said to have revolutionised the efficiency of operations, mainly in the grocery industry. Autostore systems that are retrieval systems and automated and automated storage have to a large extent gained popularity for their ability to optimise the management of inventory, promote the satisfaction of customers and streamline operations.

The Nigeria police force faces numerous challenges in modernizing its law enforcement and justice administration. The use of Big Data and Artificial Intelligence can significantly transform policing crime investigation, and judicial procedures in Nigeria. These technologies offer advanced tools for improving law enforcement efficiency, transparency, and accountability. Besides, AI helps promote the reputations of the organization and employers as stated by Habeeb, Adesemowo and Babatunde (2025) who stated that the success of AI adoption in AI-driven recruitment was examined in the Indonesian pharmaceutical industry. Statistical significance of AI adoption and quality of AI to employer reputation were found in the study

The police play important roles without which the sustenance of law, order, legality, development and democracy may be difficult. Therefore, any pro-change initiative must take account of the facilitative and inhibitive roles of the police in society, (Aborisade, 2020).

The primary role of the police is policing, securing compliance with existing laws and conformity with precepts of social order. But the police are not the only agency involved in policing in the broad sense of the term, other security agencies are equally involved in policing and law enforcement as regard to this statutory goals and objective. (Adeboyegas, 2021).

Functions and Power of the Nigeria Police

The application of big data and artificial functions that police are expected to carryout is enough and varies from country to countries. In Nigeria, the need and the functions of the police forces cannot be overemphasised. The general public wants the police force to be upright and impartial in discharging their duties and their statutory functions. The police is trusted with the responsibility of preserving lives and property and police are expected in the society to maintain general social order and security. The constitution really empowered them to intervene in every aspect of crime situation. So the functions of the police in crime management are inexhaustible and limitless (Dambazan, 1990).

The Nigeria police force was established in 1930, by amalgamating the two separate protectorate forces in the Northern and Southern Nigeria. At inception, the force was saddled with various police duties and extra-police functions. Section 4 of the police act regularised the functions of the Nigerian Police Force as:

- ✓ Prevention of crime and objection of crime
- ✓ Apprehension of offenders

- ✓ Preservation of law and order
- ✓ Protection of life and property
- ✓ Enforcement of all laws and regulations with which they are charged
- ✓ Military duties within or without Nigeria as may be required of them

In order to discharge their numerous functions, police in Nigeria are accorded wide powers by law. For example, Nigeria police have powers:-

- (a) To take measures, to prevent crime
- (b) To investigate crime
- (c) To prosecute suspects
- (d) to search properties and persons in order to prevent crimes, object or investigate crimes, apprehend offenders, and collect evidence for prosecution
- (e) to grant bail to suspect spending investigator or arrangement in court,
- (f) to serve summons to regulate processions and assemblies (Dantzer, 1995).

Every member of the police force irrespective of his rank, is first and foremost a “Police officer”. All the officers perform certain duties according to their specialization and as it has conferred on them by the constitution. The creation of ranks in the force was to make it a disciplined and functional institution, which has been taken care of by the command structure. Ranks differentiate in the police also assigned officers to different responsibilities.

It is worthy of mention that the command structure is a Sine qua non for a disciplined and functional organisation. The command structure indeed is secondary and the status which a police officer enjoys under the law takes a primary position since that serves as the basic of the performance of police work. This status is not generated by the fact that a police officer is a public servant, but by reason of the origin of his authority (power) which enables him to carry out his work unlike other public servant in the Civil Service and Public Co-operations or Institutions who act on delegated authority, the authority of a police officer is original, flowing directly from the constitution.

The statutory specialisation of the role of the police in Nigeria does not include or make adequate provisions for the delivery of social services. If the process spend more time responding to public inquiries or call for assistance by citizens in distress or in need of care than they spend fighting crime. Delivery of social services by the police promotes cordial and constructive police public relations and co-operation. (Tamuna, 1980)

Application of Big Data on Police Discretion and Role Dilemma: The application of big data and artificial intelligence on police discretion is a very grey area of the Criminal Justice System. There are different ranges of discretion for various acts or crime in our policing system. The exercise of discretion is not the problem, but the abuse of discretion. However, the police faced role dilemma in the course of accomplishing their variety of task and their responsibilities.

- ✓ Discretion means the availability of a choice of options or actions one can take in a situation, we all experience discretion many times every day in our lives. Discretion involves making a judgment and decision. It involves selecting one from a group of action. (Akpan, 2000).
- ✓ However, police discretion refers to the judgement that law enforcement officers use when deciding how to act in various situations for instance, whether to arrest, warn, or let a suspect go, while role dilemma arises when officers face conflicting expectations, being enforcers of the law versus community helpers, or balancing order maintenance with civil rights, with the application of big data and artificial intelligence, these human – centered aspects of policing are being

reshaped for better and worse.

It is believed that, the criminal justice system involves a tremendous amount of discretion; In this case a judge exercise discretion in sentencing. He/she can sentence a defendant to a prison term or to probation. A judge can release a defendant on bail or order the defendant incarcerated until trial. Prosecutors exercise discretion. They can reduce charges against a defendant or drop the charges entirely (Babuta, 2019).

Paroles board exercise discretion as well; they can parole a person from prison or order him or her to serve, the complete sentence. The entire criminal justice system is based on the concept of discretion. The police are the biggest, most visible and most important sub-system of the criminal justice system; the police provide the entry point in the criminal justice system either through crime reports from the public or on its own delivery. The police is the main institution which provide regular direct contact with the public, a situation that make it unique among other components of the criminal justice system. The uniqueness of the police borders in the fact that the decision of the policemen in the street is as important as the existence of the criminal justice system (Ibidepo, 1995).

The policeman is the safe keeper of the justice system, he decides who goes into the system and his decision has wider implications for the other components.

The policemen lubricate the system through the arrest of suspects, who are essentially the inputs into the criminal justice in carrying out arrest, the policemen exercise tremendous amount of discretion. In general discretion refers to the exercise of choice by those charged with responsibility for an authority to carry out various task assigned to them. (Alimeka, 2002).

However, a role dilemma consists of the rights and responsibilities associated with a particular position in society. A related concepts is role expectation, the behaviour and actions that people expect from a person in a particular role is in a study of the conflict of police role in urban society, Thorman Weither, (1981), asserts that suppose, for example, that teenagers living in a wealthy neighbourhood have been caught drinking alcohol, their parents probably expect police officers to warn their young people and bring them home.

In a less affluent neighbourhood, on the other hand the expectation of community residents might be the police will arrest the teenagers and bring them into juvenile, court. This example illustrates a problem that arises in our attempt to understand the police role in our society (Westley, 1970).

Discretion is inevitable in criminal justice; from the perspective of the police justice can be likened to a sporting event in which playing fair is more important than winning. Employees on the lowest runs exercise more discretion than employers on the upper runs of the ladder. The law simply, does not cover every situation that a police officer encounters in the field. In cases where the law may be clear, it might sometimes be more prudent for the officer to ignore strict letter-of-the-law interpretations.

Laws are passed in a vacuum, and usually written quite narrowly, police encounter a wide range of behaviours, and a variety of situations that law did not think about one of the most amazing things about policing is not who they arrest, but who and how many they let go, (non-arrest options, leniency, under reaction) (Wilson, 1968).

Artificial intelligence has done a lot in the current century. Just like fintech artificial intelligence is a catalyst to our economic boom. As stated by Adesemowo (2024) fintech is both a catalyst for economic development and a crucial component of modern economic strategy. Enhancing fintech ecosystems might thus be a crucial strategy for sustaining and advancing

economic growth in the future.

The Nigeria Police Culture

Big data and artificial intelligence hold immense potential to transform the culture of the Nigerian Police Force from one rooted in oppression and security to based on transparency, accountability service and trust. By, embedded ethical, technologies into recruitment, training, oversight and public interaction, the NPF can realign itself with democratic values and fulfil its true role in Nigerian Society – as a protector of rights and a partner in peace building. (Ndukwe, 2021).

Successful implementation however requires investment, infrastructure, ethical regulation, public oversight, and leadership, commitment to reform. Besides, the Nigeria police force is a central institution in the countries internal security architecture. However, it is widely criticised for inefficiency, brutality, corruption and a lack of transparency – issues deeply rooted in its institutional culture.

□ Police culture refers to the shared values, norms, attitudes, and practices within the force often resistant to reform. This culture significantly shapes how officers behave, exercise discretion, and relate to the public. (Obarisiagh, 2019).

In this context, big data and artificial intelligence offer transformative potential to reshape the internal culture of the police and restore public trust; However, the introduction of technology driven policing models is not merely about efficiency – it is about cultural transformation.

□ Artificial intelligence and big data can disrupt harmful traditional practices by introducing transparency, accountability, performance tracking, and real-time feedback, thereby promoting professionalism, respect for human rights and service – oriented policies.

The application of big data and artificial intelligence in Nigeria police culture via:-

□ Monitoring behaviour and accountability:- Artificial intelligence can analyse data from body – worn cameras, incident reports and public complaints to detect patterns of misconduct. Big data helps identify officer prone to excessive force or corruption, prompting early intervention. This deters abuse and changes the internal norms of impunity.

□ Data-driven Recruitment and promotion:- Artificial intelligence help screen recruits based on psychological testing, background, checks and integrity records. Promotions can be tied to objective performance data not favouritism, fostering a culture of merit and fairness.

□ Training and values reorientation:- Virtual reality simulations powered by artificial intelligence can provide ethical training and situational exercises. This reinforces human principles, conflict resolution and de-escalation strategies-key components of modern police cultures (Ndukwe, 2021).

□ Reducing Insurrectionary Abuses:- Artificial Intelligence decision- support tools in patrol allocation, stop-and-search, protocols, and arrest justification help standardise practices, reducing the influence of personal bias, corruption and misconduct. The value of artificial intelligence and big data to society through cultural changes in policing though:-

1. Restoration of Public Trust: At transparent and accountable police force, supported by digital oversight, helps rebuild public confidence and citizen cooperation. (Odinkalu, 2020).

2. Human Right Protection: Artificial intelligence systems reduce arbitrary arrests, unlawful detentions and excessive use of force-making the police more rights-conscious and responsive.

3. Improved Service Delivery:- With predictive analytics and digital response tools, police can respond faster to emergencies, deploy resources intelligently, and reduce crime

proactively.

4. Citizen Engagement and Inclusion: Artificial intelligence powered platforms allow citizens to report crimes, rate officer behaviour and participate in security decision deepening democrat control over policing.

The police culture consists of a lot of various attitudes, and norms that are widely shared among officers and men, who find in the culture a way to cope with the starting of their working environment.

The police culture which inadvertently leads to personality is sometimes about the police, system itself that generates a suspicious, conservative world, view or perhaps certain personality types are inadvertently recruited for police work. (Porodovick, 1997)

Numerous studies have inducted that the nature of policing and experiences what officers go through on the Job combine to develop what many researchers call the police culture or police sub-culture. In the context, a sub culture may be defined as the culture of a particular group that is smaller than and essentially different from the dominant culture.

In a society the proceed culture or police subculture then is a combination of shared norms, values, goals, career patterns, life styles and occupational structures that is substantially different from the combination held by the rest of society (Cox, 1992).

Oversight Mechanisms and Justice System: The oversight mechanisms and justice system in Nigeria play crucial roles in upholding the rule of law, ensuring accountability, and protecting human rights. However, both systems face persistent challenges, including corruption, inefficiency, lack of transparency, delayed justice, and limited public trust. These issues undermine the legitimacy of the Nigeria Police Force and the broader criminal justice system.

The emergence of Big Data and Artificial Intelligence offers a powerful opportunity to address these systemic weaknesses. These technologies enable the collection, analysis, and use of vast amount of data from diverse sources, ranging from police records, court documents, surveillance systems and citizen reports, to enhance decision-making, ensure accountability and stream line justice delivery (Ogbonna, 2021)

□ Role of Big Data and Artificial Intelligence in oversight mechanisms and justice system are:-

□ Enhancing Police Oversight and Accountability, artificial intelligence can analyse data from body-worn cameras, dashboards and public complaint records to detect misconduct patters.

□ Big data platforms help oversight bodies (eg police service commission, National Human Right Commission) track use-of-force incidents, corruption cases, and internal investigation.

□ Strengthening internal Affairs operations: Artificial intelligence systems flag officers with multiple complaints, misconduct, histories, or suspicious behaviours, triggering early internal reviews. Digital tools ensure integrity in internal disciplinary processes by minimizing manual bias or manipulation.

□ Improving case management and Judicial Efficiency: Big data systems enable automated case tracking ensuring timely movement of cases from police investigation to court adjudication. Artificial intelligence tools organize large volumes of court files and public evidence, reducing case backlog and lost records: predictive justice and Risk Assessment: Artificial Intelligence algorithms assist courts in bail and sentencing decisions by analysing risk factors for example, flight risk, likelihood of reoffending while minimizing human bias. (Okesola, 2013)

The application of big data and artificial intelligence in Nigeria's oversight and justice system is not just a technological advancement, it is a strategic reform tool. These technologies help institutions detect misconduct, deliver timely justice, promote transparency and build public confidence. For effective implementation, Nigeria must ensure:-

(1) Legal Frameworks for data protection and artificial intelligence governance. Training and capacity development of personnel public oversight and ethical deployment of technology.

If adopted responsibly, big data and artificial intelligence significantly strengthen the foundations of justice and the rule of law in Nigeria.

□ Role of community-based policing, census and identification of police personnel:- Community-based policing is a strategy that emphasises the establishment of partnerships between the police and the community to identify and solve local crime and safety issues collaboratively (Okocha, 2022).

The roles are: Trust building:- Encourages mutual understanding and trust between law enforcement and the community, reducing fear and resentment

□ Crime prevention:- Community members share intelligence and concerns, helping police detect and prevent crime

□ Local problem solving: Police and communities jointly analyse issues, for example, youth violence and prevent develop sustainable locally relevant solution.

□ Transparency and Accountability: Involving citizens in policing promotes openness, reduces abuse of power and increases police accountability.

□ Conflict Resolution Improve response time: CBP. Supports peaceful resolution of community disputes through dialogue reducing the need for forceful interventions. Residents provide early alerts about suspicious activities, enhancing emergency response efficiency (Omotola, 2019)

CONCLUSION

The application of big data and artificial intelligence in the Nigeria Police Force holds vast potential for reforming police law enforcement practices and criminal procedures. These technologies can fundamentally reshape policing by enhancing transparency, reducing human error, promoting accountability improving crime detection and investigation and accelerating judicial process. Big data allows for the collection and analysis of large volumes of structured and unstructured information from surveillance systems, social media, criminal records and community feedback. Artificial intelligence supports decision-making through predictive policing, intelligent case, sorting, facial recognition and risk assessment. Together, they modernize policing by introducing evidence-based systems that reduce discretionary abuse, facilitate efficient case management, and align criminal procedures with global best practices.

However, Nigeria faces major barriers to fully realizing these benefits, including weak digital infrastructure, inadequate legal frameworks, limited technical expertise data privacy, concerns and institutional resistance. Without addressing these gaps, the integration of these technologies may reinforce existing inequalities or lead to rights violations.

RECOMMENDATION

This paper work on the issues affecting the application of big data and artificial intelligence on police law and criminal procedure of Nigeria Police. The ultimate aim of law is to regulate conflicting every citizens. So criminal law is a collection of acts commissions which the Nigeria State prescribes with the threat of penal consequences. Therefore this paper recommends.

□ Legal and Policy Reforms: The Nigeria police should update Nigeria criminal procedures Act, Evidence Act, and police Act to incorporate digital policing methods and regulate artificial intelligence use in investigations.

□ Digital Infrastructure Development, training and capacity building: Nigeria police should invest in cloud storage, cyber security and data analytics systems tailored for police operations and inter-agency collaboration. Ensure all police divisions are connected to a centralized digital criminal information database.

Train officers, prosecutors and judicial officers on the use of artificial intelligence tools, digital evidence handling, and data-driven decision-making. Include artificial intelligence and big data ethics as part of the Nigeria Police Academy curriculum.

By adopting a strategic, inclusive and rights-based approach to the application of Big data and artificial intelligence, the Nigeria police can move from reactive and practices to proactive data-driven and citizen-focused policing ultimately strengthening the rule of law and access to justice in the county.

There should be no dissemination in application of public law on criminal procedures in Nigeria. There should be no penal sanction, if the violations do not attract punishment or threat of punishment. The procedural law should be properly applied based on the nature and intently of crimes committed.

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