ICT as a Tool for Combating Insecurity: A Case Study of Osun State, Nigeria

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ABSTRACT

This study examines the role of Information and Communication Technology (ICT) in curbing the menace of insecurity and terrorism in Nigeria. The paper highlights the root causes of insecurity and terrorism syndrome, its prevalence, the effects on the nation's economy and the use of Information and Communication Technology (ICT) in reducing the menace to the barest minimum. Data were collected using structured questionnaire. The analysis was based on Correlation, ranking, Chi-square and t-test via SPSS version 20.0. The finding revealed that 80% of respondents agreed that there exists high level of insecurity in Nigeria. It also showed that the menace has led to the reduction of foreign investments in the country as a result of unsafe business environments and also responsible for portraying the nation in bad light in the committee of nations and stagnated developments leading to high rate of unemployment. The study concluded that the use of ICT tools with the introduction of the Close Circuit Television CCTV camera in strategic locations, drone applications, global positioning system(GPS), tracking and surveillance systems among others and coupled with some of the Federal Government of Nigeria Public, Social and Civic reform initiatives would significantly lead to the reduction in the level of insecurity and terrorism and also helped in achieving greater security, safer environments and increased economic growth.

Keywords: CCTV, GPS, ICT, Insecurity, Surveillance, Terrorism.

1.   INTRODUCTION

Ibidapo-Obe, (2008) described security as one of the basic and fundamental needs of every citizen. Security is the establishment of measures for the protection of lives and properties against hostile persons, influences and actions. It is a situation where people go about their normal business without any threat to their lives and properties (Ogunleye *et al,* 2011). Ezeoha, (2011) opined that security is stability and peaceful pursuit of livelihood, state of feeling safe and belonging to a social group. Internal security can be seen as the act of keeping peace within the borders of a sovereign state or self-governing territories. This is done generally by upholding the national law and defending against internal security threats. Those responsible for internal security may range from police to paramilitary forces, and in exceptional cases, the military itself. On other hand, insecurity means the state of being exposed to attacks. It is a state of anxiety and palpable fear. It is the state of feeling insecure or unsafe. Beland, (2005) defined insecurity as "the state of fear or anxiety

stemming from a concrete or alleged lack of protection". It refers to lack or inadequate freedom from danger. In a society where there is no security, the population is likely to be vulnerable to attacks from perceived enemies. The state is responsible for providing security for her citizens, wherever a state fails in this regard, the state is considered to be a failed or weak state. Most of the weak states of the world are considered weak because they failed in their primary duties of providing security to their citizens (Rice, 2007). According to (Rice, 2007), Nigeria and 61 other nations are considered to be weak states, because, these states have serious deficiencies in economic performance, political legitimacy, social welfare and security.

Awoojobi, (2014) equally opined that since the beginning of democratic rule in Nigeria in 1999, the country has witnessed an unprecedented level of social vices, such as political violence, ethno-religious strife, kidnapping, armed robbery and banditry, youth restiveness, oil bunkering, cybercrime, militancy and the recent activities of the dread Islamic group called Boko Haram. It is argued that the failure of the democratic government to bring the dividends of democracy through the development process into the country has led to the upsurge of crime and criminality. There is high tendency that frustration can lead groups to take up arms against the state (Ajaegbu, 2012).

The high level of insecurity in the country has caused untold national embarrassment to both the federal government and state counterparts. They seem to be overwhelmed and have lost control by the level of insecurity in the country, most especially the Boko Haram attack in the North Eastern part of the country, despite deploying thousands of troops and establishing a Joint Task Force and huge security budgets, insecurity continues unabated (Lister, 2012). Thousands of lives have been lost, many peaceful homes have been shattered, many people have been displaced from their places of livelihood and rendered homeless. The unparalleled spate of terrorism, kidnappings and other violent crimes is to say the least, alarming. Religious leaders, churches, mosques and others are not spared in this onslaught. There is no gainsaying in the fact that Nigeria is at a cross-road and gradually drifting towards a failed state if this insecurity trend continues. Reports over the years show an alarming increase in levels of crimes and terrorism attack and unfortunately the menace has spread across every nook and crannies of the country of which Osun State, Nigeria is a case in point. The state has witnessed an upsurge in crimes such as armed robbery, kidnapping, murders, rape among others, and several efforts made to checkmate the menace have proved inadequate. As part of the efforts made was the formation of the vigilante groups by the inhabitants to compliment the efforts of the police.

However, none of the studies and efforts has explored the possibility of harnessing the power of ICT tools for combating the security challenges in the country. It is against this background that the study sought to find out the role of ICT in eradicating the insecurity and terrorism menaces using Osun State, Nigeria as focus.

2.   LITERATURE REVIEW

Nigeria as a great nation is fraught with violent conflicts, chaos, anarchy and disorderliness, and retrogression. rapid growth of industrialization and sustainable development is only possible when the menace of insecurity is halted (Ndubuisi and Theresa 2019). Industrialization in Nigeria is bedevilled by paucity of data, threats of insecurity, transportation facilities, power outages, finance etc. But the major cankerworm besetting industrialization and its efficient performance is enormous rate of insecurity in the country which has vitiated the morale of inventors (Nnabuife *et al,* 2018).

There have been several hot debates on the connection between poverty, joblessness and insecurity. Despite Nigeria being the sixth largest producer of crude oil and natural gas, majority of her citizens live in abject poverty. As a result of this, the rising level of poverty has been blamed for security challenges confronting Nigeria (Awojobi, 2014). Insecurity in Nigeria is manifested in the inequality and high rate of poverty currently experienced in the country even in the midst of plenty. Nigeria has witnessed an unprecedented level of insecurity. Inter and intra-communal and ethnic clashes, ethno religious violence, armed robbery, assassination, murder, gender-based violence, and bomb explosion have been on the increase leading to enormous loss of life and property and a general atmosphere of siege and social tension for the populace (Ibrahim and Igbuzor, 2002).

Insecurity has taken various forms in different parts of the country. In the South-West, armed robbers have taken over, while in the North, cross-border bandits operate with ease. However, in the South-South, there are rampant cases of kidnapping. These incessant waves of crimes, all point to the fact that insecurity is fast becoming a norm in Nigeria and have suddenly become attractive business to criminals. The end-products lead to the decimation of innocent lives, disruption of economic activities, and destruction of properties among others. Accordingly, Ogebe(1991) observed that the Nigerian police have been highly criticized for its inability to stem the rising tide of crimes in the country as a result of series of endemic problems in recruitment, training and discipline and lack of expertise in specialized fields. Corruption and dishonesty is also widespread in the police force thereby engendering a low level of confidence by the public, leading to failure to report crimes, and the tendencies to resort to self-help by the public. Corroborating the aforementioned, several cases abound where policemen and military officers allegedly released or sold weapons, ammunitions and other sophisticated weapons to armed robbers and criminals.

Subsequently, aside from the bad eggs in the Nigerian police force, the poor welfare of the police, military and paramilitary personnel, with lack of adequate working tools, inadequate personnel is another factor that promotes insecurity in Nigeria. Olonisakin (2008) posited that the police-population ratio in Nigeria is 1:2000, as a result, the country has failed to meet the standard set by the United Nations for effective policing. Furthermore, crime prevention through intelligence gathering seem to be very low among the police services, in many cities, today, police work often seem to consist mainly of reaction to emergencies and in most cases, the police force do not have the resources to intervene in the circumstances which lead to crime being committed. It sometimes appears that the original emphasis on crime prevention has been lost (Awake, 2000). This has greatly accounted for the alarming rate of crimes in the country. Other causes of insecurity in Nigeria among others are, illiteracy, unemployment/joblessness, poor leadership, porous nature of our borders, proliferation of arms, non-compliance with the rules of law. The effects of insecurity are: underdevelopment, poverty, hunger, drug abuse, arm robbery, political thuggery, banditry, militancy, insurgency etc.

The security forces have been unable to subdue the vast array of armed groups. Even with the stepped-up efforts, the available manpower, logistics and equipment are insufficient to respond promptly to armed groups' attacks (Oke and Olawale, 2019). The Nigerian military forces relied on these vigilante groups for 'intelligence gathering, defensive operations, holding territory, and even offensive actions. Many local communities in the region regarded the militias as their main security providers, conflict resolvers and judiciaries (Naija247News, 2021); (Ogunsusi and

Adeleke, 2021). Since all the afore mentioned approached to combating insecurity as yielded little positive results there is need to explore other approach as the ICT capabilities.

2.1 The Benefits and Uses of Information and Communication Technologies

Information and communication technologies boast of wide range of benefits which includes:

i. Easy generation and processing of information
ii. Enhanced speedy utilization or dissemination of information
iii. Simplification of work and reduction in costs in modern business
iv. facilitation of the process of quality decision-making (Ibezimako, 2006)

Nwosu, (2004) further emphasizes, the indispensability of information and communication technologies when he pointed out that they are being used by many government and business organizations as a strategic weapon for gaining competitive advantage, improving productivity, promoting effective and efficient performance, improved method or organizing, controlling, directing, coordinating, planning, communication and new business development.

Information and communication technologies (ICTs) facilitate the creation, storage, management and dissemination of information by electronic means. This includes, radio, television, telephone, fax. Computer and the internet. Four characteristics describe these modern (ICTs) according to Idogho and Ogedeghe (2011)

(i) Interactively: ICTs are effective two-way communication technologies
(ii) Permanent Availability: the new (ICTS) are available 24 hours a day.
(iii) Global Reach: geographical distances hardly matter any more
(iv) Reduced Cost for Many: Relative costs of communication have shrunk to a fraction of previous values.

For effective information gathering and security management (Igbafe, 2011) observed that, government agencies use computer for a wide range of purposes. These include but not limited to accounting, budgeting forecasting, storage of information on birth, death, social welfare, census of population data, voting registers, among others. Today, unprecedented information is being gathered through effective surveillance with the aid of satellite and other technological gadgets.

Surveillance, according to (Hornby 2001) when examined critically, has much in common with investigative reporting, this is because Nwabueze, (2005) pointed out that investigative reporting is master detective work. He noted that investigative reporting can be described as the more aspect of reporting. Effective surveillance can bring out more aspects of an issue the same with investigative reporting. He emphasized the use of specific words in investigative reporting, such as, revealing, uncovering, unearthing.

2.2 Related Works

This research identifies three preventive ICT methods to support the use of ICT to reduce insecurity and terrorism in Osun State, Nigeria. The three methods are; the use of CCTV, access control and detection systems, and GPS tracker.

2.2.1 Deployment of CCTV camera systems

A Close Circuit Television (CCTV) is a situational crime prevention system with some crime prevention capacity. When installed at some strategic places, it can trigger a perceptual mechanism in a potential offender that if he commits a crime, he will be caught. In other words, CCTV can be used to increase the perceived risk of capture. Although, CCTV system is not a

physical barrier, but it can limit access to an area, make an object harder to steal or a person more difficult to assault and rob. Other nations all over the world have embraced the use of CCTV as a surveillance tool to monitor events, people and government installations. For instance, in Kenya's Westgate shopping mall terrorist attack of 21st September 2013 where about 67 deaths were recorded, the CCTV footages were used by the security agents to monitor the attackers. Also, at Charlie Hebdo attack in Paris, France on January 15th 2015 where 11 people feared dead, CCTV footages were used to track down the perpetrators. Similarly, this ICT tool was used to track down the perpetrators of Boston's Marathon Bomb attack which occurred on Boylston Street, USA on April 15th 2013(Adegoke et al, 2015). It is our strong belief that if this technology is properly harnessed here in Nigeria, it will stem the rate of crime and also aid the police in their investigation with the video footage of incidences.

2.2.2 *Deployment of access control and detection system*
Security cannot be efficiently maintained through physical checking in some public places such as worship centers, banks, airports, stadia etc, where influx of people is inevitable, rather, a more robust approach through the use of ICT should be adopted. Access control systems are systems that provide protection by establishing a checkpoint at entry points to a location through which only authorized persons may pass while detection systems look for dangerous objects and agents on persons, their belongings and their vehicles at entry points. In this wise, identity verification devices are used for screening. These devices "authenticate" individuals seeking entry, i.e., they verify that the individuals are indeed authorized by electronically examining credentials or proofs of identity. Example is biometric verification (Adegoke et al, 2015).

2.2.3 *Deployment of GPS trackers*
The Global Positioning System(GPS) is a satellite based navigation system that consists of control, monitor stations and receivers that translate received information from the satellite and uses triangulation to calculate the exact location of any position or object on the earth's surface. The technology can be used by a radio helicopter pilot, police, firefighters and military to determine the coordinates of the position/location of a person, in emergency, anywhere on the earth. The technology also has proven to be very efficient in reducing crime rate in other parts of the world. Boko Haram insurgent group had claimed to be occupying Sambisa forest in Borno State, from where they carry out their attacks. With the use of GPS trackers, exact location of this insurgent group could be determined which will aid successful military operations (Adegoke et al, 2015).

This work therefore explores the diverse and enormous advantages associated with deployment of ICT applications in relation to solving insecurity problems in Osun State. The initiative of this work is to provide possible ICT solution as against the manual physical approached employed by security operatives in the state. This work will also serve as recommendations to government to explore ICT capabilities and tactical surveillance approaches to security management in the state.

3. METHODOLOGY
The aim of this study is to empirically evaluate the effect of insecurity and terrorism menace on the nation's economy and analyze the role of ICT in curbing the menace to the barest minimum in Nigeria. The specific objective is to ascertain how ICT adoption enhances security

in Nigeria. In view of this the following hypothesis was made as H_1 and H_0. Where hypothesis H_1 suggested that: ICT has led to the reduction of insecurity and terrorism in Osun State. Hypothesis H_0 suggested that: ICT has not led to the reduction of insecurity and terrorism in Osun State.

This study adopted a survey approach with a sample population of 200 respondents drawn from Osun state. Categorically, the respondents are literates, private and public workers who are inhabitants of Osun state spread across all the 30 local governments of the state. A sample of 120 is selected as valid response for statistical analysis and hypothesis testing. Statistical techniques adopted include: Descriptive statistics, One-sample t-test statistic, correlation and factor analysis. Statistical packages for the social sciences (SPSS) was used to analyze the data as shown in Figure 1, 2 and 3.
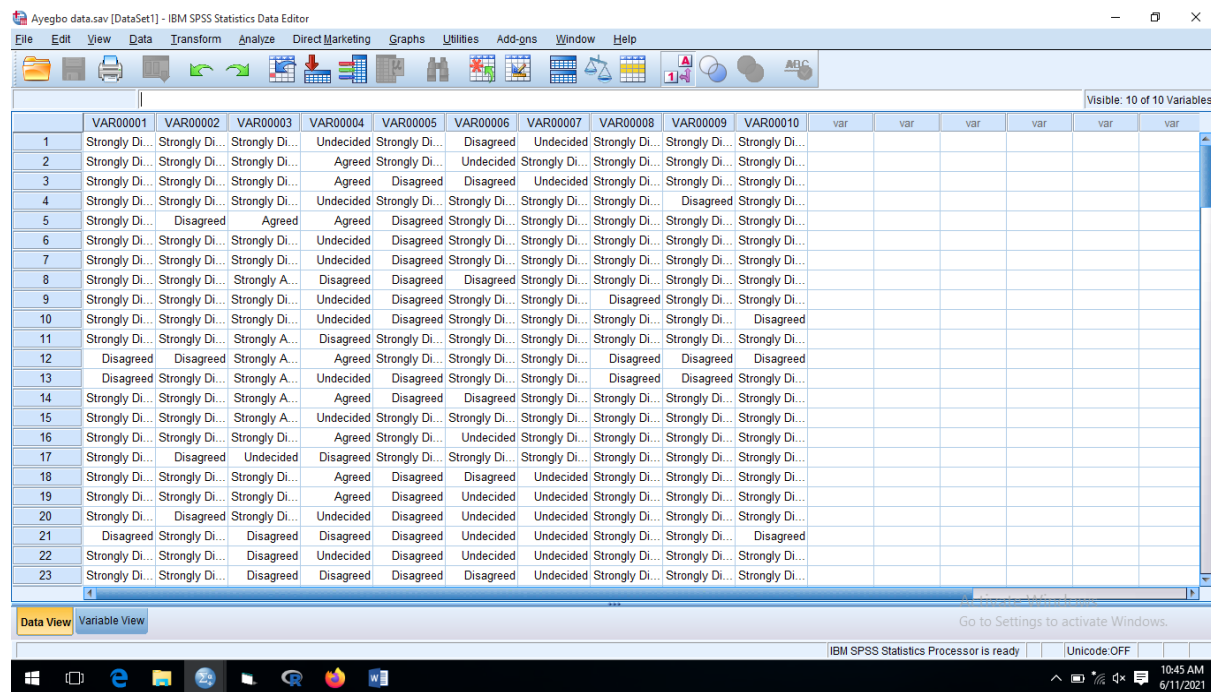

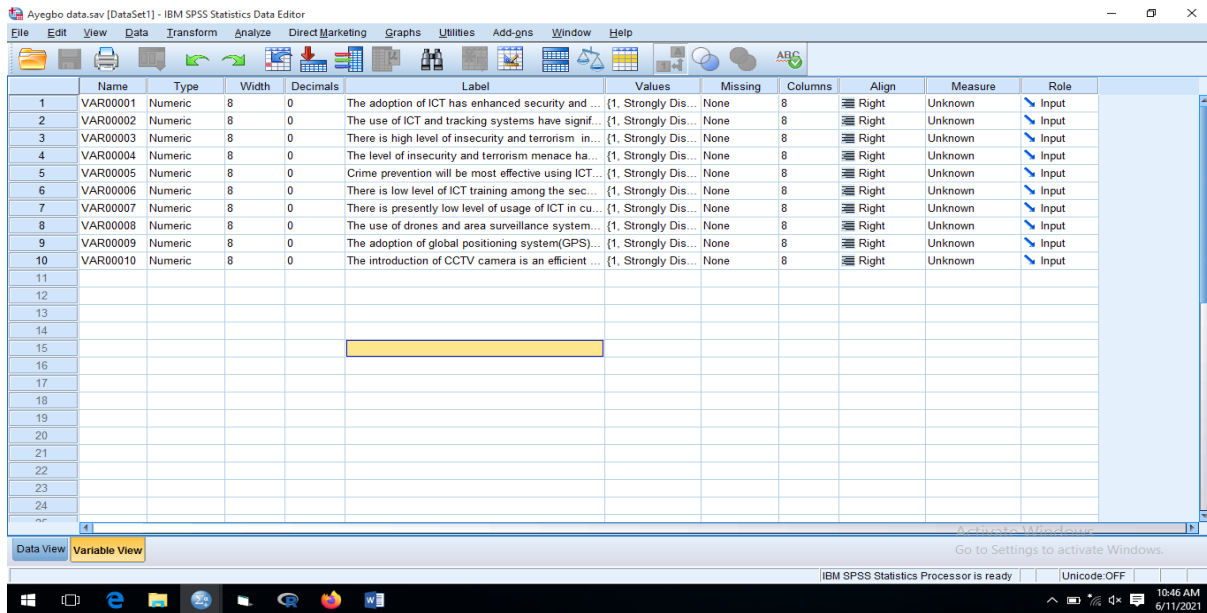Figure 1. SPSS Statistical Data Import from the Questionnaire

Figure 2: SPSS One Sample Test Analysis for ICT Security Methods
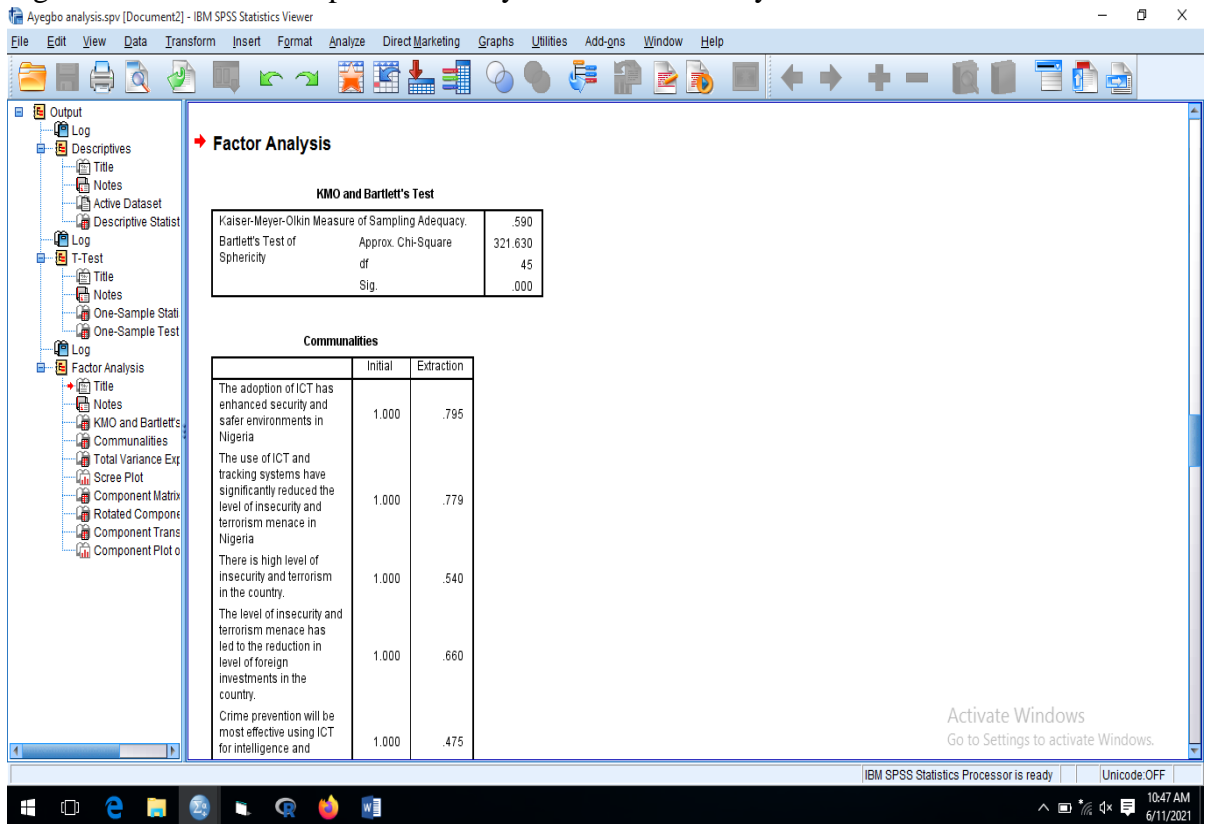

Figure 3: SPSS Factor Analysis of the ICT Security Methods

4.   RESULTS AND DISCUSSIONS

The mean score analysis of the item measures of ICT as panacea for insecurity in Nigeria in Table 1 indicated that respondents in the survey strongly agreed that, level of insecurity and terrorism menace has led to the reduction in level of foreign investments in the country due to low level of usage of ICT in curbing insecurity in the country. That, adoption of global positioning system(GPS) tracker is an efficient initiative by the Federal government at enhancing the level of security in Nigeria and introduction of CCTV camera is an efficient initiative by the Federal government at improving the level of security in Nigeria. Majority of the respondents were of the opinion that. adoption of ICT has enhanced security and safer environments in Nigeria. The use of ICT and tracking systems have significantly reduced the level of insecurity and terrorism menace in Nigeria. Hence, lowering high level of insecurity and terrorism in the country. Crime prevention will be most effective using ICT for intelligence and information gathering. Very worrisome is the degree of low level of ICT training among the security personnel in the country. Finally, the use of drones and area surveillance system by the police are efficient ways of reducing insecurity and terrorism in Nigeria.

Table 1: One sample Test Statistic

Items Measure	N	Mean	Likert	Response	T	Df	Sig.	Sig.<0.05	Remark
The adoption of ICT has enhanced security and safer environments in Nigeria	120	3.48	3	Agree	21.586	119	.000	.000	Sig.
The use of ICT and tracking systems have significantly reduced the level of insecurity and terrorism menace in Nigeria	120	3.40	3	Agree	22.795	119	.000	.000	Sig.
There is high level of insecurity and terrorism in the country.	120	3.18	3	Agree	20.207	119	.000	.000	Sig.

The level of insecurity and terrorism menace has led to the reduction in level of foreign investments in the country.	120	3.84	4	Strongly Agree		31.271	119	.000	.000	Sig.
Crime prevention will be most effective using ICT for intelligence and information gathering.	120	3.45	3	Agree		29.932	119	.000	.000	Sig.
There is low level of ICT training among the security personnel in the country.	120	2.65	3	Agree		23.244	119	.000	.000	Sig.
There is presently low level of usage of ICT in curbing insecurity in the country.	120	3.99	4	Strongly Agree		21.121	119	.000	.000	Sig.
The use of drones and area surveillance system by the police are efficient ways of reducing insecurity	120	3.17	3	Agree		14.369	119	.000	.000	Sig.

and terrorism in Nigeria.									
The adoption of global positioning system(GPS) tracker is an efficient initiative by the Federal government at enhancing the level of security in Nigeria	120	3.74	4	Strongly Agree	19.762	119	.000	.000	Sig.
The introduction of CCTV camera is an efficient initiative by the Federal government at improving the level of security in Nigeria .	120	3.65	4	Strongly Agree	26.482	119	.000	.000	Sig.

Scale: 1-Strongly disagreed, 2-Disagreed, 3-Agreed, 4-Strongly Agreed

In measuring the degree of ICT items correlation to curbing insecurity in Nigeria, the Table 2 revealed that, The use of drones and area surveillance system by the police are efficient ways of reducing insecurity and terrorism in Nigeria ranked 1st followed by The adoption of global positioning system(GPS) tracker is an efficient initiative by the Federal government at enhancing the level of security in Nigeria ranked 2nd , The adoption of ICT has enhanced security and safer environments in Nigeria ranked 3rd and The use of ICT and tracking systems have significantly reduced the level of insecurity and terrorism menace in Niger ranked 5th.

Table 2: Correlation and Ranking Analysis

Items Measure	Correlation	Ranking
The adoption of ICT has enhanced security and safer environments in Nigeria	.795	3rd
The use of ICT and tracking systems have significantly reduced the level of insecurity and terrorism menace in Nigeria	.779	4th
The level of insecurity and terrorism menace has led to the reduction in level of foreign investments in the country.	.540	8th
The high rate of insecurity has led to dwindle economic development in the country.	.660	6th
Crime prevention will be most effective using ICT for intelligence and information gathering.	.475	10th
There is low level of ICT training among the security personnel in the country.	.582	7th
There is presently low level of usage of ICT in curbing insecurity in the country.	.661	5th
The use of drones and area surveillance system by the police are efficient ways of reducing insecurity and terrorism in Nigeria.	.874	1st
The adoption of global positioning system(GPS) tracker is an efficient initiative by the Federal government at enhancing the level of security in Nigeria	.884	2nd
The introduction of CCTV camera is an efficient initiative by the Federal government at improving the level of security in Nigeria.	.523	9th

Test of research hypothesis in Table 3 revealed that ICT has significantly led to the reduction of insecurity and terrorism in Osun State as the probability value of the Bartlet test statistic of KMO of factor analysis is less than 0.05 at 5% level. The Ho is rejected in favour of H1 that there is very strong evidence that the use of ICT can significantly led reduction of insecurity and terrorism in Osun State, Nigeria.

Table 3: Test of Hypothesis

Hypothesis	KMO Approx. Chi-Square	Df	Sig.	Decision P<0.05	Conclusion
H0: ICT has not led to the reduction of insecurity and terrorism in Osun State.	321.630	45	.000	.000<0.05	significant

The findings conformed with the study of (Nwabueze, 2005) in his investigative reporting suggested detective work can be done effectively using ICT tools. For effective information

gathering and security management, Igbafe (2011) indicated that government agencies usage of computer for a wide range of purposes can assisted in a long way curbing insecurity in Nigeria.

5. CONCLUSION AND RECOMMENDATIONS

The work has been able to justify the use of ICT as an effective way to combat insecurity and other social vices. ICT methods and applications if properly deployed will reduce to the barest minimum the insecurity menace militating against Osun state, Nigeria. The government has to pay attention on the adoption of ICT tools which have achieved huge success in most advanced countries. In addition, a robust deployment of the aforementioned ICT tools will go a long way in improving the security situations in Nigeria. This study recommends that other ICT and safety appliances should be studied and evaluated to know the degree of impact they have at reducing insecurity and terrorism. Other scientific methods can also be explored to justify the result revealed in this work.

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