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The Effectiveness and Challenges of CCTV Camera in Crime Prevention and Control in Kano Metropolis, Nigeria

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Article Info

Abstract

The study examines Effectiveness and Challenges of CCTV Camera in Crime Prevention and Control in Kano Metropolis, Nigeria. The high rate of criminality and changing pattern of crime has made it very difficult for people and law enforcement agencies to effectively detect all forms of crime committed in the society, but with aid of Close Circuit Television (CCTV) Camera the high rate of criminality has reduced. The objectives of the study were to examine the effectiveness of electronic surveillance for crime prevention and control in Kano Metropolis Nigeria and to explore the challenges faced by security providers in using electronic surveillance for crime prevention and control in Kano Metropolis Nigeria. Survey method was used for the study. Eight 8 political wards were selected within the eight local governments, that is two wards from each local government, using simple random sampling via simple lottery method. From each ward, availability sampling was used to select twenty (20) respondents both males and females in the establishment where CCTV camera is installed from each of sixteen (16) local Government. A total of 320 questionnaires were administered. In addition to that, in-depth interviews were conducted with seventeen (17) security heads. The finding revealed that CCTV camera is very effective, considering the security personnel used video footage to prosecute before the court. The study recommended that government should enough light in the establishment where CCTV Camera is installed and re-training the police and other private security personnel to operate CCTV Camera.

Keywords: Effectiveness, Challenges, CCTV Camera, Crime Prevention and Control, Kano State Nigeria.

Introduction

The high rate of criminality and changing pattern of crime has made it very difficult for people and law enforcement agencies to effectively detect all forms of crime committed in the society, hence the introduction of electronic surveillance devices such as Close Circuit Television (CCTV camera) to adequately detect and prevent crime more especially in structures like universities, Malls, Banks and Governmental offices. In this contemporary world, the criminal sophistication has of course made it very difficult for a person to detect crime in such infrastructures without the aid of CCTV camera or any other type of electronic surveillance. Security providers are continually seeking new technologies that could be used for enhancing the public safety efforts. Among the latest generation of such public safety tools is the use of public surveillance cameras.

Surveillance can be both public and private. One of the most common forms is video surveillance, otherwise known as Closed Circuit Television or CCTV. Video surveillance is a technology system of surveillance by cameras, which can be set up and used by public authorities on public places for crime prevention and/or crime prosecution. It is a multifunctional technology,

initially used to manage risk in cases of traffic jams, fire, accidents and crime. According to Nieto (1997) the various uses of video surveillance and other visual technology by public and private entities to prevent and discourage crime, including law enforcement practices, the conditions which many warrant public video surveillance, the associated legal and constitutional implications, and whether the technology has been effective in preventing crime. The uses of other new and innovative technologies, such as computerized mapping for crime control and nonmetallic weapon surveillance, show potential for targeting public video surveillance activities. Many institutions, government agencies and social science researchers, CCTV technology are deemed as an efficient and successful tool for reducing crime rates within targeted areas. There have been, and continue to be, countless studies devoted to proving this stance and asserting the claim that CCTV systems are useful and at times the best solution. Such studies suggest that CCTV systems have preventative and reactive measures, secure business places in desolate or poor areas, increase the efficiency of the police force, build social cohesion, protect the private environment of citizens and assure confidence and ensure feelings of safety and security, thus leading to a more ordered and stable society.

Problem Statement

Crimes and criminal activities have infiltrated the nooks and crannies of nations all over the world, bedeviling modern society. As nations develop and their economies grow bigger, social problems also intensify. The common person has to come to terms with the reality that crimes are everywhere and any person can be a victim. The rise in population seems to be proportionate to the increase in crime rate due to competitions over the scarce resources. Many countries of the sub-Saharan Africa have not fully developed the available means to cope with the teeming population and the challenges for ensuring peace and security becomes worse. In Nigeria, knowledge and use of ICTs is still very poor among the general populace. Access to the three components of ICTs (computers, internet and telephones) is still largely limited to the elites and corporate institutions (Ngboawaji, Graham and Michael, 2020).

The increasing rate of crime has necessitated the application of various measures that assist in detection of criminal activities with a view to develop appropriate proactive and reactive measures. Some of the modern ways of detecting crime employed include the use of electronic surveillance device such as CCTV to ensure effective and efficient detection of crime and criminals. Hence, Closed Circuit Television is the most common electronic device used in crime detection which provides easy way of identifying perpetrators of crime. It is evident that the nature and pattern of crime being committed across the globe are easily traced to the aid of electronic device that monitor and record crime in real-time (Abdullahi, 2017).

Again, the high rate of criminality and changing pattern of crime has made it very difficult for people and law enforcement agencies to effectively detect all forms of crime committed in the society. Nigeria at this time must move away from the traditional model of securing its territory and bring in tested technologies that have been successfully deployed in advanced economies (Ngboawaji, Graham and Michael, 2020). Surveillance through the use of CCTV is very common and has become popular in contemporary world. Many societies across the globe, especially the

developed ones employ the use of CCTV in order to monitor individual's activities. The rationale behind using CCTV is beyond crime prevention and control within the society, but also useful in monitoring the territorial border in order to make sure that illegal drugs, arms and contraband goods are not transported in to or outside the country. CCTV is also used in industries and governmental agencies to monitor the activities of employees as well as making sure that criminals are detected and identified upon intruding into the company or governmental agency (Monahan, 2011).

CCTV cameras have become an important aspect in our modern world considering the rise in crime rates in the country today. As far as property crime such as car theft is involved, there has been found many times over a reduced rate when CCTV cameras are being used in the area. It can reduce property theft by deterring those who would otherwise commit these crimes when they see a CCTV there. This type of deterrent can also work well when it comes to shoplifting and vandalism. In fact, it has shown to bring a decrease to both of these violations, (PhilStar News, 2011). Hence, the study focus on the role of electronic surveillance (CCTV camera) in crime prevention and control in Kano metropolis, explore the factors that lead to the installation of electronic surveillance (CCTV Camera) for crime prevention and control, examine the effectiveness and impact as well as the challenges of electronic surveillance CCTV camera in crime prevention and control in Kano metropolis.

This paper answered the following Objectives

1. To examine the effectiveness of electronic surveillance for crime prevention and control in Kano Metropolis Nigeria
2. To explore the challenges faced by security providers in using electronic surveillance for crime prevention and control in Kano Metropolis Nigeria

Conceptualization
CCTV Camera

This is electronic surveillance device that videotape an event in a strategic location and transmits its signal to a limited set of monitors, and also is used in stores as protection against thieves. Close Circuit Television; also known as video surveillance, it is the use of video cameras to transmit a signal to a specific place on a limited set of monitors. It differs from broadcast television in that the signal is not openly transmitted, though it may employ point to point, point to multipoint or mesh wired or wireless links. Though almost all video camera (Vika et.al, 2015).

Surveillance can be both public and private, one of the most common forms is video surveillance, otherwise known as Closed Circuit Television and it is a technology system of surveillance by cameras, which can be set up and used by public authorities on public places for crime prevention and/or crime prosecution. It is a multifunctional technology, initially used to manage risk in cases of traffic jams, fire, accidents and crime (Carli, 2008) [3].

Closed-circuit television (CCTV) surveillance cameras are widely used in policing, but that use is controversial. The United Kingdom (UK) government has described CCTV as essential for detecting offenders (Porter, 2016). Washington, DC, Metropolitan Police Department (2007) argued that it is often helpful to police investigations. On the other side, the campaign group Liberty (2016) argued that extensive use of CCTV poses a threat to our way of life and that general visual

surveillance may well have a chilling effect on free speech and activity (Gill *et.al*, 2015).

Crime

It is an act that is regarded as, offence that merits community condemnation and punishment usually by way of fine or imprisonment. Crime is a changing concept, dependent upon the social development of a people that is upon the fundamental interests and values dominating their common beliefs. The concept of crime involves the idea of a public as opposed to a private wrong with the consequent intervention between the criminal and injured party by an agency representing the community as whole. Crime is thus the intentional commission of an act deemed socially harmful; or dangerous and the reason for making any given act a crime is the public injury that would result from its frequent participation. The society therefore takes steps for its prevention by prescribing specific punishments for each crime (Michel, 1975) [13].

However, the word 'crime' is of origin "Crimean" which means "charge" or "offence". The Waverly Encyclopedia defines it as, "An act forbidden by law and for performing which the perpetrator is liable to punishment". Crime is an immoral and harmful act that is regarded as criminal by public opinion it is an injury to so much of the moral sense as is represented by one or the other of the elementary altruistic sentiments of probity and pity. Moreover, the injury must wound these sentiments not in their superior and finer degrees, but in the average measure in which they are possessed by a community a measure which is indispensable for the application of the individual to society (Garofalo, 1914).

Crime prevention

This refers to any activity by an individual or group, public or private which attempts to eliminate. Crime prevention is the attempt to reduce and deter crime and criminals. It is applied specifically to efforts made by governments to reduce crime, enforce the law, and maintain criminal justice. Crime prevention refers to the range of strategies that are implemented by individuals, communities, businesses, non-government organisations and all levels of government to target the various social and environmental factors that increase the risk of crime, disorder and victimization. Crime prevention and control is strategies and measures that seek to reduce the risk of crimes occurring, and their potential harmful effects on individuals and society, including fear of crime, by intervening to influence their multiple causes (Clarke, 2003) [7].

Now a day criminality is at the top amongst college, university going students and malls Therefore. It is a high time to establish crime prevention centers at University level. It can be devoted to identify the root causes of crime and make earnest efforts for crime prevention through empirical studies and effective policy planning. Therefore, the university research will explain how to use effective electronic surveillance for crime prevention and control (Barthe, 2006) [1]. Crime prevention and control are deferent concept; but philosophy behind both is to reduce the high rate of criminality within society.

Literature Review and Theoretical Framework
Origin of Electronic Surveillance

A Brief History of Audio and Visual Electronic Surveillance David Morton's online resource for the history of recording technology supplies us with a history of the use of electronic communication technology in the surveillance society (Sellin, 1938). He begins by discussing the origins of wiretapping citing the earliest known use of electronic surveillance in the US. The earliest known case of electronic eavesdropping took place under the administration of President Lincoln when both sides involved in the Civil War would tap into each other's telegraph lines and simply copy the messages being communicated. The advent of the telephone made wiretapping somewhat more difficult, as the rate of information flow on the telephone was much faster. For many years, there was no easy way to record telephone calls and law enforcement officials who wanted to listen in had to transcribe conversations by hand. The desire for a telephone recorder for legitimate business purposes was one of the inspirations for Thomas Edison's phonograph. Yet the phonograph was not yet sensitive enough to do the job.

However, video surveillance began with simple closed circuit television monitoring. As early as 1965, there were press reports in the United States suggesting police use of surveillance cameras in public places. In 1969, police cameras were installed in the New York City Municipal Building near City Hall. The practice soon spread to other cities, with closed circuit television (CCTV) systems watched by officers at all times. When videocassette recorders hit the market, video surveillance really hit its stride. Analog technology using taped videocassette recordings meant surveillance could be preserved on tape as evidence. The seventies saw an explosion around the world in the use of video surveillance in everything from law enforcement to traffic control and divorce proceedings. England installed video surveillance systems in four major Underground Train Stations in 1975 and began monitoring traffic flow on major highway arteries about the same time. In the United States, the use of video surveillance wasn't quite as prevalent until the 1980's for public areas, but storeowners and banks quickly understood the value of it. A security industry official contends that, 'years ago shoppers objected to electronic eyes recording their moves; today it's not only accepted, it's preferred.' The insurance industry also found video surveillance compelling in worker's compensation fraud, bogus accident claims and a variety of other cases began to turn in the industry's favor when they could provide tapes of supposedly disabled workers doing the limbo at a family reunion. These new cameras broadened the practical applications of video surveillance by allowing low light and night recording possible (Brandon and Farrington, 2008).

In the 1990's digital multiplexing made great strides in the advancement of practicality in video surveillance. When digital multiplexer units became affordable it revolutionized the surveillance industry by enabling recording on several cameras at once (more than a dozen at time in most cases). Digital multiplex also added features like time lapse and motion only recording, which saved a great deal of wasted videotape. By the mid-1990's, ATM's across the United States and in most parts of the world had video cameras installed to record all transactions.

Effectiveness of CCTV Camera

Existing research in the domain of video surveillance predominantly looks at the impact of security and surveillance schemes on crime rates, and the perception of town security systems by the public (Gill *et.al*, 2015). The technological shift of CCTV from analogue to digital has created many opportunities for a large number of stakeholders, including business owners, council authorities, control room managers, security consultants, installers, and manufacturers. Today, video surveillance is used for a variety of purposes and many users have different goals for their systems. For example, street surveillance today CCTV is typically used for identifying anti-social behaviour, drug-misuse and dealing, missing persons and so on. It is also used for capturing evidence for criminal investigations and presenting CCTV evidence to court for prosecution purposes (Carli, 2008) [3].

Given the controversial nature of CCTV, surprisingly little is known about how it is used and how effective it is in achieving many stated aims. CCTV has several potential applications for public safety, and has been deployed with the intention variously of preventing crime, detecting offences, improving the response to emergencies, assisting in the management of places and reducing public fear of crime (Ratcliffe, 2011). CCTV can also be used for purposes not related to public safety, such as monitoring transport-passenger flows and investigating complaints against facility staff (National Rail CCTV Steering Group, 2010). Of these potential applications, almost all research attention to date has concentrated on the use of CCTV to prevent crime (Honovich 2008) [12]. Early studies by Mayhew *et al.* (1979) and Webb and Laycock (1992) suggested that CCTV was effective at reducing robberies at London Underground stations, although the evaluation methods used had some limitations. Since then, the subject has received substantial research attention with mixed empirical results. For example, several evaluations have found CCTV to be effective at reducing thefts in car parks (Poyner and Webb 1987) [15].

Conversely, others have shown it to have little or no impact on crime in residential areas (Gill and Spriggs 2005) [10]. A systematic review by Welsh and Farrington (2008) of 41 studies concluded that CCTV is effective at preventing some types of crime in some circumstances, but that the evidence suggests it has a more limited impact than its widespread deployment may suggest. In contrast to the extensive literature on the value of CCTV for crime prevention, there is little research on how useful cameras are for other purposes. Ditton and Short (1998) found that in the 2 years after the installation of a CCTV scheme in a Scottish town, the proportion of crimes that were solved by police increased from 50 to 58%, with some offences showing larger increases than others. However, no information was given about whether these changes were statistically significant, and rates were only provided for some types of crime (the primary focus of the study was on crime prevention).

Challenges in using CCTV Camera

There are a lot of challenges in handling CCTV camera, wide variety of operator issues such as training, pay rates, and communication with external agencies. Very little emphasis was placed on how well operators performed tasks in the control rooms. Gill's findings were mainly based on observations, and very few one-to-one interviews with operators, managers and other primary stakeholders were made (Gill *et.al* 2005) [11].

It was found that the technology operators were using were in fact difficult to manage simply because there were so many separate interconnected systems. Some staff in various working places see the technology systems as straightforward, however the use of these systems are thoroughly embedded within the many disparate activities of the personnel. They proposed an integrated systems approach where tasks can be supported by integrating systems and tools (Vigne *et.al* 2015).

With digital CCTV becoming more prevalent and increasingly moving towards the cloud, footage is becoming more easily accessible. CCTV control centers are starting to adapt to the process of streaming and sharing footage, eliminating the need for disks and USB sticks. Currently when investigating officers are handed CCTV footage on a disk or USB stick, they must first attempt to find the file format and can spend hours searching the internet, as well as dedicated forums trying to identify the correct file viewing software. This is hugely inefficient, time consuming and has knock on effects through the entire criminal justice system, but there is opportunity to adapt and enhance it. For many investigating officers collecting digital evidence is just the beginning, often putting all the pieces together can be an even bigger challenge. There is often hours spent physically collecting CCTV footage from public and private systems within the vicinity of a criminal incident. This currently involves police officers acting as glorified couriers driving to CCTV operation rooms to manually download footage onto disks or USB memory sticks, a huge waste of time and valuable resources (Honovich, 2008) [12].

Theoretical Framework

In this part, Routing activity theory was reviewed. The aim is to better explain the issue at hand. Effort is made to triangulate the theory to serve as the theoretical frame of reference for the study.

The Routine Activity Theory

The Routing Activity Theory has contributed to the growing theoretical underpinnings of situational crime prevention. The routine activity approach seeks to explain the supply of criminal opportunities. It began as a consideration only of direct contact predatory violations (Cohen &Felson, 1979) [6]. Its focus is on criminal events rather that inclination. The latter is not denied, but rather the theory takes the supply of offenders as given. Criminal incidents are seen as physical acts in that they relate to objects with a position in time and space.

The routine activity approach identifies three minimal elements for direct contact predatory crime a 'likely offender' is anyone who for any reason might commit a crime. Consideration of how this likelihood might vary across the population or at different times is avoided, as to confront it would raise the taboo subject of criminal motivation. A "suitable target" is an object or person likely to be taken or attacked by the offender. The definition of "capable guardians" is deliberately encompassing in order to extend beyond the conventional focus of much criminology on the criminal justice system and its agents.

For the Routine Activity Theory, the capable guardians against crime are not only law enforcement agencies, but rather neighbors, friends, bystanders and electronic surveillance (CCTV camera), as the case example of some

malls and institution in Kano. They are seen to be a particularly crime stimulating environment in that its 'routine activities' bring together motivated offenders, vulnerable targets and inadequate surveillance, like electronic surveillance (CCTV camera). While it assumes both an unproblematic ally and unquestioningly the existence of 'motivated offenders', Routine Activity is a casual theory in that it links changes in routine activities to changes in crime rates.

Felson (1995) had developed notions of "guardians", who can discourage crime from occurring at specific times and places even by their simple presence. He identifies three types of guardians or supervisors, including those who supervise potential offenders (termed 'handlers') and those who monitor place (referred to as 'managers'). Clarke (1993) differentiates between varying levels of responsibility for crime prevention, Felson (1986) suggests 'four steps of crime discouragement' relating to different levels of responsibility: personal, assigned, diffuse and general.

Personal discouragement is the responsibility of family and friends, assigned discouragement is the responsibility of those employed to do so, such as a Police officer; diffuse discouragement is the responsibility of those employed but not assigned that specific task, such as school teachers, and general discouragement is the responsibility of unpaid persons lacking a personal tie or designated occupational task, such as strangers and other citizens. Responsibility, Felson (1995) suggests, is an ordinal variable, which decreases as one move along a continuum from personal to general types.

The Routine Activity Theory is part of a broader convergence of ideas around the spatial and situational attributes of crimes and a number of commentators have sought to develop links between routine activities and Clarke's rational choice theory (Clarke 1980). This has caused considerable preventive attention to be focused on the relationship between places their design, environment and architecture and crimes. It has caused commentators to ponder why certain places experience particularly high levels of criminal incidents and whether there is something about given places which attract crime.

What is notable about the Routine Activity is that they set out from the premise that crime is a usual and normal aspect of modern life. In contrast to earlier criminology, crime is understood as series of events, which requires no particular motivation or pathology, but rather is seen as inscribed within the routine of contemporary social existence. This theory represent what Garland (1996) called "the new criminologists of everyday life" for which crime is seen as a risk to be calculated and hence avoided or managed, rather than a moral abnormality in need of explanation.

Strengths of Routine Activity Theory
By adopting routine activity theory, crime can be reduced to the interaction of three vital elements- a likely offender, a suitable target, and the absence of a capable guardian against the offense. The ways in which these elements are made to coincide in time and space are a function of our social arrangements and everyday routines. This strategy has been mainly measured in the area of hot-spot policing, which is the use of proactive policing tactics and general police saturation to reduce crime to the minimal level in urban areas (Degarmo, 2011) [8].

The routine activities approach has become a stock ingredient in many popular theoretical integrations and the explanatory power of routine activities theory has been extended beyond predatory crimes to other types of illicit activities such as juvenile delinquency, fights, and various forms of vice (Brunet, 2002) [2]. Routine activities approach holds some interesting opportunities for crime prevention and control and can help guide strategies for crime control and resource deployment.

Furthermore, routing Activity Theory provide important insights for understanding the electronic surveillance (CCTV camera) in fighting crime. According to the routing activities theory capable guardian can prevent crime from taking place or deter the criminal and at the same time can make the target very difficult to access. The electronics surveillance (CCTV camera) became an obstruction to the motivated or likely offenders. The offender may be discouraged from the target because of the afraid of the consequences that may follow after he was caught because he has being seen and recorded by electronic surveillance (CCTV camera). The offender can measure between the reward if succeeded from accessing the target and the punishment, if he is arrested by law enforcement because he has being watched by electronic surveillance CCTV camera (capable guidance), since electronic surveillance (CCTV camera) serve as watch dogs of daily activities in the environment.

Weakness of Routine Activity Theory
The Routine Activity Theory was criticized on the grounds that it looks at crime from an offenders' point of view, whereby emphasis was placed that crime will only be committed if a likely offender thinks that a target is a suitable and a capable guardian is absent. It is their assessment of a situation that determines whether a crime will take place.

The theory assumes the presence of motivated offenders; many researchers discuss how motivations vary across offenders (Clarke and Cornish 1985) [5]. Others argue that routine activities theory fails to properly address the role of criminal opportunity contexts that is the circumstances in which motivated offenders and suitable targets converge in the absence of capable guardians (Wilcox, Land and Hunt 2003).

Also, Brunet (2002) [2] depicts the weaknesses of RAT on several criticisms: The first criticism centers on the issue of crime displacement. This is an enduring criticism of routine activities theory. Some argue that the discouragement of a criminal event today does nothing to reduce the likelihood that a similar crime will be committed by the offender at another time and place. As the argument goes, guardianship simply moves crime from one area to another area. Second, routine activities theory tends to ignore the research literature that associates crime with offender characteristics (social learning, psychological, identity, self-esteem). Third, there is a heated debate within the routine activities camp over the proper conceptualization of the theory as a micro or macro approach to crime. Fourth, most studies which test the theory is post hoc and descriptive. At this stage in its development, the theory is limited in its predictive capacity.

The presence of a likely offender is the last condition for crime and completes the crime triangle. So far, a crime occurs when a likely offender finds a suitable target in the absence of a capable guardian like electronic surveillance (CCTV

camera). Therefore, if any one element is taken away a crime cannot be committed. Moreover, the routine activity approach as inapplicable to domestic violence, which occurs mostly (although not entirely) at home. Indeed, the common exaggeration that most violence is at home seems to threaten routine activity thinking or at least leads to the assertion that its applicability is limited.

Methodology
Sample Size
The sample size comprises of males and female between the ages of eighteen and above especially civil servants, retired civil servants, intellectuals (crime scientists), community leaders, Opinion leaders, traditional leaders who visit or work in the establishment in Kano metropolis.

Although, depending on the number of customers who visit and those that work with the establishment, 320 respondents were selected for the study. This consists of males and females customers or workers within the study area. Hence, the sample size was divided into two (2) parts, based on the nature of the instruments used in collecting data i.e. quantitative (questionnaire) and qualitative (in-depth interviews).

Details of the sample size are as follows:
1. For the survey, using School of Post-Graduate guidelines, a total of three hundred and twenty (320) respondents were drawn from the population where questionnaire was administered to collect information.
2. With regard to the in-depth interview, seventeen (17) In-depth Interviews were conducted with Head of security in the establishment. This brings the entire sample size to three-hundred and thirty-seven (337).

Sampling Technique
This study will adopt multistage cluster sampling technique to arrive at the sample size of three hundred and twenty (320) respondents. In multistage sampling technique, the final unit of the population studied is obtained after sampling at several stages. The following are the stages that could be used in the sample size of this study.

Stage One: At stage one cluster sample technique will be used in eight clusters (local governments) as follows: Dala, Fagge, Gwale, Kano Municipal, Kumbotso, Nasarawa, Tarauni and Ungogo.

Stage two: At stage two, another cluster sample technique will be used as sub-clusters (political wards). According to INEC's record of political wards, the composition of political wards in each of the eight local governments is as follows:
1. **Dala:** Adakawa, BakinRuwa, Dala, DogonNama. Gobirawa, Gwammaja, Kabuwara, Kantudu, kofarMazugal, KofarRuwa, Madigawa and Yalwa.
2. **Fagge:** Fagge A, Fagge B, Fagge C, Fagge D, Fagge E, Kwachiri, RijiyarLemo, SabonGari East, SabonGari West and Yammata.
3. **Gwale:** Dandago, Diso, Dorayi, Galadanchi, Kabuwara, Kantudu, KofanMazugawa, KofanRuwa, Madigawa and Yalwa.
4. **Kano Municipal:** Sheshe, Chedi, Danagundi, GandunAlbasa, Jakara, Kankarofi, Shahuchi, Sharada, Tudunnufawa, Tudunwazirchi, Yakasai, Zaitawa, Zango and Dan'agungi.

5. **Kumbotso:** Challawa, Chiranci, Dambare, Danmaliki, Guringawa, Kumbotso, KurekenSani, Mariri, Naibawa, Panshekara, Unguwarrimi and Na'ibawa.
6. **Nassarawa:** TudunMurtala, Kawaji, Gama, Dakata, Giginyo, Hotoro North, Hotoro South, KauraGoje, Nasarawa, Loko, Udege,
7. **Tarauni:** BabbanGiji, Darmanawa, Daurawa, Gyadi-GyadiArewa, Gyadi-Gyadi Kudu, Hotoro (NNPC), KauyenAlu, Tarauni, UngurwarGana, and UnguwaUku.
8. **Ungogo**: Bachirawa, Gayawa, Kadawa, Panisau, Rangaza, RijiyarZaki, Tudun Fulani,

Stage Three: At stage three, the respondents will have equal chances of selection, because simple random technique will be used to select two (2) political wards from each of the sub clusters (political wards) in stage two. The political wards will be selected; all the wards will have the equal chance to be selected.

Stage Four: At this stage, availability sample technique will be used to select twenty (20) respondents in establishments where CCTV camera is installed from each of the sixteen (16) political wards. The multistage sampling technique has been chosen because it allows researchers to use multiple sampling techniques in arriving at samples size. It is also suitable for large geographical areas like Kano Metropolitan covering about 499 square kilometers and having diverse population.

Instrument of Data Collection
The instrument for data collection includes a structured questionnaire and In-depth Interview guides. Both open and close-ended questionnaire was used which allowed the respondents to pick from the predetermined options and also allowed the respondents to freely express their opinions without restrictions.

Methods of Data Collection
The data were collected from primary and secondary sources. The primary data were collected through the questionnaires and In-depth Interviews (IDIs). The secondary data were generated from textbooks, journals, newspapers, magazines, etc. The interviews were conducted by the researcher with the help of 3 research assistance. A Tape recorder was used and notes were taken during the interviews. The data were the analysis using SPSS vision 4.1.

Methods of Data Analysis
The quantitative data generated was processed with the Social Package for Social Sciences (SPSS) vision 4.9. Both descriptive and inferential statistics were used during the analysis; and presented in the form of tables, frequencies and percentages. Correlation of relevance table was used as well. The qualitative data generated were translated and transcribed and used to compliment the quantitative data.

Results
This is concerned with the presentation and analysis of data collected from the field work.

The Effectiveness of Electronic Surveillance for Crime Prevention and Control
This section presents data on the effectiveness of electronic surveillance for crime prevention and control. This begins

with the analysis of the assessment of the effectiveness CCVT camera, ways its assist in crime prevention and control and handling responsibility of CCTV camera in crime prevention and control in the study area, as confirmed by the table below.

Table 1: Assessment of Effectiveness of Close Circuit Television

Effectiveness of Close Circuit Television	Frequency	Percentage
Very effective	200	64.5
Effective	103	33.2
Ineffective	7	2.3
Total	**310**	**100.0**

The table above shows that 64.5% of the respondents say that CCTV camera is very effective, while 33.2% of the respondents say CCTV camera is effective, while 2.3% of the respondents say CCTV Camera is ineffective. This clearly indicates that majority of the respondents believe that CCTV Camera is very effective. This is in line with an interview with security personnel on the effectiveness of CCTV camera in crime prevention and control, he stated that:

CCTV camera is very effective considering the security personnel used video footage to prosecute before the court. And it can be used by relevant security organizations to track evidence and provide emergency response and determined mitigation priorities on crime prevention and control (IDI with Security Personnel in Albabelo Store, 2023).

Table 2: Ways does CCTV Camera assist security personnel

Ways does CCTV Camera Assist Security Personnel	Yes (%)	No (%)	Total (100.0)
Crime Prosecution	232 (74.8)	78 (25.2)	310 (100.0)
Arresting the suspect	284 (91.6)	26 (8.4)	310 (100.0)
Providing video footage	219 (70.6)	91 (29.4)	310 (100.0)

On the ways CCTV Camera assist in crime prevention and control in the establishment, 74.8% of the respondents stated that, CCTV camera assist security personnel through crime prosecution; and 91.6% posited that CCTV camera assist the security personnel in arresting suspect while 70.6% of the respondent opined that CCTV camera assist security personnel in providing video footage. Thus, it is clear that majority of the respondents claim that CCTV Camera has an important role to play in crime prevention and control which assist security personnel through crime prosecution, arresting suspect and provide video footage.

Security fully handle CCTV camera

Security fully handle CCTV Camera	Frequency	Percentage
Yes	267	86.1
No	43	13.9
Total	310	100.0

The table above shows that, majority of the respondents (86.1%) believed that security fully handle CCTV Camera, while the remaining with 31.9% did not believe that security fully handle CCTV Camera. Therefore, this implies that majority of the respondents believe that security personnel handle CCTV Camera.

The Challenges Faced by Security Providers in Using Electronic Surveillance for Crime Prevention and Control
On the issue of the problems of electronic surveillance (CCTV Camera) in crime prevention and control, the table below shows the problems and how it affects the work of security personnel in crime prevention and control, and how to improving the quality of crime prevention and control using electronic surveillance as well as method to adopt in solving the problems in the study areas.

Challenges in handling CCTV Camera
The table above shows that, majority of the respondents (71.6%) indicate there are challenges in handling CCTV Camera, while the remaining with (28.4%) says no. Therefore, this implies that majority of the respondents indicates that there are challenges in handling CCTV Camera. This is in line with an interview with security personnel on challenge face by security personnel in using CCTV camera, he narrated that lack of electricity to capture everything at the right time, and it can be hacked and inadequate knowledge to operate CCTV Camera.

Table 3: Respondents' views on Security Officers Professionalism

Responses	Frequency	Percentage (%)
Yes	127	41.0
No	183	59.0
Total	310	100.0

Table 4.21 above shows that 41.0% of the respondents are of the opinion that officers are professional enough to curtail the problems of crime using advance technology such as CCTV Camera, but to 59.0% said they are not. Base on the majority, its indicates that the security officers within the establishment are not vibrant and professional enough for public security in the study.

Table 4: The Problem of CCTV Camera in Crime Prevention and Control

Responses	Yes (%)	No (%)	Total (100.0)
Poor communication with external security agencies	276 (89.0)	34 (11.0)	310 (100.0)
Privacy and consent issue	203 (65.5)	107 (34.5)	310 (100.0)
Insufficient funding	214 (69.0)	96 (31.0)	310 (100.0)
Lack of trained security personnel	195 (63.0)	115 (37.0)	310 (100.0)
Problem of electricity	231 (74.5)	79 (25.5)	310 (100.0)
All of the above	217 (70.0)	93 (30.0)	310 (100.0)

On the issue of CCTV Camera problem in crime prevention and control, 89.0% of the respondents stated that, the main problem of CCTVV Camera is poor communication with external security agencies; and 65.5% said that the problem of CCTV Camera is connected to privacy and consent issue. Whereas 69.0% stated that, the main problem of CCTV Camera in crime prevention and control is insufficient funding; and 63.0% said that lack of training of security personnel was main problem of CCTV Camera in crime prevention and control. While problem of electricity with 74.5% of the respondents. Also, 70.0% were of the view that, the main problem of CCTV Camera is multiple, ranging from is poor communication with external security agencies, privacy and consent issue, insufficient funding, that lack of training of security personnel and so on. Thus, clearly indicated that, the problem of CCTV Camera in crime prevention and control are multifaceted and multidimensional, factors that are attributed to the problem were poor knowledge, dearth of security analysts, lack of computerize training insufficient funding, poor communication with the external security agencies, problem of electricity and others. Again, in an In-Depth interview the Head of Shoprite Security narrated that, security personnel are less concerned with the issue of advance technology in crime prevention and control, training and staff development to the extent that security personnel see going for advance technology training courses to enhance their performance and productivity as a form of threat and punishment.

Findings of the study
The Effectiveness of Electronic Surveillance for Crime Prevention and Control
The finding of the study reveals that CCTV camera is very effective in crime prevention and control. It is very effective considering the security personnel used video footage to prosecute before the court, and can be used by relevant security organizations to track evidence and provide emergency response and determined mitigation priorities on crime prevention and control. Furthermore, the study shows security personnel handle CCTV Camera and assist security personnel through crime prosecution, arresting suspect and provide video footage in crime prevention and control.

The Challenges Faced by Security Providers in Using Electronic Surveillance for Crime Prevention and Control
Some problems were found to be hindering the effectiveness of CCTV camera in the study area. Accordingly, the study reveals that there are challenges in handling CCTV Camera. Lack of electricity to capture everything at the right time, and it can be hacked and inadequate knowledge to operate CCTV

Camera coupled with lack of professionalism for public security in the study.
Moreover, the study reveals that the problem of CCTV Camera were multiple, ranging from is poor communication with external security agencies, privacy and consent issue, insufficient funding, that lack of training of security personnel and so many others. Thus clearly showed that, the problem of CCTV Camera in crime prevention and control are multifaceted and multidimensional, factors that are attributed to the problem were poor knowledge, dearth of security analysts, lack of computerize training, insufficient funding, poor communication with the external security agencies, problem of electricity and others. Again, security personnel are less concerned with the issue of advance technology in crime prevention and control, training and staff development to the extent that security personnel see going for advance technology training courses to enhance their performance and productivity as a form of threat and punishment and those problems have affected the day-to-day activities of the establishment.

Summary Conclusion and Recommendations
Introduction
This chapter summarizes the study, emphasizing the main objectives, the research questions and the methodology adopted the major findings and later the conclusion. Effort is made in the end to offer some recommendations for future research and further proffer suggestions for improvement.

Summary
The study assessed the importance of electronic surveillance (CCTV camera) in fighting criminality in Kano Metropolis, Kano state. It provides a detailed background importance of electronic surveillance (CCTV camera) in fighting criminality in Nigeria. Using survey method, a sample of three hundred and ten respondents was drawn as the total population sample for the study. Out of this number, three hundred of the respondents were from public, while ten were security personnel. Both descriptive and inferential statistics were used during analysis; frequencies and percentages were used. Also, qualitative and quantitative methods were used in the data collection; a structured questionnaire was administered; key informant interview was conducted with security personnel. The data were collected through these methods with the help of four trained research assistants in the study area. The qualitative data was used to complement the quantitative and vice versa. The findings reveal the following:
1. The finding reveals that CCTV camera is very effective in crime prevention and control. It is very effective,

considering the security personnel used video footage to prosecute before the court, and can be used by relevant security organizations to track evidence and provide emergency response and determined mitigation priorities on crime prevention and control. Furthermore, the study shows security personnel handle CCTV Camera and assist security personnel through crime prosecution, arresting suspect and provide video footage in crime prevention and control.

2. Some problems were found to be hindering the effectiveness of CCTV camera in the study area. The study reveals that the problem of CCTV Camera were multiple, ranging from is poor communication with external security agencies, privacy and consent issue, insufficient funding, that lack of training of security personnel and so many others. lack of electricity to capture everything at the right time, and it can be hacked and inadequate knowledge to operate CCTV Camera coupled with lack of professionalism for public security in the study.

Conclusion
Based on the findings of the study, the following conclusions were drawn:

1. CCTV camera is very effective in crime prevention and control. It is very effective, considering the security personnel used video footage to prosecute before the court, and can be used by relevant security organizations to track evidence and provide emergency response and determined mitigation priorities on crime prevention and control. Furthermore, CCTV Camera assist security personnel through crime prosecution, arresting suspect and provide video footage in crime prevention and control.

2. Security personnel whether private or public security are not too keen on training their personnel for efficiency in crime prevention and control. Most of the security personnel employed, hardly know electronic surveillance and how its operate. With limited training, it is unlikely that they will realize the full potential of electronic surveillance, which has negative impact on the public through arresting wrong suspect and offender run away from CCTV. The problem of CCTV are multiple, ranging from is poor communication with external security agencies, privacy and consent issue, insufficient funding, that lack of training of security personnel and so many others. Lack of electricity to capture everything at the right time, and it can be hacked and inadequate knowledge to operate CCTV Camera coupled with lack of professionalism for public security in the study.

Recommendations for further study
Considering the findings, the following recommendations for further research were made:

1. There is the need for further research on the role of Advance Technology (such as Drone, Geographical Information System, smart cruisers, Automated license plate number recognition, Artificial Intelligence, CCTV, GPS, Remote Sensing) in crime management in Kano state, with a view to reevaluate and improve the work of police, and to address the areas that require improvement.

2. There is the need for research on the role of CCTV in crime prevention and control in the neighboring states like Jigawa, Kaduna and Katsina in order to assist in tackling the problems of crime in the states.

Policy Recommendations
Considering the data and the findings, the following recommendations for policy were made:

1. The federal government should create CCTV sections in all the police divisions and procure all the needed tools.

2. Adequate resources such as enough budgetary allocation, personnel recruitment (computer scientist) and re-training should be given priority by the federal government for the police to perform better in ensuring safety of lives and properties.

3. The police need to employ more Geographical Information System professionals into the force to enhance easy training and transition from traditional method of crime management to the modern.

4. The federal government should fund police ICT so that it can be of greater help tools in monitoring crime and crime suspect within their jurisdiction.

5. The community should be encourages in supporting police on security issues as to disseminate information to the security forces.

6. The study suggested that an effective physical planning and proper socialization processes will seek to minimized or end this problem.

7. It is also recommended that there should be improvement in lightning within the neighborhoods which will go a long way to abate crime.

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