

Artificial Intelligence and Security Management in Enugu State: A Survey Analysis

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Abstract

Artificial Intelligence, AI has in the recent time gained considerable attention in developing countries challenged by torrents of insecurity. In Enugu state, there have been security concerns as towns and villages across the 17 local government areas embroiled in intractable crisis of herdsmen killings, abduction, robbery etc. In cognizance of these adverse realities, this study therefore examined the usefulness of AI in the security management of Enugu state. The methodology of the study is a descriptive cross-sectional design with emphasis on documentary source and administration of questionnaire instrument as data collected were content-analyzed in mean score rating value. From the responses elicited from the three research questions as stated in the 300 questionnaire instruments, the study revealed enormous challenges militating against security management in Enugu State as reasons were advanced for the usefulness of Artificial Intelligence though in anticipated logistics, attitudinal and institutional challenges. From these findings, recommendations were made to bolster security management in Enugu through the use of Artificial Intelligence by the Enugu State Police Command in an enabling environment of adequate funding and logistics.

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1. Introduction

Nigeria state is currently bedeviled with intractable crisis of insecurity that constitute a strident threat to its development and existence. Virtually, every region and state in the federation is challenged by incidents of insecurity as lives were lost, ancestral homes sacked, people abducted for ransom and valuables worth millions of dollars neither carted away or destroyed. These ugly scenarios in its dimension and severity raised questions on the preparedness and response of the state enforcement agencies (Military and Police) to the unabated challenges of crime and criminality. In credence, Jimoh, et al (2021) observed that Nigeria in the recent time has witnessed an unprecedented level of insecurity. This has made national security threat to be a major issue for the government and has prompted the senate to insist that increased budgets for the security and defence sectors to address the current security challenges in winning the war against insurgency, banditry, kidnappings and other crimes. In other words, these unpleasant situations invariably illuminate the crisis in internal security management of Nigeria state raising concerns and need to explore the use of modern technologies beyond the conventional means of safety. Hence, the Artificial Intelligence amid challenges.

The Report of National Security Strategy (2019) document internal security threats plaguing the country as terrorism and violent extremism, armed banditry, kidnapping, militancy and separatist agitations, pastoral-farmers conflicts, armed robbery, transnational organized crimes, piracy and sea robbery, border criminality, piracy, cybercrime and other socio-political threats such as fake news and hate speeches, environmental threats, public health challenges, economic challenges etc (Omemma, 2021). Arguably, these internal security challenges invariably are precipitated at communities and towns which constituted a serious threat to the lives and properties at the level of states across the federation. Enugu is a flash point state with recent cases of security disturbances as referenced in Fulani Herdsmen killings in Uzo-Uwani and Isi-Uzo local government areas.

Imaginatively, the unpleasant development as observed indeed elicited the need to take a second look on modern technology of safety measures beyond the conventional rattle at hand and arrest. Hence, one of these technologies in crime detection is Artificial Intelligence, AI. AI systems demonstrated significant detection improvements over traditional monitoring methods, reducing breach response times by an average of 65%. Analyzing live video feeds and alerting security personals to anomalous activity in real-time, AI-powered security cameras have helped foil several kidnapping attempts (Okeke et al, 2023). Again, Albinali, et al (2022) also indicated that computer vision/image recognition are AI technologies like video analytic, facial recognition cameras, and object detection systems that can automatically analyze video feeds and images to detect anomalies and identify persons of interest during security assessment.

Considerably, AI technologies remain useful to security management. Security management in Nigeria is the responsibility of the Police. The Nigeria Police Force, NPF has the statutory and constitutional function to engineer the process of security management in response to intelligence

and crime mitigation. And, the incessant breaches in safety is a reflection of inadequacies in the security management process by the Nigeria Police Force, NPF.

Invariably, the current tension of insecurity in rural communities in Nkanu West (where a Town Union PG was murdered), Oji-River local government (where four police officers were assassinated by yet-to-be identified assailants, their weapons taken away and patrol vehicle set ablaze), Isi-Uzo and Uzo-Uwani local government areas (where villages were sacked as many were slaughtered, abducted for ransom by the invading Fulani militias and others fled to neighbouring communities) as personnel of Nigeria Army and Police Force could not effectively respond to these incidents except the local vigilante groups that challenged these criminal gangs. These unpleasant incidents therefore informed the rationale of this study to explore the usefulness of AI in security management to respond to the exigencies of potential threats in rural communities across the 17 local government areas of Enugu state. The study is further streamlined in this introduction, statement of the problem, research questions, objectives, conceptual analysis, empirical studies, research design, data presentation, data interpretation and analysis, conclusion and recommendations.

1.2 Statement of the Problem

Emphatically, it is stressed in credence to observation that national security ambience in Nigeria's Fourth Republic is characteristically volatile. The volatility of national security in Nigeria is palpably demonstrated by the prevalence of various dimensions of insecurity in Nigeria today which point to a pattern of spatial distribution of conflicts and criminality across different geopolitical zones (Okoli, 2014; Okoli and Okpaleke, 2014; Okoli and Agada, 2014; Ayokhai and Peter, 2015; Ayokhai and Peter, 2016, cited in Okoli and Ayokhai, 2017). However, these challenges as embellished elicit curiosity on the peculiar security problems bedeviling Enugu state. Hence, the "problem statement" resonates from the peculiar limitations that fraught security management in Enugu state towards ensuring safety of indigents and residents.

One of the core driving principles of governments across the world is the capacity to protect the lives of the people and provide welfare measures to help them live a reasonable life (Oladeji and Folorunso, 2017). Security is seen as one of the major fundamental roles of all governments (Okoli and Bernard, 2021), and every nation strives towards providing peaceful atmosphere for its citizenry (Iwundu, 2020). In order to ameliorate the incidence of crime, the federal government of Nigeria embarked on criminalization of terrorism by passing the Anti-Terrorism Act in 2011, and installation of Computer-based Closed Circuit Television cameras (CCTV) in some parts of the country for enhanced surveillance in some parts of the country (Angbulu, 2021). Despite these efforts, the level of insecurity in the country is still very high. Beside the efforts of the federal government as observed in scholarly opinions, however, the "problem statement" raised concerns in the efforts (with reference to modern technology of safety, AI) to stem the tides of insecurity in Enugu state. Perhaps, it can be argued that AI will be useful or otherwise in response to the exigencies of security management across towns and communities in Enugu state?

Artificial intelligence technologies and systems have played significant roles in security management. Despite the deployment of tech-security measures, such as CCTV cameras and security personnel, crime rates remain high, suggesting a need for innovative solutions (Liu et al., 2020). Recent literature has highlighted the potentials of artificial intelligence (AI)-driven surveillance systems to enhance crime prevention and detection (Chen et al., 2020; Singh et al., 2021). AI-driven surveillance systems can analyze vast amounts of data in real-time, detect anomalies, and alert security personnel to potential threats (Wange, et al., 2021).

However, the effectiveness of AI-driven surveillance systems in reducing crime rates in Enugu and other states remain unexplored (Abunike, et al, 2024). Again, Izunna (2024) opined that use of Artificial Intelligence may not be effective and efficient in crime prevention and responses in view of constraining conditions inherent in Nigeria system. Also, Ojo and Umaru (2023) argued that Nigeria environment is yet to be ripe to explore the benefits in the use of Artificial Intelligence to promote socioeconomic development and growth. It was argued that there are issues that will be mitigated first before the agencies and departments of the government will embrace Artificial Intelligence in their statutory operations. These scholarly observations invariably revealed limitations of Artificial Intelligence amid its advantages. But, the “problem statement” also raise concerns on issues or conditions (not explicated) that may militate against effective use of Artificial Intelligence in response to crime and criminality in Enugu state. *What are these issues?*

1.3 Research Questions

1. What are the challenges of security management in Enugu state?
2. How useful is Artificial Intelligence in the security management in Enugu state?
3. What are the factors that may militate against the use of Artificial Intelligence in security management in Enugu state?

1.4 Objectives of the Study

The broad objective of this study is to examine the effects of “Artificial Intelligence in Security Management in Enugu State”. The study in a specific sense aim to:

- a. To identify the challenges of security management in Enugu state.
- b. To establish usefulness of Artificial Intelligence in the security management of Enugu state.
- c. To dissect factors that may militate against the use of Artificial Intelligence in security management of Enugu state.

2. Conceptual Analysis

Artificial Intelligence is the current trend in tech revolution in human intelligence which meaning is replete with varied definitions among scholars and practitioners. Bundy (2017) defined AI as a branch of computer science dealing with the reproduction or mimicking of human-level intelligence, self-awareness, knowledge, and thought in computer programmes. Notwithstanding the various definition of AI, it’s pertinent to observe that AI aims to replicate human intelligence in machines. From this indication, the Report of European Commission (2018) conceptualized AI as systems that display intentional behaviour through the analysis of their environment and take specific actions, with some degree of autonomy to achieve specified goals. Furthermore, AI-based systems can be purely software-driven, acting in the virtual world (search engines like Google or speech and face recognition software) or embedded in hardware devices (Falode, et al, 2021). Thus, AI system works on rationality and it achieves this through immersion (perception of the environment via sensors), after which it reasons and tries to modify its environment through actuators (European Commission, 2018). Therefore, this study intends to examine the effects of AI in security management of Enugu State. To this end, the concept of security illuminate.

Accordingly, Collins English Dictionary (2020) defined security as measures that are taken to protect or ensure safety. In a broad view, Tadjbakhish (2005) defined security as dealing with the capacity to identify threat, to avoid them when possible and mitigate their effects when they occur. As stated, it is freedom from or resilience against potential harm from external forces. Indeed, the beneficiaries of security may be persons, social groups, objects and institutions,

ecosystems and any other entity or phenomenon, vulnerable to unwanted change in its environment, the source maintained. This means that security is as important as its management in every organization recognizing the fact that most of these institutions may have turned into jungle and terror in isolation of security measures. Hence, the process of coordinating measures to secure human and proprieties against threat may be contextualized as “security management”. What then is security management? In this vein, security management entails process and activities of controlling and organizing the work that a company or organization does for safety (Rutter, 2021). Furthermore, Hornstein, (2015) remarked that security Management involves proper utilization of human and material resources to protect the assets of an organization or persons. It is the deliberate effort to avoid or reduce risks situation to the barest degree of occurrence. Also, Moore (2017) opined that security management is the identification of an organization's assets (including people, buildings, machines, systems and information assets), followed by the development, documentation, and implementation of policies and procedures for protecting these assets.

Empirical Studies

In reference to the first research question, *What are the challenges of security management in Enugu state?*

In a study, titled , “*The State and Security Management in Nigeria: A Study of Anambra State, (2014-2022)*” carried by Onwunyi and Oguma (2023). The study acknowledge security as a major issue in the governance of any state and hence the success of any administration is usually measured in terms of her ability to adequately manage the security situations in such a state. The study also examined the state and security management in Anambra State between 2014 and 2020. The study is qualitative in nature as data collection was based on the secondary sources of data, while the Social Contract Theory was used as the framework of analysis. The study further revealed that; poor equipment is among other factors that impeded against proper security management in Anambra State under Governor Willie Obiano’s administration; again, the study showed that there has been a systematic approach towards addressing security challenges in the state by government. The efforts being made by the state agencies to curb the menace of insecurity of all kinds are synchronized though not very effective. From the findings, the study recommended that; first, the government should make sure that its policies are implemented effectively. Secondly, government agencies like the National Orientation Agency (NOA) should be made to be functional in carrying out their responsibilities among other measures. However, the study of Onwunyi and Oguma (2023) is limited in context, scope and significance of the challenges bedeviling the security management of Enugu state.

In a further study, Ufot, e tal (2014) in his book titled “*Essential Elements of Security and Applications*” opined that this study attempts to x-ray the essential elements of security and the need for their application in ensuring the stability and integration of the Nigerian federation in the light of the foregoing heightened security challenges in Nigeria. No nation can freely develop or overcome the forces of instabilities and disintegration when it neglects the effective harnessing or application of basic or essential elements of security. Such critical elements of security include; timely procurement of security intelligence, prompt identification of threats to both internal and national security with its attendant pro-active security arrangement, threat assessment, statement of aims/objectives of national security objectives and programmes, planning to be in line with the objectives of national security. Other elements are: security liaison, and net-working with other sister security departments towards achieving the national security objectives, effectively coordinating security and its activities under a centralized

command structure, re-appraisal of the overall security objectives, situations and strategies in the light of new developments as well as advising government based on the situation on ground for the overall improvement of security measures and adequate funding. In the case of Nigeria, security lapses and challenges manifest on daily basis in forms of youth restiveness, terrorism and insurgent attacks, kidnappings and hostage-takings for monetary ransoms, political assassinations, arson, murders, cult-related activities, mass protests and so forth. The work therefore conclude and recommend that the Nigerian leaders should address and utilize the essential elements of security in ensuring the stability and integration of the Nigerian Federation. However, the study is broad in perspective but limited in the peculiar challenges underlying security management process in Enugu state.

In a more exclusive perspective, Akam, et al (2024) in their study, *“The Problem of Security Governance in Anambra State”*. The study posit that a lot of states in Nigeria have continued to face myriads challenges in security governance. These challenge are as a result of corruption, poor government policies and prebendal politics that is making round in contemporary Nigerian political process. As such, this study examined State Government and Security Governance in Anambra State 2014-2023. Methodologically, the study employed mixed research design utilizing descriptive survey (questionnaire and interview) with a projected population of 5, 915, 804 million in Anambra state. The sample size is 400 drawn from Taro Yemane and 323 were retrieved and analysed using SPSS package. Thus, the study discovered that corruption, highhandedness and poor security architecture are major challenges of achieving security governance in Anambra state. The study thus recommends that government should endeavour to reduce corruption and the cost of governance in Anambra state so as to provide basic needs of the people. However, the study is limited in intricate challenges bedeviling the efforts of Anambra Police Command in the internal security management. However, the title, scope and content of Akam, et al (2024) study is significantly limited to the challenges bedeviling security management in Enugu.

Similarly, Nwizu & Alozie (2018) in their book *“Africa and Challenges of Security Governance in the 21st Century”* argued that for several decades, security has been a major issue in Africa in view of the continued human brutality, pogroms, genocide, terrorism, civil wars and inter-ethnic conflicts that have continued to be recorded in the continent. Since the 1980s in particular, the continent has continued to record unprecedented violence of various kinds. The state in Africa has more or less become incapacitated as it continues to find it difficult to generate the fundamental conditions for meaningful human survival. Generally, governance is described as the overall integrative efforts of individuals who have either been elected or appointed to carry out the aims for which the modern state has been set up. Through governance, those who occupy the machinery of government are bound to the pursuit of those policies that can impact on the lives of the masses. Methodologically, the paper adopted descriptive and analytic approach. Data for the paper was sourced through the secondary means of data collection. The focus of the paper is on Africa and the challenges of security governance in the 21st century. The study reveals that bad governance, inter- ethnic conflicts, and corruption have remained major challenges to security governance in Africa. The study argues that the non rethinking of security issues to significantly address the basic needs of the average African has remained a major threat to Africa’s security. The paper recommends a pragmatic change and refocusing on security issues in Africa in order to arrest the bottlenecks militating against security governance in Africa. The study is insightful but limited in the peculiar challenges militating against security management in Enugu.

As regarding the second research question, *How useful is Artificial Intelligence in the security management in Enugu state?*

In a study by Zeng et al. (2022) compared the effectiveness of AI-driven surveillance to traditional security measures in a study of 100 industrial areas in China. The authors found that AI-driven surveillance was significantly more effective in detecting and preventing criminal activity than traditional security measures. However, the study did not reveal contextual factors that may influence the effectiveness of AI-driven surveillance, highlighting the need for further research on the contextual factors that influence the effectiveness of AI-driven surveillance in industrial environments in Enugu State, Nigeria. Again, the study did not show the plausibility of modern security technology could enhance security management processes in Enugu state.

Mellado and Rebollo (2012) in the study ‘a *“Systematic Review of Information Security Governance Frameworks in the Cloud Computing Environment”*’ argue that the senior management of any enterprise that plans to start using Cloud Computing services needs to define a clear governance strategy with regard to the security of its information assets. The study presented a systematic literature review whose objective is to seek existing Information Security Governance frameworks that may assist companies with these functions. The analysis of the frameworks extracted is complemented with a set of comparative criteria that consider the particularities of Cloud Computing when dealing with security governance issues. However, Mellado and Rebollo’s assertive study did not underline the imperatives of Artificial Intelligence in security management measures in Enugu state.

Subsequently, Abunike, et al (2024) in their study, *“Assessing the Impact of Artificial Intelligence Driven Surveillance on Crime Rate in Industrial Environment in Anambra State”*. The study investigated the impact of artificial intelligence (AI)-driven surveillance on crime rates in industrial environments in Anambra State, South East Nigeria. The research employed a quantitative design, analyzing crime data from industrial areas in Anambra State to examine the relationship between AI-driven surveillance and crime rates. The findings reveal a significant negative correlation between AI-driven surveillance and crime rates, indicating that the implementation of AI-driven surveillance systems leads to a reduction in criminal activity. Specifically, the results show that AI-driven surveillance reduces theft by 25%, vandalism by 30%, and sabotage by 20%. The study also finds that AI-driven surveillance improves detection and response times, enabling security personnel to respond more effectively to criminal activity. The research contributes to the existing literature on AI and surveillance, providing insights for policymakers and security professionals seeking to enhance industrial security in Anambra State. The study recommends the widespread adoption of AI-driven surveillance systems in industrial environments in Anambra State, highlighting the potential for AI-driven surveillance to reduce crime and enhance security in other regions.

The findings have significant implications for crime prevention and industrial security, demonstrating the effectiveness of AI-driven surveillance in reducing crime and improving security outcomes but the study is limited on how artificial intelligence could be applied in the security management of Enugu state.

Also, Koskosas (2017) in his study ‘*A Short Literature Review in Information Systems Security Management Approaches*’, The study provides a short literature review in information systems security (ISS) approaches either technical or non-technical in nature. Although, the benefits and uses of the technical information systems security approaches are valuable, there is still a need to investigate the alternative non-technical approaches or at least, to find a way to combine them in a more appropriate and thus, successful way. In doing so, this study presents the available

methods and techniques in information systems security in an attempt to shed some light into how these alternative approaches could be used in benefit of information systems security. However, the findings of the study did not show the essence or non-essence of Artificial Intelligence in security management of Enugu state.

In reference to the third research question, *What are the factors that may militate against the use of Artificial Intelligence in security management in Enugu state?*

In a study carried by Mohammed and Shehu (2023) *A Review of Artificial Intelligence (AI) Challenges and Future Prospects of Explainable AI in Major Fields : A Case of Nigeria*. The study revealed that Artificial intelligence (AI) has been used widely in essential fields such as energy, health, agriculture, finance etc. However, Artificial intelligence is still faced with social, ethical, legal, and technological challenges. It is important to know how these systems make their decisions while still achieving and implementing the benefits of AI. Explainable AI (XAI) is a technique that is used to explain how a machine made a decision. In their review, it discusses the challenges of AI and recommend XAI as a tool to solve the limitations of AI and suggest a human and conditions-based approach to challenges faced in the technology in Nigeria. The paper employed a narrative review to highlight problems that are limiting the use of AI in four important sectors of Nigeria: Health, Energy, Agriculture, and Finance, and suggest recommendations to solve the AI challenges. However, the study did not show how the use of Artificial Intelligence are fraught with difficulties and challenges in the effort to abate security problems. Most importantly, the peculiar factors which may undermine the use of Artificial Intelligence in the security management of Enugu state.

3. Methodology

The methodology of this study is a descriptive cross-sectional design. Hence, the design is established to draw inferences from causal relationship between independent variable (artificial intelligence) and dependent variable (security management) under study. The design also illuminate the imperatives of area of study, population, sample and sampling techniques, instruments for data collection and analysis.

The case study analysis is Enugu State. The state is made up of seventeen local government areas with two major towns (Enugu and Nsukka). In reference to internal security management, Enugu Police Command is made up of five Area Commands (Abakpa-Enugu Area Command, Oji-River Area Command, Agbani Area Command, Nsukka Area Command and Obollo-Afor Area Command). Each Area Command has Police Division under it.

The respondent /target population of this study area are officers and men of Nigeria Police Force and members of the public across Area Commands in towns and communities of Enugu.

In reference to sampling technique and sample size, the study design is a descriptive cross-sectional type, involving a calculated sample size of 300 (from the rank of Assistant Commissioner of Police, ACP, Chief Superintendent of Police, CSP, Superintendent of Police, SP, Deputy Superintendent of Police, DSP to Assistant Superintendent of Police, ASP) in the hierarchies of security management structure to other junior rank officers (Inspector and Sergeant) and civil respondents (comprising of public servants, businessmen and artisans).

A multistage sampling technique was used in sample selection of the three Area Commands in Enugu State Police (Abakpa-Enugu Area Command, Oji-River Area Command and Nsukka Area Command) out of six Commands. From the sample size of 300 respondent adults studied, 225 (police officers) and 75 (non-police officers) were proportionately allotted.

For the purpose of data collection, the following procedure were adopted:

(a) Documentary source of data collection with reference to textbooks, journal articles, documentary field reports, media scripts (magazines and newspapers), government publications, editorials that discusses Artificial Intelligence and security management. The importance of this secondary source of data collection undoubtedly offered insights on issues of conceptual and empirical imperatives.

(b) Administration of Questionnaire Instrument. The instrument for data collection is a validated questionnaire distributed in 300 copies. The structure of the questionnaire designed by the researchers was titled, “Artificial Intelligence and Security Management in Enugu State”, AISME to gauge responses. The questionnaire instrument for data collection consists of options or items articulated in accordance to the established research hypotheses was adopted to close the gap in conceptual and empirical from the responses of the respondents. The questionnaire instrument was divided into two sections:

Section A: consists of social bio data (age, rank and gender).

Section B: comprise of the three hypotheses items where the respondents are required to indicate their view. It is important to note that the researchers administered the questionnaire with the assistance of 5 research assistants.

For the purpose of analysis, data was analyzed using the Likert Mean rating scale. It assigned numerical values according to the strength and weakness of the opinion of the respondents. In the following order;

- a. Strongly Agreed, SA (4 points).
- b. Strongly Disagreed, SD (3 points).
- c. Agreed, A (2 points).
- d. Disagreed (1 points).
- e. Undecided (0 point).

Hence, five (5) points rating scale was used to determine the extent of acceptability or non-acceptability along respective numerical values. Again, interval scale of 0.5 was added to bring the mean to 2.5. From this indication, a decision rule of 2.5 is reached. Hence, any response receiving a mean score rating of 2.5 is regarded “positive response” less than 2.5 is regarded “negative response”. Also, the cumulative grand mean was employed to determine the strength or weakness of the overall responses.

4. Data Presentation

A: Social Bio Data (Age).

Table 1: Age Distribution of Respondents

Age group (years)	Frequency	Percentage
25–29	44	14.7
30–34	113	37.7
35–39	72	24.0
40–44	36	12.0
45–49	18	6.0
50–54	9	3.0
55–59	8	2.7
Total	300	100

Source: Field Survey, 2025.

B: Social Bio Data (Police Rank, Occupation & Gender of the Respondents).

Table 2: Social Attributes of Respondents

Characteristics	Frequency=300	Percentage
Rank:		
Sergeant & Inspector	178	59.3
Public Servants	48	16.0
Businessmen & Artisans	27	9.0
DSP	26	8.6
SP	12	4.0
CSP & ACP	9	3.0
Gender:		
Female	201	67.0
Male	99	33.0

Source: Field Survey, 2025.

Research Question 1: What are the challenges of security management in Enugu state?

Figure 1: Responses on the challenges of security management in Enugu state.

S/N	Questionnaire Items	X	Decision
1.	Deficiency in intelligence gathering and threat assessment.	3.5	Positive
2.	Demotivated personnel.	2.6	Positive
3.	Unprofessional conduct and infraction among officers.	3.5	Positive
4.	Inadequate exposure to AI safety measures and practice.	3.9	Positive
5.	Deplorable conditions of operational vehicles and logistics.	2.4	Negative

Source: Field Survey, 2025

$$\text{Grand mean } \sum \frac{x}{n} = \frac{3.5+2.6+3.5+3.9+2.4}{5} = 15.9 / 5 = 3.2$$

Research Question 2: How useful is Artificial Intelligence in the security management in Enugu state?

Figure 2: Responses on the usefulness of AI in the security management in Enugu state.

S/N	Questionnaire Items	X	Decision
6.	AI-enabled patrol security vehicles for surveillance.	4	Positive
7.	AI-enabled risk prediction and prevention through intelligence gathering and analysis.	3.9	Positive
8.	AI-enabled data collection, risk assessment, decision and monitoring.	3.5	Positive
9.	AI-enabled risk prediction and prevention through information gathering and analysis.	3.6	Positive
10.	Optimized resource allocation for morale build- up	2.3	Negative

Source: Field Survey, 2025

$$\text{Grand mean } \sum \frac{x}{n} = \frac{4+3.9+3.5+3.6+2.3}{5} = 17.3 / 5 = 3.5$$

Research Question 3: What are the factors that may militate against the use of Artificial Intelligence in security management in Enugu state?

Figure 3: Responses on the factors that militate against the use of Artificial Intelligence in security management in Enugu state.

S/N	Questionnaire Items	X	Decision
11.	Inadequate energy supply and infrastructural deficit.	3.8	Positive
12.	Limited exposure of police personnel to knowledge and technology of AI safety measures.	3.6	Positive
13.	Reluctance of Police Central Authority to AI security technology.	2.3	Negative
14.	Government support fund for AI security measures may not be encouraging.	3.3	Positive
15.	Apprehension of most police officers that the security robotics may take away their jobs, authority and relevance from the public.	3.8	Positive

Source: Field Survey, 2025

$$\text{Grand mean } \sum \frac{x}{n} = \frac{3.8+3.6+2.3+3.3+3.8}{5} = 16.8 / 5 = 3.4$$

5. Discussion of Results

The index of Figure 1 evinced the challenges bedeviling security management in Enugu state. Data elicited from the cluster of five questionnaire options as seen in 1, 2, 3 and 4 showed positive responses on myriad of attitudinal, institutional and systemic constraints undermining security management in Enugu. As item 5 indicated that perhaps the Police Command or the state government has done well to provide adequate operational logistics to enhance rapid response to criminality amid other systemic challenges. However, three questionnaire items elicited indicated mean-response above 3 point which invariably underscored the functionality of the identified variables against as item 2 underlined proportional varied views as seen below 3 point but above 2.5 as factor that undermines security management in Enugu state. In other words, security management from the disposition of the Nigeria Police Force in Enugu is fraught with institutional and attitudinal irregularities that undermines efforts to abate crime and criminality as further accentuated in 3.4 grand mean value.

The index of Figure 2 indicated that AI will be useful in the security management of Enugu state. The responses elicited in items 6 to 9 affirmatively underscored the importance of AI in security management. Except item 10 responses that perhaps argued that ‘technology’ will not determine attitudinal drive (morale build-up) to work unless persons responsible for personnel's welfare are committed and transparent. The grand mean of 3.5 further justify the expediency of AI-enabled facilities and robotics in response to crime and criminality.

The index of the Figure 3 showed that items 11, 12, 14 and 15 elicited mean response above 2.5 to underline the indication of inadequate energy supply, infrastructural deficit, limited exposure, government's failure and apprehension of the senior officers as possible factors that may undermine efforts towards deployment and functionality of AI in security management of Enugu state Police Command. However, the negative mean response as seen in item 13 invariably showed that the Police Authority acknowledged the importance of AI in security measures. The grand mean of 3.4 underlined the import of these responses.

Conclusion and Recommendations

Security management is critical to a safe state. In Enugu state, security management is faulty and dysfunctional which had inextricably led to upsurge in crime and criminality. From these findings, the following recommendations are instructive:

1. The Police Command in Enugu state should activate plausible measures to review and bolster security management framework for efficiency and impact. In addition, challenges identified should be mitigated for enhanced response to security challenges in communities and towns of the state.
2. The Police Command in Enugu state should ensure deployment of AI facilities and robotics to complement efforts towards the abatement of crime and criminality in towns and communities in Enugu state.
3. Finally, the federal government and state government should provide enabling fund, logistics and environment for the effective deployment and function of AI facilities and robotics against crime and criminality in towns and communities in Enugu state.

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