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The Challenges and Prospects of ICTs in Crime Prevention and Management in Nigeria: A Review of CCTV Cameras in Abuja

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Abstract

Contemporary Nigeria has witnessed monumental rise in crime wave and in the quest to stem the tide, government has adopted various security policies to secure the lives and property of its citizens in the past, but none of these policies have actually yielded positive results. Human abduction, armed robbery, terrorism, bomb attacks and lots more have been the order of the day in the Country. The study seeks to ascertain the impact of closed circuit television (CCTV) cameras in Abuja metropolis. Six research questions and two hypotheses were formulated to guide the study, related literatures were adequately reviewed. A population of size of 900 was selected out of which a sample size of 300 respondents, which cut across all walks of life, participated in the study. Structured questionnaire was designed and used as instrument for data collection. Data collected were analyzed using direct interpretation of results gotten from respondents. Findings of the research revealed significant relationship between closed circuit television cameras and theory of deterrence, criminal justice, fear of crime, legality, policy formation and regulation of closed circuit television (CCTV). The development of software that can be integrated with the CCTV to display a person's bio-data on the monitor when captured by the CCTV camera is among other recommendations for further research study.

Keyword: Abuja; Crime Management; Crime Theories Development; ICT; CTTV Camera

INTRODUCTION

Information and Communication Technologies (ICTs) are arguably the most rapidly growing sector in the world. The development in this sector permeates every facet of human activity; social, economic, cultural, religious, and political or health-care (Idowu P. Comford D, 2008). The huge networking possibilities and encompassing nature offered by ICTs have also significantly transformed the security sector, particularly by dispersing security and intelligence information with comparative ease, bringing surveillance to sensitive areas as well as making possible access to the remotest parts of the world. The ICTs usually used for surveillance is the Closed Circuit

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Television (CCTV).

ICTs have been gradually adopted to address security challenges in developed and developing countries. For instance, they can assist security agencies in achieving more efficiency and effectiveness in their operations. One of those areas that ICT has played a significant role is the domain of surveillance. Surveillance is a "deliberate system of keeping a close watch on behaviors or activities of persons, groups, institutions and organizations suspected of doing something illegal or warehousing information capable of causing breach by government's security agencies".

It has been generally accepted that CCTV use and ownership has continued to multiply with more effects on security and safety. Local areas continue to have access to this aspect of technology for crime reduction. Most public space CCTV is now owned, monitored and managed by local authorities, many of whom have procured different systems at different times and with a range of different specifications, leading to a mix of schemes across the countries. Although the Government has invested heavily in public space CCTV schemes, so too have local authorities and local partnerships. Local authorities also continue to carry much of the burden for the ongoing costs of running and maintaining their schemes.

In many industrialized countries of the world, there is a huge investment of resource into ICTs in security as a commitment to providing the most efficient and effective security services to their teaming population. According to the population figures of US census, 2001, world population now exceeds six billion. The rise in population seems to be proportionate to the increase in crime rate due to competitions over the scarce available 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 the US and other developed nations, knowledge and utilization of ICTs to ensure security and safety is very high. Charles R. Swanson listed a number of telecommunication devices and equipment for crime scene documentation used in control and investigation of crimes, particularly in developed nations (Swanson, 2003). Many image-capturing devices have been developed in tracking criminals. This has helped in reducing cost and burden of using human beings as security dogwatch and has promoted speed and accuracy of information about criminal offenders.

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 (Idowu P. Comford D, 2008). According to this source, as observed in previous studies, telephony is the most developed and most accessible component of ICTs among the general population in Nigeria. Even then, many public institutions lack effective internal and external telephone inter-connectivity within and with the outside community respectively.

CCTV is perhaps, among the many products of ICTs considered for creating significant change on the rate of crime and safety, especially in the cities. The evolution of CCTV cameras has also elaborated its functions. There are various stages through which ICT development evolved.

According to Gill, CCTV Cameras was invented by the Germans in 1942 (Gill, 2015). Back then, the surveillance cameras were used to monitor the taking off of rockets and missiles in Germany, which was primarily a military activity. The use of the devices grew steadily and become important to scientists and engineers who could use such devices for different research purpose. It was not until in 1949 that CCTV camera were commercialized and made available to use in America.

The dawn of CCTV cameras in the United Kingdom (UK) began in 1952

during the coronation of the Queen, a prestigious event and one that put a great mark in the history of Britain. By 1960s, Metropolitan Police (London) began to use CCTV devices as tools for observing people during rallies or events, where Prime Minister (PM) or any member of the royal family (RM) would appear. It was also during this time when video cameras were installed permanently in a number of streets in London and several more countries in England started experimenting with installation of surveillance devices at city centers. Even the British railways realized the advantage of putting cameras after a part of the tracks was vandalized. At present, there are over 2.5 million security cameras in United Kingdom in order to prevent and detect the occurrence of crime (Gill & Springs, 2005).

National security threat has been a major issue for the government of Nigeria in recent years. Recently, Nigeria has been characterized with different turmoil ranging from human abduction, political mayhem, terrorism and bomb attacks. Governments have tried several methods in order to curb these menaces but all of them have been proved abortive. Due to this, the government has resolved to adopt the use of computer based CCTV cameras in public places to monitor and record events that takes place in a particular location. CCTV cameras are used to monitor and record images of what takes place in specific locations in real time.

The images collected are sent to a monitor and recorded on video tape or as digital information. The cameras can be fixed or set to scan an area or they can be operated by controllers. Monitors can be watched by controllers or left unmonitored. The recorded information can be stored and/or reviewed by those who have accessed to the Information Technology for People-Centred Development (ITePED) recordings at their convenience. As the number of systems is believed to increase in the future, so also is their technological sophistication.

But little is known about public opinion towards CCTV and acceptability of the tool in public places. Evidence shows that when cameras are first installed there is likely to be an initial deterrent effect. This though will be short lived, unless the public can see that the scheme is being well managed, the cameras are recording, with good quality images, and any incident caught on camera will be followed up by the police or other appropriate authority. As an example, the Federal Bureau of Investigation (FBI), the investigative arm of the US Department of Justice, has been roped in to assist the police in enhancing the blurred image of the suspect recorded on CCTV carrying the sports bag in which Nurin's body was found.

Unfortunately, after FBI assistance, the image still cannot help the investigation due to the quality of CCTV system that had been fixed at the crime scene. In other words, we should have the best CCTV system which would be operated by the best organisation. Despite the action to spend money for CCTV installation, one can still have to find the solution for a secure framework in implementing CCTV system. Definitely, besides considering the cost, we also need to look into the best operational requirements and mechanism to run the system. By referring to best example for Nurins's case, to get the most out of CCTV in terms of detection, we will need to ensure the following factors: The cameras are active and the recording medium is recording, whether on tape or hard disk; the images meet the standards required by the objectives, if the images are to be used as evidence in legal proceedings then they have to be of acceptable quality; the cameras have to be focused on the incident concerned. So if we are protecting a specific entrance or boundary, the camera can be static and not monitored, to record someone in its field of vision. The problem though is that an incident cannot be detected or recorded if it occurs out of the camera range. Be that as it may, CCTV plays a significant role in protecting the public and assisting the police in the

investigation of crime. The UK is one of the most watched countries in the world.

CCTV was first utilized by the United States Military in the 1940s. Closed circuit cameras were set up during the testing of the V2 missile in order to safely monitor the tests. By using CCTV, officials were able to monitor the testing at close range without danger, watching out for defects and other problems that might have otherwise gone undetected. In the 1960s, officials in the UK began installing CCTV systems in public places to monitor crowds during rallies and appearances of public figures. Installation of cameras became more popular, both in public spaces and retail stores, as the technology developed. Today in Britain, CCTV cameras monitor roads, sidewalks and squares in city centers, public rail stations and buses, as well as in retail shops and other businesses. In 1996, government spending on CCTV technology accounted for three quarters of the crime prevention budget in the UK. In the United States, the first CCTV system set up in a public building was in 1969 in the New York City Municipal building. This practice quickly spread to other cities and was soon widely implemented. Unlike the UK, CCTV in public spaces in the United States is rarely used. However, in the 1970s and 80s, CCTV use became more common in establishments prone to security threats, like banks, convenience stores, and gas stations.

Security cameras were installed in the World Trade Center as a preventative after the terrorist attack in 1993. By the mid-90s, ATMs across the country were commonly equipped with CCTV cameras, and many retail stores used CCTV to prevent theft. In America, New York also started to install circuit television in their street around this time. Since then, countries across Europe and America began to employ this equipment in different places and for various purposes.

Close circuit television devices can be seen at present in many shops, stadiums, transportation stations, banks, markets, homes, offices, roads, etc across Nigeria. Apart from preventing security acts, they are meant to improve safety. Many people and organizations around the FCT have also taken advantage of CCTV kit and employed its use for various purposes a development which was absent and uncommon for many decades in the past.

A NACRO report has summarised some of the assumptions behind the use of CCTV for crime prevention purposes:

1. Deterrence: The potential offender becomes aware of the presence of CCTV, assesses the risks of offending in this location to outweigh the benefits and chooses either not to offend or to offend elsewhere.
2. Efficient deployment: CCTV cameras allow those monitoring the scene to determine whether police assistance is required. This ensures that police resources are called upon only when necessary.
3. Self-discipline -by potential victims: They are reminded of the 'risk' of crime, therefore altering their behaviour accordingly by potential offenders the threat of potential surveillance (whether the cameras are actually being monitored may be irrelevant) acts to produce a self-discipline in which individuals police their own behavior the CCTV camera may produce a self-discipline through fear of surveillance, whether real or imagined.
4. Presence of a capable guardian: The 'Routine Activity Theory' suggests that for a crime to be committed there must be a motivated offender, a suitable target and the absence of a capable guardian. Any act that prevents the convergence of these elements will reduce the likelihood of a crime taking place CCTV, as a capable guardian, may help to reduce crime.
5. Detection: CCTV cameras capture images of offences taking place. In some cases this may lead to punishment and the removal of the offenders' ability to offend

(either due to incarceration, or increased monitoring and supervision (Gill & Springs, 2005)

In another dimension, Automated Teller Machines (ATM) were also installed with monitoring equipment to prevent theft and other crimes as people use the machines. Banks across countries become major beneficiaries of this system of CCTV. The government of different countries saw the importance of these devices and allocated budget for the installation and maintenance of these systems on a large scale, forming an important part of their crime prevention efforts.

This development in Nigeria was evidenced by the Goodluck Ebele Jonathan administration, which saw the release of huge funds for the installation of CCTV cameras in Nigeria particularly within the Lagos and Abuja metropolis. In Nigeria, particularly in the Federal Capital Territory and its environs, countless people and organizations, both private and public, have enjoyed the advantages of having CCTV cameras system. It has been used in and outside of homes and offices for purposes that range from capturing thieves to catching an unfaithful wife or husband. Business owners use CCTV kits both in their offices and shops to scare off shoplifters and to protect their employees. Schools, banks, resorts and churches also use security cameras in order to watch for the safety of the bulk of people that go in and out of the institutions. For any business, public or private, having a security camera in room is important to prevent or detect theft, damage or entry by unwanted persons. By using a full CCTV kit, a business will not only have cameras but also other essential accessories including monitors, recording equipment, cabling and brackets to mount the cameras as required (Swanson et al, 2003).

In Nigeria, the government had spent millions of dollars, to procure weaponry and other logistics aimed at combating these heinous crimes. Unfortunately, these efforts have not yielded the anticipated results. It has become essential for the government to realize that physical combat alone would not successfully curb these present day crimes, but rather a scientific approach through the use of hi-tech equipment for intelligence gathering and forensics could be used to aid physical combat for a successful operation.

In the same vein, crimes that could have been nipped in the bud go completely undetected because of lack of effective surveillance and tracking tools. High profile murder cases, for instance, have remained unresolved because there are no reliable database, surveillance, tracking and forensic tools that could aid in the investigations. The overbearing effect of this is that the society remained highly insecure and the economy gets badly crippled. This scenario scares away foreign investments in the country as foreign investors can't commit themselves to insecure environment. This is so because most foreign investors rely on security reports from the commercial desks of their country's diplomatic missions while several others obtain information from the local entrepreneurs in their related fields.

Even though there are ongoing debates about the efficacy on the efficacy of the use of CCTV Cameras in crime management as the trend of insecurity has continued to escalate and multiply in number despite the invention and use of CCTV cameras in the FCT and beyond the fact remains that it is needful to have them. It is axiomatic that insecurity cannot be completely eradicated, it is questionable how crime continues to take an upswing in the FCT even as many CCTV cameras have been already installed. This is a puzzling discovery which triggers more confusions and doubts about the effectiveness and efficiency of the use of CCTV in the FCT metropolis to prevent or control crime. It is against this problem that the study on the impact of CCTV on crimes prevention and control in the FCT was initiated.

The ingenious ways in which these heinous acts are perpetrated requires a robust and scientific approach in its prevention. This research presents a unique approach to curb these menaces in our society through the use of ICT tools. This worrisome development, prevalent in our society (Nigeria) has attracted a lot of theoretical studies in the academia (Olanibi, 2012), (Agena, 2012), (Pali & Kitgakka, 2012), (Adeyemo, 2009) and (Ategwu & Ukpanukpong, 2013) all aimed at identifying the causes and proffering likely solutions.

This work is predicated on the following criminological theories:

1. Routine Activity Theory Routine Activity Theory:
   This theory was postulated by Cohen and Felson, asserts that for any predatory crime to take place, there must be three basic identifiable elements, these elements according to them include; a likely or motivated offender; a suitable target and the absence of a capable guardian (Cohen & Felson, 1979). Felson later on upgraded the theory via the addition of a fourth element which is that of the "intimate handler" (Felson, 1987). From a routine activities' viewpoint, it is postulated that CCTV approximates a capable guardian whose presence will significantly deter offending behaviours in time and space (Cohen & Felson, 1979) (Felson, 1987). This Theory provides a valid explanation of the incidence of crime arising essentially from an ecological aggregation of three elements: A motivated offender, a suitable target (victim), and the absence of capable guardianship.

   The basic assumption of Routine Activity Theory is that the alterations in the pattern of activities associated with the increase in small households and two-income families, has increased the opportunity for property crimes majorly. Traditionally, the propensity of offenders, attractive targets, and ineffective guardianship are usually not randomly distributed across space. Some places offer more crime opportunities than others. In this theoretical context then, the CCTV security camera is a proxy for guardianship.
2. Crime Pattern Theory Crime Pattern Theory

   The second theoretical foundations takes into cognizance a combination of the routine activity and the rational choice theories in the explication of criminals consciousness of opportunistic drive within their daily social spectrum of activities as opposed to directional mobility towards areas for the purpose of crime commission (Brantingham & Brantingham, 2003).
3. Situational Crime Prevention Theory.

   One of the leading proponents of rational choice theory Ron Clarke equally championed the situational crime prevention model. This approach is under scored by the rational choice, routine activities and crime pattern theories strive to create objects essentially "crime resistant' within a frame work of organised methods of crime prevention, target hardening, environmental design, surveillance and crime pattern analytics. Situational prevention comprises of opportunity-reducing measures that are:
   a. directed at highly specific forms of crime;
   b. involve the management, design or manipulation of the immediate environment in as systematic and permanent way as possible;
   c. make crime more difficult and riskier, or less rewarding and excusable as judged by a wide range of offenders (Clarke, 1997). From a situational crime prevention viewpoint, it is proposed that CCTV increases the perceived risks associated with offending in locations under camera surveillance since it increases the likelihood of detection (Clarke, 1997). Clarke and Eck (Clarke & Eck, 2003) outlined the twenty-five techniques of situational crime prevention which fall into five main

groups, through which the techniques achieve their preventive effect, namely: increasing the effort to commit crime; increasing the risks; reducing the rewards; reducing provocations; and removing excuses (Moyo, 2019).

CCTV therefore is a type of situational crime prevention strategy in which levels of formal surveillance are increased within a targeted area (Clarke & Eck, 2003). Situational crime prevention is focused on preventing crime by reducing criminal opportunities in a targeted area and increasing the risk of offending through modification of the physical environment.The situational prevention of crime is mainly rooted in the rational choice perspective, in which crime is considered to be "purposive, in which behaviour designed to meet the offender's commonplace needs" (Clarke, 1995). The suggested strategic aspects of CCTV schemes may be as important as the environmental setting.

In addition, Piza noted that because CCTV sites are permanent fixtures (hard wired to physical structures and configured to wireless communication networks), moving locations after use, would require additional cost (Piza, 2018). Agencies usually install cameras at locations of their choice, without giving prior consideration for these detracting factors. These aforesaid theories give a functional insight into the study.

The broad objective of this study is to assess the impact of ICTs (CCTV cameras) on effective crime prevention and control in FCT Abuja, its specific objectives are:

1. To understand the roles of CCTV cameras in effective crime management and control in the FCT Abuja
2. To determine the challenges/limitations of using the CCTV cameras in controlling crimes in the FCT.
3. To determine the effects of CCTV on crime in the FCT
4. To understand who should operate (use) CCTV cameras, what the cameras should capture, and the locations to install them.
5. To understand the nexus between using CCTV cameras vis- a vis other method (e.g policy) to control crime.
6. To proffer recommendations and implementation strategies for effective use of CCTV cameras to prevent/control crime, particularly in the FCT, Abuja

The proposed questions for this research are as follows:

1. What are the roles of CCTV cameras in the context of crime control in the FCT?
2. What are the possible challenges/limitations of using CCTV cameras to control crime in the FCT?
3. What are the effects of CCTV cameras on crime in the FCT?
4. Where, who and what should CCTV cameras capture?
5. Are there other methods that can be combined with CCTV cameras for effective prevention and control of crime in the FCT?
6. What are the recommendations and implementation strategies to be adopted for effective utilization of CCTV cameras in the FCT to control crime?

The work is set to test the following hypotheses:

1. There is no significant relationship between CCTV installation and crime reduction in Abuja
2. There is no significant relationship with ICT deployment and CCTV management in crime management in Abuja

RESEARCH METHOD

For the purpose of this work, the authors chose both and explorative and evaluative research design which emphasizes more of a qualitative research approach (Creswell, 2014). In addition, a quantitative approach was added via the application of coding and statistical evaluation of the responses from the questionnaires so administered in the study. Consequently, in a nut shell, the research design can best be described as a mixed method approach that reflects the admixture of the benefits of both qualitative and quantitative research in a single project of this kind, while providing ample opportunities for a middle solution for any emerging research problem of interest in the course of this work (Creswell, 2013).

In the same vein, the study was also shaped by an inductive research focus. It involved a generous use of detailed one-to-one interviews to slide into the respondents' world and questionnaires for analysis with the sole aim of realizing the set objectives of this work (Creswell, 2013) (Patton, 2002).

As a corollary to the above, there is also the employment of phenomenological approach to give live meanings to peoples' real life experiences. By recognizing and focusing on the identification and analysis of the real life experiences of the participants, we were able to appreciate in details the real lived experiences of our respondents within the social system.

FINDING AND DISCUSSION

A total study population of 900 was selected using cluster sampling out of which a sample of 300 respondents was drawn. From the distributed questionnaires, 270 were successfully retrieved and analyzed. Below is the presentation of the data in tables.

Table 1: Demographic Characteristics of Respondents

Sex	Frequency	Percentage (%)
Male	140	82
Female	130	48
Total	270	100

The data in the above table shows that out of 170 respondents, 140 (82%) were male while 130 (48%) were female. This means that both males and females were represented in this study.

Table 2: Age Characteristics of the Respondents

Age	Frequency	Percentage (%)
20 – 30	37	13.7
31 – 40	60	22
41 – 50	115	42.5
51 – 60	40	14.8
61 and above	18	6.6
Total	270	100

The table above shows that 37 (13.7%) of the respondents and within the age bracket of 20 – 30 years; 60 (22%) of the respondents fall within age bracket of 31 – 40;

115 (42.5%) of the respondents are between the age of 41 – 50; 40 (14.8%) are 51 – 60 years, while 6.6% of the respondents are between 61 and above. By implication, the data has cut across a wide range of age category.

Table 3: Marital Status of the Respondents

Options	Frequency	Percentage (%)
Single	70	25.9
Married	200	74
Divorced	-	-
Total	270	100

From the total above, marital status indicates that 70 (25.9%) of the respondents are single while 200 (74%) of the respondents are married, and no respondents represented as divorced.

Table 4: Respondent Educational Status

Option	Frequency	Percentage (%)
Primary	4	1
Secondary	37	13.7
Tertiary	129	47.7
None	-	-
Total	270	100

From the above table on educational status of the respondents, 4 (1%) of the respondents represent primary education, 37 (13.7%) of the respondents were holder of secondary education certificate, while 129 (47.7%) of the respondents were in the category of tertiary education. This implies that the respondents in the majority were educated and enlightened people thus understand the core issues in the study.

Table 5: Respondent Area Council

Option	Frequency	Percentage (%)
Abuja Municipal Area Council (AMAC)	95	35
Bwari	90	33
Gwagwalada	85	31
Total	270	100

Table 5 above indicates that 95 (35%) respondents were of AMAC area, 90 (33%) respondents were from Bwari; while 85 (31%) respondents belonged to Gwagwalada area council.

Table 6: Availability of CCTV Cameras in the Study Area Councils

Option	Frequency	Percentage (%)
Yes	270	100
No	-	-
Total	270	100

Table 6 above concerns the availability of CCTV cameras in the area of study i.e.

AMAC, Gwagwalada and Bwari within the FCT. In the table, all the 270 (100%) respondents agreed that CCTV cameras were available at the various area councils in the FCT Abuja.

Table 7: The Level of Availability and Use of CCTV Cameras in the FCT

Option	Frequency	Percentage (%)
Commonly available and frequently used	40	14.8
Scarcely available and rarely used	110	40.7
Minimally available and averagely used	120	74
Total	270	100

Table 7 in the above shows the level of availability and frequently of use of the CCTV device in the FCT Abuja. Statistics indicated that CCTV cameras are not commonly distributed within the FCT metropolis, since 40 (14.8%) respondents agreed with the proposition in relation to commonly available and frequently used; 110 (40.7%) respondents opined that CCTV cameras are scarcely available and rarely used in the FCT to prevent crimes, while 120 (74%) respondents agreed with minimally available and averagely used. On the whole, data in the table shows that not many areas within the FCT are installed with CCTV cameras and even the available installed ones might have been infrequently used to monitor crimes due to certain inconsistencies such as mal-functioning and lackluster attitude of the users.

Table 8: The Effects of CCTV Cameras on Crime in the FCT Abuja

Option	Frequency	Percentage (%)
Positive	180	66.6
Negative	25	9
I don't know	65	24
Total	270	100

The above table shows 180 (66.6%) respondents who opined that CCTV Cameras have positive effects on crime rate in the FCT, 25 (9%) respondents however said it has negative effects on crime rate; while 65 (24%) respondents said they did not have idea. This means that CCTV camera has positive effects by directly or indirectly deterring crime in the area under study.

Table 9: What Importance are CCTV Cameras to Your Residential Area?

Option	Frequency	Percentage (%)
CCTV cameras help to prevent crime in the residential area	73	27
CCTV cameras help to monitor perpetrators	69	25
CCTV cameras help to identify offenders	56	20
CCTV cameras help monitor, prevent and identify perpetrators within the area of coverage	92	34
Total	270	100

Also, on the important of CCTV cameras to a residential area, table 9 above has 73 (27 %) of the respondents who claimed that CCTV cameras help to prevent crime in

the residential area, 69 (25%) others are of the view that CCTV cameras help to monitor perpetrators, 56 (20%) other respondents are of the opinion that CCTV cameras help to identify offenders and the remaining 92 (34%) of the respondents hold the believe that CCTV cameras helps monitor, prevent and identify perpetrators within the area of coverage.

Table 10: What is the Perception of People about CCTV Cameras?

Option	Frequency	Percentage (%)
CCTV camera is a system that deter crime	111	41
CCTV camera records and captures incidents of crime	100	37
CCTV camera stores pictures of crimes	12	4
CCTV camera is not useful in crime deterrence	47	18
Total	270	100

The table 10 states the perception of respondents on CCTV Camera within their area. On the perception of CCTV cameras, the survey shows that, 111 (41%) of the respondents agreed that CCTV camera is a system perceived to deter crime, 100 (37%) of the respondents believe that CCTV camera is perceived to records and captures incidents, 12 (4%) respondents indicated that CCTV camera stores pictures of crime within the Metropolis of Abuja.

Table 11: What are the Actions of Perpetrators when CCTV Cameras are Installed in Abuja?

Option	Frequency	Percentage (%)
Perpetrators target another area without CCTV cameras	155	57
Perpetrator mask their faces to avoid being noticed	51	18
Perpetrators disguise and commit more crimes	35	12
Perpetrators would damage the cameras	29	10
Total	270	100

Also, the actions of perpetrators when CCTV cameras are installed in Abuja, 155 (57%) of the respondents agreed that perpetrators divert their target when CCTV cameras are installed in Abuja, 51 (18%) of the respondents believe that Perpetrator mask their faces to avoid being notice, 35 (12%) accepted that Perpetrators disguise and commit more crimes and 29 (10%) of other respondents are of the view that Perpetrators would damage the cameras in order to commit more crime.

On the attitude portrayed by perpetrators under CCTV cameras' coverage, table 12 below has 243 (90%) of the respondents who affirmed that perpetrators are afraid to commit crimes under CCTV coverage, 0 (0%) of the respondents believe that perpetrators are happy to commit crime under CCTV coverage, 14 (5%) of them agreed that perpetrators believe they cannot be identified and 13 (4%) of the respondents said that perpetrators does not believe the functionality of CCTV cameras.

Table 12: What is/are the Attitude Portrayed by Perpetrators under CCTV Coverage?

Option	Frequency	Percentage (%)
Perpetrators are afraid to commit crimes	243	90
Perpetrators are happy to commit crimes	0	0
Perpetrators believe they cannot be identified	14	5
Perpetrators do not believe the functionality of CCTV	13	4
Total	270	100

On the attitude portrayed by perpetrators under CCTV cameras' coverage, table 12 above has 243 (90%) of the respondents who affirmed that perpetrators are afraid to commit crimes under CCTV coverage, 0 (0%) of the respondents believe that perpetrators are happy to commit crime under CCTV coverage, 14 (5%) of them agreed that perpetrators believe they cannot be identified and 13 (4%) of the respondents said that perpetrators does not believe the functionality of CCTV cameras.

Table 13: How does CCTV Cameras Create Fears on Perpetrators?

Option	Frequency	Percentage (%)
CCTV cameras can display real-time information about a perpetrator	78	28
CCTV cameras can store footage of a perpetrator for long time	82	30
Perpetrators would be ashamed that they would be shown on a CCTV system	110	40
CCTV cameras cannot be used to assist the police	0	0
Total	270	100

On the other hand, reacting to the question of how CCTV cameras create fears on perpetrators, 78 (28%) of the respondent accepted that CCTV cameras displays real-time information about a perpetrator, 82 (30%) of them are of the opinion that CCTV cameras can store footage of a perpetrator for longtime, 110 (40%) of the total respondents are of the view that Perpetrators would be ashamed that they would be shown on a CCTV system, while 0 (0%) of them believed that CCTV cameras cannot be used to assist the police in investigation.

Table 14: Types of Crimes Prevented by CCTV Cameras

Option	Frequency	Percentage (%)
Bank Robbery	65	24
House Robbery/Burglary	86	31.8
Car Theft	23	8.5
Traffic Breakers	40	14.8
Picking-Pockets	8	2.9

Street fight	13	4.8
Shop-lifters	30	11
Assaults/violent crime	5	1.8
Total	270	100

In the table 14 above, sampling is made about the types of crimes that CCTV cameras prevent, 65 (24%) respondents agreed with bank robbery, 86 (31.8%) respondents agreed with house robbery/attacks, 23 (8.5%) respondents said car theft, 40 (14.8%) respondents opined that traffic breakers, 8 (2.9%) respondents said picking-pockets 13 (4.8%) respondents agreed with street fight, 30 (11%) of the respondents picked shop-lifters while assault was represented with 5 (1.8%) respondents. This means that CCTV can be relatively more effective in preventing crimes such as bank/house robbery, car theft, shop-lofting and traffic breakers; most of which are property crimes. On the other hand, the use of CCTV cameras can be less effective in curtailing assaults and other related crimes.

Table 15: How CCTV Does Camera Help Generally in Preventing Crimes?

Option	Frequency	Percentage (%)
CCTV camera relay real-time visual information about event status at a given time	96	35
CCTV camera identifies and captures perpetrators at real-time	58	21
CCTV camera detects and records real-time crimes	55	20
CCTV camera monitors real-time criminal incidents in an area covered	61	22
Total	270	100

Also, on the question of how CCTV cameras help in preventing crimes, 96 (35%) of the population accepted that CCTV cameras relay real-time visual information about event status at a given time, 58 (21%) of the respondents agreed that CCTV camera identifies and captures perpetrators at real-time, 55 (20%) of the sampled population responded that CCTV camera detects and records real-time crimes and 61 (22%) of the respondents indicated that CCTV camera monitors real-time criminal incidents in an area covered.

Based on the results presented in table above, it could be deduced that CCTV camera is a system that deter crime, block criminals the opportunity of committing crime and monitors real-time criminal incidents in an area covered by the system. This agrees with the works of, which maintain that CCTV cameras are effective in crime prevention and reduces the rate of crime in the area covered by the system.

The below table sought to know the role CCTV cameras have played in crime prevention in the FCT Abuja 37 (13.7%) of the respondents strongly agreed that it has helped in preventing crime in the FCT 100 (37%) of the respondent said agreed, 120 (44%) respondents said disagreed. Thus, concerning that the total number for strongly agreed and agreed is almost equal to those that disagreed, it implies that the availability of CCTV cameras within the FCT metropolis has not greatly hinder crime.

Table 16: CCTV Cameras Have Helped in Preventing and Controlling Crime in the FCT Abuja

Option	Frequency	Percentage (%)
Strongly agreed	37	13.7
Agreed	100	37
Strongly disagreed	120	44
Disagreed	13	4.8
Total	270	100

Crimes continue to take place in the FCT despite the installations of CCTV cameras. Therefore, it could be deduced based on the data in the above table that CCTV cameras only functions averagely in crime prevention.

Table 17: Opinion on the Installation of CCTV Cameras in Abuja

Option	Frequency	Percentage (%)
CCTV cameras installed in Abuja can protect government and public infrastructures	37	13
CCTV installed in Abuja can assist the police to combat crime	100	37
CCTV cameras would help to capture criminals	120	44
CCTV cameras does not help in any way on security issues in Abuja	13	4
Total	270	100

On the question of respondents opinion on the installation of CCTV cameras in Abuja, 37 (13%) of the total respondents responded that CCTV cameras installed in Abuja can protect government and public infrastructures, 100 (37%) of the total respondents are of the view that the CCTV system installed in Abuja can assist the police to combat crime, 120 (44%) of the respondents opined that CCTV cameras would help to capture criminals while 13 (4%) of the total respondents accepted that CCTV cameras does not help in any way on security issues in Abuja Metropolis.

Table 18: What is/are the Effect of Police on the Use of CCTV Cameras?

Option	Frequency	Percentage (%)
Police is to constitute a reaction force for the CCTV	87	32
Police is to protect the CCTV cameras from physical damage	39	14
Police is to operate the CCTV cameras in the control room	66	24
Police is to be alerted when there is an incident	78	28
Total	270	100

Considering the effect(s) of police on the use of CCTV cameras, 87 (32%) of the respondents are of the opinion that police is to constitute a reaction force for the

CCTV cameras, 39 (14) % of the total respondents guess that police is to protect the CCTV cameras from being physically damaged, 66 (24%) of the respondents agreed that police is to operate the CCTV cameras in the control room, while 78 (28%) others reacted that police is to be alerted when there is an incident.

Table 19: What Role(s) does CCTV Cameras Play During Police Investigation?

Option	Frequency	Percentage (%)
CCTV cameras provide the police with footage on the incident	100	37
CCTV cameras display suspects on the monitor	100	37
CCTV cameras identify suspect to police	64	23
CCTV cameras direct the police on suspects' hideout	6	2
Total	270	100

The role of CCTV cameras on police investigation revealed that 100 (37%) of the total respondents are of the opinion that CCTV cameras provide the police with footage on the incident, 100 (37) % of the respondents are of the view that CCTV cameras display suspects on the monitor for proper identification, 64 (23%) other respondents said that CCTV cameras identify suspect to police, while the remaining 6 (2%) of the respondents agreed that CCTV cameras direct the police on suspects hideout.

Table 20: The Extent to which CCTV Enhanced Policing in the FCT by Providing Information on Certain Criminal Acts

Option	Frequency	Percentage (%)
Very largely	30	11
Largely	86	31.8
Averagely	154	57
Total	270	100

The above table revealed the secret effective policing in the FCT 30 (11%) respondents said very largely 86 (31.8%) respondents said largely; while a whopping 154 (57%) respondents said averagely. This implies that CCTV cameras have helped in effective policy. The cameras capture both visual and audio information that could be used by the police during investigation.

Table 21: Challenges Facing Utilization of CCTV Cameras in the FCT Abuja

Option	Frequency	Percentage (%)
High cost of acquiring CCTV kits	145	53.7
Ignorance/non-chalet attitude of potential users	83	30.7
Lack of technicians/staff that can manage the available ones	42	15.5
Total	270	100

Table 21 above shows the challenges facing the utilization of CCTV cameras in the FCT metropolis. 145 (53.7%) respondents agreed that the high cost of acquiring CCTV cameras is detrimental to availability and utilization of the device in the FCT to control crimes, 83 (30.7%) respondents identified ignorance and non-chalet attitude of people towards the device, which means that some potential users do not simply care to afford it. 42 (15.5%) respondents agreed with lack of technicians and staff that can manage the available CCTV cameras to effective use.

Table 22: How does Power Supply Affect the Efficiency of CCTV Cameras in Abuja?

Option	Frequency	Percentage (%)
The fluctuation of power supply causes damage to the CCTV cameras	120	44
The low voltage of power supply in Abuja does not support proper functioning of the system	38	14
Lack of power supply within the metropolis make the CCTV system redundant	99	36
Higher voltage damage the power circuit board of the CCTV cameras' network	13	4
Total	270	100

Respondents were equally asked on the effect of power supply on the functionality of CCTV cameras, 120 (44%) of the respondents are of the view that the fluctuation of power supply causes damage to the CCTV cameras, 38 (14%) others said that low voltage of power supply in Abuja does not support proper functioning of the system, 99 (36%) other respondents reacted that lack of power supply within the metropolis make the CCTV system redundant and the remaining 13 (4%) of the respondents believe that higher voltage damage the power circuit board of the CCTV cameras' network.

Table 23: What Government should do after the installation of CCTV Cameras installed in Abuja?

Option	Frequency	Percentage (%)
Reduce the number of security personnel from the street of Abuja	110	40
Deploy more security personnel to cover the street of Abuja Regulate the use of security personnel in the metropolis	26	9
Constitute an effective CCTV monitoring team	121	44
Regulate the use of security personnel	13	4
Total	270	100

On what the government should do when CCTV cameras are installed in Abuja Metropolis, 110 (40%) of the respondents said that governments should reduce the number of security personnel from the street of Abuja, 26 (9%) of the respondents are

of the view that it is appropriate to deploy more security personnel to cover the streets of Abuja, 13 (4%) affirmed the need to regulate the use of security personnel in the metropolis and 121 (44%) of the respondents accepted that government should constitute an effective CCTV monitoring team forestall compromise of the system.

The result of the table indicates that police is to enforce the effectiveness of CCTV cameras by constituting an action/reaction force and the cameras provide the police with footage on the incident to assist in investigation and prosecution. The CCTV system according to the result helps to reduce the number of security personnel from the street of Abuja.

Table 24: Other Methods that are Used in Conjunction with CCTV Cameras as Deterrent Methods for Crime in the FCT

Option	Frequency	Percentage (%)
The police	74	27
The General public	61	22.5
CCTV Technicians	45	16.6
Security Guards/Defensible space	50	18.5
Lightings	40	14.8
Total	270	100

The table above shows other methods that are used in conjunction with CCTV cameras for effective crime prevention. 74 (27%) of the respondents said the police, 61 (22.5%) respondents agreed with the general public, 45 (16.6%) respondents said CCTV technicians, 50 (18.5%) respondents agreed generally with security guards/defensible space, while 40 (14.8%) respondents picked lightings. The implication is that CCTV cameras can only be effective and more efficient in crime prevention when combined with other methods of use.

Table 25: Effective Areas of Use of CCTV Cameras in the FCT Abuja

Option	Frequency	Percentage (%)
Small enclosed areas of market, car parks, residential areas	188	69.6
Open areas	39	14
High traffic areas	43	15.9
Total	270	100

Table 25 shows respondents opinion on effective areas of use of the CCTV cameras. 188 (69.6%) respondents agreed that CCTV is more effective in small enclosed areas, such as homes, churches, mosques, car parks, markets shops and others. 39 (14%) respondents agreed that the device is more effective in open area, while 43 (15.9%) respondents said high traffic areas such as roads and open market spaces.

Table 26: CCTV Cameras Should be Used to Replace Guard Security

Option	Frequency	Percentage (%)
Yes	-	-
No	270	100
Total	270	100

Table 26 sought to know if CCTV cameras could be used to replace guard security. A total of 270 (100%) respondents disagreed that it cannot be used to replace guard security, while none of the respondents said yes. This means that CCTV could be used in conjunction with other methods but not as a total substitute.

Table 27: Some Major Reasons for the Installation of CCTV Cameras

Option	Frequency	Percentage (%)
Crime prevention	187	69
Research purpose	26	9.6
General safety purpose	18	6.6
Monitoring events	39	14
Total	270	100

On some major reasons for the use of CCTV cameras, 18.7 (69%) respondent agreed with crime preventions, 26 (9.6%) respondents agreed with research purpose, 18 (6.6%) respondents said general safety purpose, and 39 (14%) respondents agreed with monitoring events. The data shows that although, CCTV is used particularly for crime purpose, it also has other uses which are not crime related. Scientists also use it to monitor events as well as conduct research, among other reasons.

Table 28: The more CCTV Cameras in a Place, the More Chances of Reducing Crime

Option	Frequency	Percentage (%)
Yes	257	95
No	13	4.8
Total	270	100

In table 28 above, 257 (95%) respondents agreed that the more number of cameras in a place, the more chances of reducing crimes, while 13 (4.8%) respondents said 'No' meaning that even with an increase in the availability of cameras in the FCT, crime rate will not decrease at any rate. However, based on the 257 (85%) that agreed, it could be understood that more cameras in a place can undoubtedly reduce crime.

Table 29: Some Citizens are Reported to have been Feeling Safe, Unsafe or Indifferent to the Cameras Around Them which Become a Notable Social Cost of CCTV Camera

Option	Frequency	Percentage (%)
Safe	113	41.8
Unsafe	44	16
Indifferent	113	41.8
Total	270	100

Table 29 sought to know the feeling of the general people with cameras around them. 113 (41.8%) respondents said safe, 44 (16%) respondents agreed with unsafe, while 113 (41.8%) agreed with indifferent. This implies that majority of the people feel safe or at least not perturbed by the fact that CCTV cameras are watching them.

Summary of Findings

This section of the study is concerned with summaries of the findings about the research questions, using the data that has been analyzed in the preceding sections of this chapter. The summary will be done based on the questions analyzed in the tables.

Research question 6, 7, 8 and 9, 13 and 14 seek respondents' opinion about the availability, level of availability and effects and importance of CCTV cameras in the FCT. The questions are to ascertain the availability of CCTV cameras in the area of study, the level of availability and effects; and the tables are positive as 270 (100%) respondents agreed that CCTV Cameras are found in the area under examination. However, the 40 (20%) respondents for the option that CCTV is not commonly available is an indication of inadequate number of the devices within the FCT metropolis. But for the available ones, the data marked by 180 (66%) respondents for positive effects of the device on crime in the area is significant, meaning the devices are imparting positively on crime control and prevention. The results thus confirmed that the cameras are important and relevant to crime control.

Thus, crime prevention broke record with 187 (69%) respondents which means the device is used specifically for crime purpose, 26 (9.6%) agreed with research purpose i.e scientists and other people also use the device to conduct research; 18 (6.6%) respondents said safety purpose, while 39 (14%) agreed with monitoring events which may include presence of important persons.

Data distribution shows generally that the cameras are not common in the FCT as well as not frequency used. Thus, scarcely and minimally available and averagely use and jointly represented with 230 (85%) which is a high percentage.

Research question 10, 11 and 12 try to understand the perceptions, actions and attitude of offenders when CCTC cameras are installed. The results show that perpetrators are often afraid to commit crimes when they realize the presence of a CCTV camera in a location. They often leave for other areas to carry out their criminal activities. These research questions seek to know the effects of CCTV cameras on criminals in Abuja. The data presented in tables in which the questions are answered all agreed that the cameras operate with a range of effects on the criminals.

Research question 17, 18, 19 and 20 presents results about installation and relevance of CCTV cameras to police and policing in the FCT metropolis. The results indicate that cameras can aid police investigation in different ways and can also capture images and footages of criminals. They can scare criminals away in the location of installation. They can provide information that facilitates police investigation, among several other benefits.

Research question 21 and 22 are centred on the challenges affecting effective CCTV camera operations in the area of study. Lack of adequate and efficient power supply is among the major reasons. In addition, ignorance and other negative attitudes discourage the effective utilization of the cameras. There is also the challenge of good and dedicated technicians and security agents who can adequately and effectively monitor and service the installed cameras. Based on data distribution on the above questions, 145 (53.7%) respondents agreed with the cost as a major factor posing challenge for CCTV cameras in the FCT, ignorance and lack of technicians combined to pool 125 (42%) respondents which is still lower than the cost proposition.

Research question 24: What other methods could be used in conjunction with CCTV cameras to control crime in the FCT? Data distribution for this questions is thus; the police was represented with 74 (27%) of the respondents as the most favoured options, 61 (22.5%) respondents agreed with the public which may be people within the

community of use of the device, 45 (16.6%) agreed with CCTV technicians, 50 (18.5%) chose security guards/defensible space, while 40 (14.8%) said using lightings in areas of where the cameras are installed. All the options are evenly represented which implies that they can all be good supporting elements of CCTV cameras.

Research question 25: In which type of places could the installation of CCTV camera be more effective in deterring crimes? The question tests to know the more functional areas for the effective use of CCTV. 188 (69.6%) respondents agreed with small enclosed areas like shops, churches, mosques, homes etc; 39 (14%) respondents agreed with open areas such as sports arenas and other fields, while 43 (15.9%) agreed with high traffic areas like highway (roads). The data indication is clear on the point that CCTV works in small enclose areas.

Research question 26: Should CCTV Camera be used to replace guard security? In table 10 on question 10, no respondent is represented for the 'Yes' variable to mean that CCTV can replace guard security. The total number of respondents 270 (100%) all agreed with 'No' to mean that CCTV cannot replace guard security.

Research question 11: What are the reasons for the use of CCTV Camera? The question seeks to understand reasons for the use of CCTV Camera in the FCT and elsewhere. **Research question 28:** Does the use of more cameras in a place lead to higher chances of reducing crime? Data on this question is represented in table 12 where 257 (95%) agreed that using more cameras in an areas can lead to higher chances of reducing crime, and only 13 (4.8%) said more cameras would not increase reduction rate in crime.

Research questions 29: What is the general feeling of people towards the CCTV Camera around them? Data presentation on the question indicates that 113 (41.8%) respondents were reported feeling safe with knowledge of cameras around them; 44 (16%) respondent reported feeling unsafe with cameras around them, while 113 (41.8%) respondents were reported feeling indifferent towards the cameras. The question shows the social cost of CCTV Camera on the public.

Deductions

From the above analysis, the following deductions are made; that the use of CCTV Camera to deter crime in the FCT Abuja is not very effective due to certain challenges. High cost, ignorance and lackluster attitude of potential users are some of the challenges. In addition, erratic power supply, and lack of proper monitoring of the available cameras are some of the problems. Based on this, it is deduced that CCTV Cameras are not adequate within the FCT metropolis, and the available ones often meet with serious challenges.

In another dimension, CCTV Camera is most effective when combined with other crime reducing/deterring methods such as improved lighting, security guards and defensible space. These methods are however not adequate and effective in the FCT Abuja. Again, more CCTV Camera can yield to high chances of reducing crime. Also, strategic areas of use are important for the effective of CCTV.

In line with views from Gill and Springs (2005) and Sivarasingam (2003), it is deduced that the effectiveness of CCTV lies less in preventing assaults and their precursor. They are more targeted to theft hence, the need for a combined approach to deterring crimes which shall involve all the possible means at hand.

Test of Hypotheses
Decision Rule

In testing hypotheses, calculated value of the test statistic was compared with critical or table value of the statistic. The critical or table value serves as a benchmark for rejecting or not rejecting the null hypotheses. Therefore, the decision rule applied in this study is to reject the null hypotheses if the calculated value is greater than the critical table at 95% (3.182) confidence level, otherwise reject the null hypotheses. Or reject the null hypotheses if the t-value is less than the critical value of 0.05, otherwise accept the null hypotheses.

Table 30 Respondents View on the Relationship Between CCTV Installation and Crime Reduction in Abuja

S/N	Options	Frequency	Percentage
1.	Strongly Agree	85	32
2.	Agree	70	26
3.	Disagree	60	21
4.	Strongly Disagree	40	15
5.	Undecided	15	6
	TOTAL	**270**	**100**

The table above shows that 85 (30%) of the respondents strongly agreed that there is a significant relationship between installation of CCTV and crime reduction in Abuja, 70 (26%) agreed, 60(21%) disagreed, 40 (15%) strongly disagreed and 15 (6%) undecided.

Table 31: Respondents Opinion on the Relationship with ICT Deployment and CCTV Management in Crime Management in Abuja

S/N	Options	Frequency	Percentage
1.	Strongly Agree	90	34
2.	Agree	75	28
3.	Disagree	60	21
4.	Strongly Disagree	30	11
5.	Undecided	15	5
	TOTAL	**270**	**100**

The above table revealed that 90 (34%) of the respondents strongly agreed that there is a significant relationship with ICT deployment and CCTV management in crime management in Abuja, 75 (28%) agreed, 60 (21%) disagreed, 30 (11%) strongly disagreed and 15 (6%) undecided.

Test of Hypotheses

To ascertain the validity and reliability of the research outcome, the hypotheses are tested using the Pearson's product-moment coefficient of correlation.

Test of Hypotheses one

Ho_1: There is no significant relationship between CCTV and Crime Reduction in Abuja.

Data Analysis Table

Table 32: Response on the Relationship between CCTV Installation and Crime Reduction in Abuja

S/N	Response	Frequency	Percentage
1.	Strongly agree	85	32
2.	Agree	70	20
3.	Disagree	60	21
4.	Strongly disagree	40	15
5.	Undecided	15	6
	Total	**270**	**100**

Table 33: Contingency Table

X	Y	X^2	Y^2	XY
5	85	25	7225	425
4	70	16	4900	280
3	60	9	3600	180
2	40	4	1600	80
1	15	1	225	15
15	**270**	**55**	**17550**	**980**

$$r = \frac{n\sum xy - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2]\,[(n\sum y^2) - (\sum y)^2]}}$$

$$r = \frac{5(980) - 15(270)}{\sqrt{[5(55) - 15x15][5x17550 - 270x270]}}$$

$$r = \frac{4900 - 4050}{\sqrt{(275 - 225)(87750 - 72900)}}$$

$$r = \frac{850}{\sqrt{50(14850)}}$$

$$r = \frac{850}{\sqrt{742500}}$$

$$r = \frac{850}{862}$$

$r = 0{,}99$

$$t = r\sqrt{\frac{n-2}{1-r^2}}$$

$$t = 0{,}99\sqrt{\frac{5-2}{1-(0{,}99)^2}}$$

$$t = 0{,}99\sqrt{\frac{3}{1-0{,}98^2}}$$

$$t = 0{,}99\sqrt{\frac{3}{0{,}02}}$$

$$t = 0{,}99 \text{ x } \frac{1{,}73}{0{,}14}$$

t = 0.99 x 12.4
t = 12.2
Table value = 3.182

Decision

From the above calculated value 12.2, when compared with table value t = 3.182, at 5% level of significance, relationship existing between CCTV Installation and Crime Reduction in Abuja.

Test of Hypothesis two

Ho_2: There is no significant relationship with ICT Deployment and CCTV management in crime management in Abuja.

Data Analysis Table

Table 34: Response on the Relationship with ICT Deployment ABD CCTV Management in Crime Management in Abuja

S/N	Response	Frequency	Percentage
1.	Strongly Agree	90	34
2.	Agree	75	28
3.	Disagree	60	21
4.	Strongly disagree	30	11
5.	Undecided	15	6
	Total	**270**	**100**

Table 35: Contingency Table

X	Y	X^2	Y^2	XY
5	90	25	8100	450
4	75	16	5625	300
3	60	9	3600	180
2	30	4	900	60
1	15	1	225	15
15	270	55	18450	1005

Source: Researcher's computation, 2020

$$r = \frac{n\sum xy - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2]\,[(n\sum y^2) - (\sum y)^2]}}$$

$$r = \frac{5(1005) - 15(270)}{\sqrt{[5(55) - (15x15)][(5x18450) - 270x270]}}$$

$$r = \frac{5625 - 4050}{\sqrt{(275 - 225)(92200 - 72900)}}$$

$$r = \frac{975}{\sqrt{50(19350)}}$$
$$r = \frac{975}{\sqrt{967500}}$$
$$r = \frac{975}{984}$$
r = 0,99

$$t = r\sqrt{\frac{n-2}{1-r^2}}$$
$$t = 0{,}99\sqrt{\frac{5-2}{1-(0{,}99)^2}}$$
$$t = 0{,}99\sqrt{\frac{3}{1-0{,}98^2}}$$
$$t = 0{,}99\sqrt{\frac{3}{0{,}02}}$$

$$t = 0{,}99 \text{ x } \frac{1{,}73}{0{,}14}$$
t = 0.99 x 12.4
t = 12.3
Table value = 3.182

Decision

From the above calculated value 12.3, when compared with table value t = 3.182, at 5% level of significance, the null hypothesis is rejected while the alternative hypothesis is accepted and conclude that there is a significant relationship with ICT deployment and CCTV management in crime management in Abuja.

The study has been able to identify various effects of CCTV on crime in the FCT Abuja. The identified effects are provision of information about certain crimes occurring around CCTV controlled area, distilling fear in potential criminals that leads to withdrawal, perpetrators may be detected and removed; inducing people to take precautions; providing evidence that can lead to arrest; alerting a watchman or employee to the commission of a crime, among others. In addition, CCTV may facilitate the effective deployment of security staff and police officers to locations where suspicious behaviour is occurring.

The study also revealed the various ways of using CCTV to effectively prevent crimes in the FCT Abuja and elsewhere. Among the lists are installation of more cameras, using CCTV in conjunction with other methods, strategic locations, proper and adequate monitoring among others.

Also, CCTV has limitations to other crimes such as violent or assaults. It tends to be more effective in combating property crimes, particularly burglary or car theft.

However, CCTV can work on a number of levels across a range of different contexts, which makes it difficult to provide a unified result.

CONCLUSION

CCTV cameras are in used in the FCT environs and have become popular to many people who adopt them as a good strategy for the prevention of crime. Many homes, offices, markets, shops, churches, mosques, banks etc in the various areas of study within the FCT have already taken advantage of CCTV. The police have also tapped from the advantage of CCTV to improve on crime prevention in the FCT, with varying degrees of success.

In spite of its development, CCTV use and availability is still not adequate in the FCT. Crimes thus continue to occur and this poses difficulties in obtaining a true picture of the impact of CCTV scheme in the FCT Abuja. The study has found mixed results regarding the effectiveness of CCTV which can make certain position contributions to addressing crime through rapid response to incidents.

Thus, In order to effectively combat crimes and other social vices, Nigerian government has to focus attention on the use of ICT tools which have recorded huge success in most developed countries. Moreover, total implementation of the above ICT deployment modes will go a long way in enhancing the security situations in Nigeria, especially in terms of high national issues such as election, infrastructure and air, border and sea port monitoring. This is because developed nations all over the world, who have demonstrated the aforementioned have significant strides or advantages in term of social, political, economic, infrastructural and technological development on the earth surface and beyond.

Conclusively, the era of CCTV use in the FCT Abuja is just emerging. More effort should be made to integrate other new ways that can facilitate operation of CCTV at a wider and more effective spectrum.

The following recommendations and implementation strategies are hereby proffered. First, The government (particularly Federal) to undertake a project to install more CCTV cameras in some strategies places for a more coverage of crimes in the FCT Abuja. For that purpose, the implementation strategies are 1) Federal Government to inaugurate a team and saddle it with the responsibility of mapping suitable areas for CCTV installation and 2) part of security budget of 2018 to be used for this project. Second, The Federal Government to either lower cost of CCTV or support private individuals to afford the cost of buying a CCTV kits. For that purposes, the implementation strategies are 1) The government to offer CCTV Cameras to potential users who could pay at lower cost and 2) The government should install CCTV in valuable areas and task the residents to pay a reasonable fee. Third, The Nigeria police and Department of State Service (DSS) should engage into adequate monitoring and supervision of the installed CCTVs to enable timely and rapid response to crime incidents. For that purposes, the implementation strategy is the security sectors to nominate special taskforce unit for monitoring CCTV cameras that cover public locations. Fourth, The Federal Government to engage in awareness campaign to deepen the use and concerns about CCTV in the FCT Abuja. For that purposes, the implementation strategies are 1) National Orientation Agency (NOA) to lead the awareness campaign at the turn of 2018 and 2) other agencies of security should also key into such campaigns. Fifth, The Federal Ministry of works and environment to open more streets and install lights to enhance a darkness-free environment.

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