



ADOPTION OF TECHNOLOGY IN POLICING AND THE REDUCTION OF UNLAWFUL ENTRY AND THEFT CASES. A CASE GWERU URBAN POLICE DISTRICT, MIDLANDS PROVINCE, ZIMBABWE.

Authors

1. Edward Tshuma, Principal Police Staff College, Zimbabwe(*Edwardtshuma@yahoo.com*)
2. Admire Mthombeni, Lecturer Department of Applied Business Sciences, Manicaland State University of Applied Sciences, Zimbabwe(*mthoadmire@gmail.com*)
3. Patrick Karibe, Lecturer, Department of Research and Development, Police Staff College, Zimbabwe(*pkaribep@gmail.com*)
4. Matilda Singende, Deputy Principal, Police Staff College, Zimbabwe(Email:*tildasing@gmail.com*)
5. Ngwenya Tenson, Chief Security Officer, Zimbabwe School of Mines(Email:*thamungwenya78@gmail.com*)
6. Benjamin Fidelis, Business Management Department, Police Staff College, Zimbabwe(Email :*benjyfidel@gmail.com*)

ABSTRACT

The main goal of the study was to establish whether there is any relationship between the use of technology in policing the crime of unlawful entry and theft and the reduction of the crime rate in Gweru Urban Police District in the Midlands Province of Zimbabwe. As such the objectives were to determine whether CCTV cameras are being used in policing the crime of unlawful entry and theft in Gweru Urban Police District, to establish whether Gweru Urban Police District utilizes drones in policing, focusing on the specific crime of unlawful entry and theft, to ascertain if the community and Gweru Urban Police District adopted the use of intrusion detectors and monitoring systems in fighting the crime of unlawful entry and theft and to examine the extent at which Gweru Urban Police District employs GPS tracking system in tracking well known criminals of unlawful entry and theft within its policing area with the aim of deterring them from re-committing the offence. Target population was police officers of the rank of Chief Inspector and below who are directly involved in crime management on a daily basis in Gweru Urban Police District. The researchers employed the quantitative research approach and a positivist research philosophy in which a descriptive research design was used in gathering data. Stratified random sampling was adopted for the research. Structured Questionnaire was used as research instrument in which the gathered data was analysed using SPSS version 23. Data obtained was presented in the form of tables and charts. Hypothesis was tested using chi square. The major findings were that, that use of CCTVs system reduce the crime rate of unlawful entry and theft if used in policing. Also research supported the fact that drones are effective and efficient in reducing the crime of unlawful entry and theft. Research also concurred that installation of intrusion detectors in houses and business premises significantly reduce the crime of unlawful entry and theft in Gweru Urban Police

District. The study also revealed that Gweru District is not using of GPS tracking system in tracking well known offenders does not deter these offenders from re-committing the crime of unlawful entry and theft. The study recommended that Gweru Urban Police District must utilize CCTV systems and drones in policing crime of unlawful entry and theft and also encourage the district to encourage residents and business people to install intrusion detectors on houses and business to manage unlawful entry and theft. Researchers also recommended the use of GPS tracking system in tracking well known offenders does not deter these offenders from re-committing the crime of unlawful entry and theft in Gweru

Key words

Unlawful entry, Theft cases, Crime management, Zimbabwe Republic Police, Urban Policing, Drones in Policing, Crime reduction strategy

Introduction and background

Policing is a fundamental management aspect of any country across the globe as it seeks to protect its citizens and their property. Policing trends have evolved for centuries taking into account the ever changing social, economic, political, legal and technological environments. In this modern world where technology has taken centre stage in all spheres of human life and business operations, it is prudent that the police takes advantage of technological innovations being developed and introduce them in policing so as to enhance crime prevention, detection and investigation. The Zimbabwe Republic Police is one such organization which must seriously consider the utilization of technological innovations such as drones, CCTVs, intrusion detectors and global positioning systems (GPS) connected to the central monitoring stations in cities and towns such as Gweru Central Business District and its surrounding built-up areas. In this study, the researcher seeks to establish whether Gweru Urban Police District is using technological innovations in policing the crime of unlawful entry and theft, and determine if there is any relationship with the reduction of crime rate thereof in the police district.

The Zimbabwe Republic Police in general and Gweru Urban Police District in particular need to utilize technological innovations in policing. According to Strom (2016), the advent of telephone, automobile and the two-way radio was the beginning of the interconnection of technology and

policing. It is a fact that most law enforcement agencies across the globe have adopted the extensive use of technology in their day to day duties both in administration and the core function of crime management, (Faith and Bekir, 2015). It is therefore prudent for the Zimbabwe Republic Police to be in sync with the latest technological innovations so as to effectively and efficiently carryout its core function of crime management. The crime of unlawful entry and theft has been a cause for concern in Gweru Urban Police District in the recent years, thus, from the year 2015 to 2020. This has been necessitated by the country's poor economic environment that has led to a high unemployment rate and poor standard of living affecting majority of the youths leaving schools, colleges and universities. Residents in the suburbs surrounding Gweru Central Business District are now living in serious fear as criminals are continuously unlawfully entering their houses stealing food, fast selling property such as laptops and money. It is important to note that if this crime of unlawful entry and theft is not prevented or no measures are put in place to reduce or mitigate its commission, the majority of the residents within Gweru Urban Police District will continue to suffer great losses of property and some will even risk being killed in the process of trying to defend and protect their valuable property.

According to Galante (2019) some of the police stations in the United Kingdom have been using drones in policing since 2015 and they have created drone teams. The drones are used to target criminals and capture images and videos that will provide evidence of crime scenes. Klauser (2017) propounds that drones are now being used by more than 26 police stations in Switzerland for aerial photography, observation and surveillance. This helps in crime prevention because criminals will be very much aware that they are under observation and the chances of them being arrested are very high. Rodriguez (1991) asserts that interior intrusion detection is mainly concerned with the detection of unauthorized intrusion into a building or room. It is a security system that most owners of domestic and commercial premises have adopted for protection against burglary which is a crime that has serious negative impact on the general public, (Brooks, 2014).

In the African continent, South Africa is one of the countries that have adopted the use of technology in policing. According to Ndonye (2019), the crime rate in South Africa's city centre dropped significantly following the introduction of CCTV cameras in the city. This is supported by Jili (2020) who posits that the Kampala police in Uganda purchased CCTV cameras worth

millions of dollars from China’s Huawei Telecommunications with a view to control the rising crime rate in the city. Livingston (2013) posits that other countries are now utilizing crowd sourcing which is the mobilization of the general public to perform some small incremental tasks which when brought together may accomplish important goals. This is all about identifying some people within the general public who have the capabilities and an interest in a particular thing such as crime prevention and police accountability to collect data which will then be used in conjunction with technological innovations such as GIS and GPS to allow crisis mapping or crime mapping.

Some of Zimbabwe’s private security services companies such as Safeguard Securities and Securico Security Services use technological innovations namely the CCTV cameras, Intrusion Detectors and Access Control Systems in providing security to their customers. Unfortunately these companies only provide these services to their customers and are not concerned about the public spaces. The Zimbabwe Republic Police has the mandate to provide security to all public spaces and can also utilize the technological innovations being used by private security agencies and even go a step further. However, there is need to establish the prevalent use of technological innovations by Gweru Urban Police District and also determine what influences their selection and implementation of such technologies

The table 1 below shows the unlawful entry and theft crime statistics for Gweru Urban Police District for the period January 2015 to December 2020.

Table 1 : Crime statistics

Year	Number of cases	Cumulative frequency	%Increase/Decrease
2015	739	0	0%
2016	770	31	4%
2017	820	50	6%
2018	943	123	13%
2019	826	-117	-14%
2020	1146	320	37%

Source: *Gweru Urban Police District Operations*

Problem Statement

There has been an increase in the crime of unlawful entry and theft within Gweru Urban Police District area of policing. In this modern world many policing agents have adopted the use of technological innovations in policing with a view to prevent and detect crime especially in the cities and well built-up public spaces. This scenario prompted the researchers to carry-out a study to ascertain whether police officers in police stations under the preview of Gweru Urban Police District are using these technological innovations in their day to day policing duties or activities and establish if there is a relationship between use of technological innovations in policing and the reduction of crime of unlawful entry and theft in this police district.

Main Aim

The nexus between the use of technology in policing and the crime reduction of unlawful entry and theft in Gweru Urban Police District.

Objectives of the study

1. To determine whether CCTV cameras are being used in policing the crime of unlawful entry and theft in Gweru Urban Police District.
2. To establish whether Gweru Urban Police District utilizes drones in policing, focusing on the specific crime of unlawful entry and theft.
3. To ascertain if the community and Gweru Urban Police District adopted the use of intrusion detectors and monitoring systems in fighting the crime of unlawful entry and theft.
4. To examine the extent at which Gweru Urban Police District employs GPS tracking system in tracking well known criminals of unlawful entry and theft within its policing area with the aim of deterring them from re-committing the offence.

Conceptual framework

Figure 1 below depicts how the independent variables of the study are linked with the intervening and dependent variables.

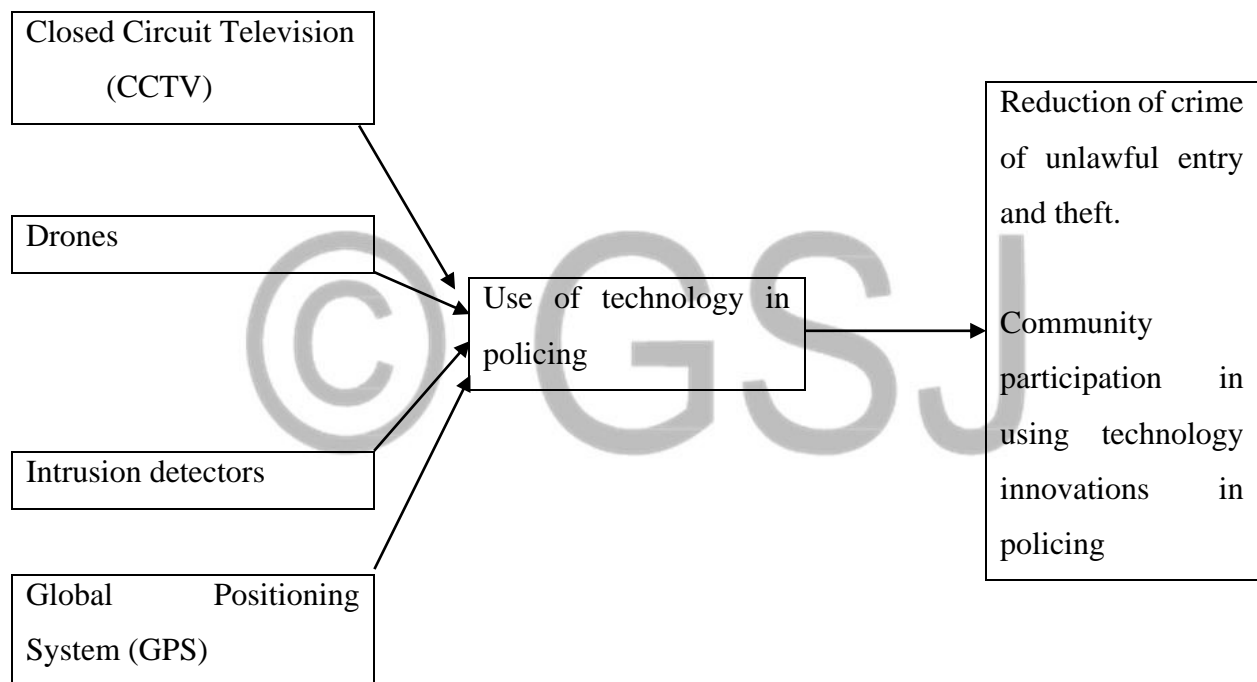


Figure 1: Technological innovations used in policing

Source: *Researchers (2021)*

The independent variables which are the closed circuit television (CCTV), drones, intrusion detectors and global positioning system (GPS) if used in policing initiatives and strategies to prevent, detect and investigate crimes of unlawful entry and theft in Gweru Urban Police District resulting in the reduction of the said crime of concern and the cooperation of the community in using these technological innovations in policing through the Zimbabwe Republic Police's community policing initiative will be of paramount importance. The variables of the study are both

hard and soft technologies and in most cases they are inseparable as hard technology will require soft technology to be fully effective. CCTV, drones, intrusion detectors and global positioning systems all utilize some software to provide information to the police officers that they will use in crime management. In order for the police in Gweru Urban Police District to reduce crime in their area of jurisdiction they have to apply or implement policing strategies which utilize these technological innovations. There must be a monitoring centre where trained police officers will monitor and analyze all the information that comes in and decisions on crime management are made. Since policing at some occasions involves the invasion of privacy it is fundamental for Gweru Urban Police District to incorporate the community when adopting technological innovations in policing. Failure to do so may result in community refusing to accept these policing strategies associated with the technological innovations adopted hence their effectiveness and efficiency will be compromised.



Theoretical framework

Organizational choice framework

According to Brooke (2000) organizational choice framework is a technique used by organizations in selecting and applying technology in their operations and the choices are identified through scenario generation encompassing all the relevant stakeholders at different levels of the organization. Scenario building is a qualitative methodology used to generate future scenarios and is mostly used as a wider forecasting activity. It therefore entails that, for Gweru Urban Police District to choose the most effective technological innovation for use in policing, it has to incorporate all its stakeholders such as the community it policies, interest groups like Crime Consultative Committees and Zimbabwe Human Rights Commission, and organization's finance section just to mention a few. Furthermore, the district has to generate a scenario of the crime of

unlawful entry and theft and then identify the technological innovation they think will assist in preventing this crime. All the stakeholders will analyze the scenario and the effectiveness of the technology applied, and a decision will be made based on the outcome of the analysis.

2.4.2 Police Go Shopping theory

Grabosky and Ayling (2006) state that the “police go shopping” theory is influenced by three factors which are ideology, economics and pragmatism. The Zimbabwe Republic Police’s decisions to acquire resources are influenced by these three factors mentioned above. It therefore means that if Gweru Urban Police District had opted to introduce technological innovations in policing the crime of unlawful entry and theft in its area of policing, it will have to consider the cost involved in acquiring and utilizing such technology versus the ideology of the organization and it is guided accordingly on what decision to make.

However, it is not always the norm that the organization’s ideology is in sync with the prevailing economic situation; hence decisions can be made based on economics rather than ideology. If the organization’s ideology is to be always in tandem with modern policing trends and standards as governed by the ever changing technological policing environment, the organization may fail to stick to that ideology because the economic situation is not favorable. Hence, the decision not to incorporate technological innovations in policing would have been made based on economics. Gweru Urban District cannot afford to buy and utilize technological innovations in policing the crime of unlawful entry and theft within its area of operation because funds are not available.

Weatherburn (2004) as cited by Grabosky and Ayling (2006) propounds that pragmatism emanates from an environment where stiff political competition is in existence. As police are apolitical, every citizen expects to be protected by them and reassured of his or her safety. To ensure that their operations do not bring about public outcries, the police commanders try by all means not to be involved in matters that bring discontent such as corruption, nepotism and favouratism. Politically, the government may also dictate what the police should buy and what not to buy

because the resources required should not negatively affect the activities of those in power. With this whole explanation of pragmatism, despite realizing a good opportunity in utilizing technological innovations in policing, Gweru Urban Police District may fail to acquire these technologies based on political decisions made, government's decisions on its proposal or commanders' reluctance in engaging in such initiatives to avoid discontent.

2.4.3 Innovation capability theory

According to Zawislak *et al* (2012:15), "the innovation capability can be seen as an overall capability encompassing the ability to absorb, to adapt and to transform a given technology into specific management, operations and transaction routines that can lead one firm to innovation." With the continuous development of technological innovations, the Gweru Urban Police District must be capable of absorbing, adapting and transforming these technological innovations into its operational management in general and crime management to be specific. Since crime management is the core function of the police and as such forms the nucleus of the operations of the Zimbabwe Republic Police in general and Gweru Urban Police District in particular, the focus will be on the "operations capability building block" of the innovation capability theory. Operations capability is the organization's ability to use technology in its operations. Crime prevention, detection and investigation are the branches of operations capability because that is what the police is mandated to do by the constitution.

In the case of Gweru Urban Police District, operations capability entails selecting the appropriate technological innovations that will enhance their operations resulting in offering quality service to the customers taking into account important factors of low-cost and responsiveness. The police should come up with operational strategies supported by technological innovations, which can allow it to adapt to its service provision, the capacity to acquire and utilize technology to meet the customer's needs and expectations.

Empirical review

According to Park, Oh and Paek (2012) in their study titled “Measuring the crime displacement and diffusion of benefit effects of open-streets CCTV in South Korea,” states that while CCTV cameras are highly perceived as crime deterrent tools, they are also reservations on their use. The presents of CCTV cameras in one area will cause offenders to change their operating area, thus, displacement of crime without reducing the crime rate while at the same time the crime prevention effects of CCTV will affect the nearby areas. The study carried out by the researchers was aimed at verifying the crime displacement and diffusion of open-street CCTV by analyzing the crime tendencies. The results of the study revealed that the crime prevention effect of the CCTV was sufficiently great. The number of robberies and thefts in the areas where CCTV cameras are installed reduced by 47.4% while areas without CCTV cameras had no change in the number of crimes. In the neighboring areas, there was no sign of crime displacement caused by CCTV cameras but it was observed that the crime rate in these neighboring areas actually decreased slightly.

Welsh and Farrington (2009) in their study titled “Public area CCTV and crime prevention: An updated systematic review and meta-analysis,” it was observed that out of the 93 studies on surveillance systems which were placed under the meta-analysis examination to determine their effectiveness in reducing crime, 44 were deemed sufficiently rigorous for inclusion. Majority of the studies were based in the United Kingdom while others were in the United States cities of Cincinnati and New York. The findings of the analysis deduced that surveillance systems were most effective in car parks where their use resulted in 51% decrease in crime. However, CCTV cameras in other public settings such as city centers and public housing communities had a decrease of 7% and a 23% decrease in public transits. When the analysis was done according to

countries, it was observed that CCTV cameras caused a majority decrease of crime in the United Kingdom as compared to other countries.

According to Mutongoti (2017) in his study titled, “An assessment of the effect of CCTV surveillance on company performance in Zimbabwean manufacturing sector,” indicated that the findings of the study proved that the use of CCTV surveillance in the manufacturing sector results in a decrease in theft and wastages. It is further observed that the use of CCTV improves the safety of both employees and property. It was concluded that the use of CCTV cameras enhances company performance and the findings can be utilized in other parts of Zimbabwe.

Lee (2010) in the research titled “Installation trends and characteristics of residential burglar alarms” asserts that it is voluntary to install burglar (intrusion) alarms in the city of Newark, New Jersey. The study showed that from the year 2001 to the year 2005 there was a steady decrease in the number of burglaries while there was a tremendous increase in the installation of intrusion alarms. There was a statistically significant relationship between the decrease of residential burglaries and the increase of intrusion alarm installations as evidenced by the correlation statistics. Communities where a high number of burglaries are experienced tend to install intrusion alarms.

The research indicated that the installation pattern of residential intrusion alarms was influenced by different variables notably the population race, the population age groups, unemployment rate and owner occupancy. Communities with greater number of black population as compared to white and other races had a high chance of installing intrusion alarms in their houses while communities with a greater population of children of the age group between 12 to 17 years also had a higher chance of installing intrusion alarms. In addition, it was observed that communities with high employment rate are more likely to install intrusion alarms than communities with higher unemployment rate. Furthermore, the study deduced that houses occupied by the owners are more likely to be installed with intrusion alarms as compared to those being leased out.

According to Tseloni *et al* (2017) in their crime survey titled, “The effectiveness of burglary security devices” state that 2.1% of households in England and Wales were broken into in the year 2012/2013 resulting in 694 000 burglaries as statistically recorded by the Office for National Statistics in 2013. The survey revealed that households with less than basic security experienced 6 times more burglaries than those with basic security, and 10 times more than those with enhanced security. This means that households without security are at greater risk than those with basic or enhanced security.

According to Hrabovska 2020:15) in the research paper “Eyes on innovation-using of drones in law enforcement,” asserts that technological innovations have been transforming police work in the 21st century by introducing new tools to fight crime across the globe. Drone technology greatly assisted the police and volunteers to locate a 35 year old person who had gone missing for 16 days in a forest in Hawaii. These innovations have a great potential of improving policing as they are enabling the police officers to come closer to the communities they police and subsequently to the crime scenes. Communication between the police and the public is enhanced thereby enabling police officers to respond spontaneously to the calls. Some of the policing activities that the police have already started undertaking using drones include finding missing persons, crime scene photographing and accident scene reconstruction and this has improved the quality of the outcomes of investigations. Drones have brought about some safety advantages to the police officers as they are deployed in high risk situations to gather information allowing for very quick decisions to be made. A quick and efficient coverage of a large area is another advantage of using drones and they have the ability to navigate through buildings and trees. When fixed with object tracking capabilities, police drones can track and follow criminals thereby assisting the police to easily locate and apprehend the offender.

According to Sakiyama *et al* (2016) as cited by Heen, Lieberman and Miethe (2018) in the research titled “The thin blue line meets the big blue sky: perceptions of police legitimacy and public attitudes towards aerial drones,” observed that the United States citizens is in agreement with the use of drones in reactive policing. The public prefers a situation where the police will deploy their drones to a specific task that deserves immediate response such as rescue operations, crime scene photographing and tactical operations rather than deploying drones for proactive policing such as

crime detection, traffic and crowd control. It was observed that 94% of the participants were in full support of police's use of drones in search and rescue operations while 76% were supporting the use of drones in border patrol activities. However, some participants in the study were in support of the use of drones in proactive policing such as crime detection in open public areas while 47% were advocating for their use in crowd management.

In another survey conducted by Monmouth University (2013) it was observed that 83% of the American citizens were advocating for the use of drones in rescue and search operations while 67% supported their use in tracking down runaway criminals. The use of drones in border control duties was supported by 64% of the participants while 23% opted for the use of drones in monitoring over-speeding drivers. Generally the use of drones in policing has been supported by most people although they differ in the circumstances where they are supposed to be utilized.

Belur *et al* (2017) carried out a study titled "A systematic review of the effectiveness of electronic monitoring of offenders" where they sought to determine whether there was any relationship between electronic monitoring of offenders and the reduction of re-commission of crime and the conditions under which electronic monitoring is effective. A systematic search of published and unpublished literature was conducted and 33 articles were identified to be meeting the inclusion criteria. However, only 17 studies which were found to be containing quantitative data on the effectiveness of electronic monitoring were considered for meta-analysis.

The findings were that electronic monitoring of offenders across all the 17 studies did not have a statistically significant effect on reducing re-commissioning of crime. Nevertheless, it was observed in 3 studies that electronic monitoring has a statistically significant effect on reduction on re-commissioning of sex offences and in other 3 studies had the same effect if it is specifically compared with an alternative of a prison term. It was further observed that electronic monitoring becomes more effective in reducing re-commission of crime when it is used in conjunction with other correctional methods such as counseling and therapy.

Main Research gap

The empirical research has been very general in the application of technological innovations in policing. Most researchers did not address the effects of using technology in the crime of unlawful entry and theft in specific but rather pointed to the prevention of crime in general. This can be misleading because technological innovations may be effective to certain crimes and less effective

to other crimes hence the researcher endeavors to establish the effectiveness of technological innovations on the reduction of crime of unlawful entry and theft.

Methodology

The researchers employed the quantitative research approach and a positivist research philosophy in which a descriptive research design was used in gathering data. Target population was police officers of the rank of Chief Inspector and below who are directly involved in crime management on a daily basis in Gweru Urban Police District. Stratified random sampling was adopted for the research. Structured Questionnaire was used as research instrument in which the gathered data was analysed using SPSS version 23. Data obtained was presented in the form of tables and charts.

Results and Findings

Use of CCTV systems in policing crime of unlawful entry and theft

The objective was to determine whether CCTV cameras are being used in policing the crime of unlawful entry and theft in Gweru Urban Police District.

Table 2 : Response rate on use of CCTV systems in policing (n=346)

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Use of CCTVs in policing can reduce crime of unlawful entry and theft	127	102	00	86	31

Source: Survey data (2021)

The study showed that 127 and 102 participants which translate to 36.7% and 29.5% strongly agreed and agreed respectively that the use of CCTV systems in policing the crime of unlawful entry and theft can indeed reduce the crime rate of this specific crime, while 86 and 31 participants translating to 24.9% and 8.9% respectively disagreed and strongly disagree.

It means that CCTV systems are very useful in management of the crime of unlawful entry and theft in Gweru Urban Police District as their use can lead to the reduction of the said crime. Piza et

al (2019) in their research titled, “CCTV surveillance for crime prevention, a 40 year systematic review with meta-analysis” revealed that 16 evaluations made on the use of CCTV in residential areas proved that there was a statistically significant crime reduction as the crime decreased by 12%. According to Park, Oh and Paek (2012) in their study titled “Measuring the crime displacement and diffusion of benefit effects of open-streets CCTV in South Korea,” the results of the study revealed that the crime prevention effect of the CCTV was sufficiently great. The number of robberies and thefts in the areas where CCTV cameras are installed reduced by 47.4% while areas without CCTV cameras had no change in the number of crimes. Comparing with the results of this study where a combined 66.2% agreed that the use of CCTV systems can reduce the crime of unlawful entry and theft, it is really prudent to apply this method of policing within Gweru Urban Police District.

Use of drones in policing the crime of unlawful entry and theft

The second objective was to establish whether Gweru Urban Police District utilizes drones in policing, focusing on the specific crime of unlawful entry and theft. The reason was to clearly understand their effectiveness and efficiency on the crime of unlawful entry and theft.

Table 3: use of drones in policing (n=346)

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Drones are efficient and effective in policing crime of unlawful entry and theft	84	99	54	109	

The study also revealed that the use of drones is likely to be effective in reducing the crime of unlawful entry and theft in Gweru Urban Police District as 84 and 99 participants, which is 24% and 29% respectively strongly agreed and agreed that use of drones in policing can reduce the crime rate of unlawful entry and theft, this is a combined 53% of participants with a positive perspective over use of drones as compared to 109 participants (32%) who disagreed while 54 participants (15%) were neutral.

The analysis indicates that using drones in policing the crime of unlawful entry and theft in Gweru Urban Police District is effective and efficient. In the study titled “The thin blue line meets the big blue sky: perceptions of police legitimacy and public attitudes towards aerial drones,”, Sakiyama *et al* (2016) observed that 94% of the participants were in full support of police’s use of drones in search and rescue operations while 76% were supporting the use of drones in border patrol activities. According to Hrabovska 2020:15) in the research paper “Eyes on innovation-using of drones in law enforcement,” it was revealed that drones provide a quick and efficient coverage of a large area and they have the ability to navigate through buildings and trees. When fixed with object tracking capabilities, police drones can track and follow criminals thereby assisting the police to easily locate and apprehend the offender. In this study a combined 183 participants (53%) supported the fact that drones can be effective and efficient in reducing the crime of unlawful entry and theft in Gweru Urban Police District and this is in agreement with the findings of the above researchers.

Use of intrusion detectors in policing crime of unlawful entry and theft.

The third objective was to ascertain if the community and Gweru Urban Police District adopted the use of intrusion detectors and monitoring systems in fighting the crime of unlawful entry and theft. The aim was to find out the working relation and cooperation between the two parties in fighting the crime of unlawful entry and theft in Gweru Urban Police District.

Table 4 : Response rate on installation of intrusion detectors on premises (n=346)

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Residents and business people must install intrusion detectors on their houses and premises to curb the crime of unlawful entry and theft	105	108		89	44

Source: *Survey data (2021)*

105 and 108 participants, which is 30.3% and 31.3%, strongly agreed and agreed respectively that if residents and business people install intrusion detectors on their houses and premises, the crime of unlawful entry and theft will be prevented resulting in the decline of the crime rate while only 89 and 44 participants which is 25.7% and 12.7% respectively disagreed and strongly disagree.

The installation of intrusion detectors on houses and business premises is fundamental in the management of the crime of unlawful entry and theft in Gweru Urban Police District with a view of preventing and reducing the crime rate.

Lee (2010) in the research titled “Installation trends and characteristics of residential burglar alarms” found out that there was a statistically significant relationship between the decrease of residential burglaries and the increase of intrusion alarm installations as evidenced by the correlation statistics. According to Tseloni *et al* (2017) in their crime survey titled, “The effectiveness of burglary security devices” the survey revealed that households with less than basic security experienced 6 times more burglaries than those with basic security, and 10 times more than those with enhanced security. This means that households without security are at greater risk than those with basic or enhanced security. The findings by Lee (2010) and Tseloni (2017) are in concurrence with the findings of this study were a combined 61.6% of the participants were in support of the fact that the installation of intrusion detectors by residents and business people on houses and premises can significantly reduce crime of unlawful entry and theft in Gweru Urban Police District.

Use of GPS tracking in monitoring well known offenders

The fourth objective was to examine the extent at which Gweru Urban Police District employs GPS tracking system in tracking well known criminals of unlawful entry and theft within its policing area with the aim of deterring them from re-committing the offence. The purpose of this objective was to establish if Gweru Urban Police District manages the potential causes of crime of unlawful entry and theft well.

Table 5: Response rate on using GPS tracking system in policing (n=346)

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Gweru Urban Police District must use GPS to continuously track well known offenders of unlawful entry and theft to deter them from re-committing the crime		23	44	204	75

Source: *Survey data (2021)*

However, the study revealed that the use of GPS tracking system by Gweru Urban Police District on well-known offenders of crime of unlawful entry and theft to deter them from re-committing the crime has been proved to be less effective and efficient as 204 and 75 participants, which is 59% and 21%, disagreed and strongly disagreed respectively that this will be effective and efficient. Only 23 participants translating to 7% agreed to the notion while 44 participants, that is 13%, were neutral. The analysis indicates that using GPS tracking system on well-known offenders of the crime of unlawful entry and theft in Gweru Urban Police District will not deter these offenders from re-committing the offence and lead to the reduction of the crime rate.

Belur *et al* (2017) carried out a study titled “ A systematic review of the effectiveness of electronic monitoring of offenders” the findings were that electronic monitoring of offenders across all the 17 studies does not have a statistically significant effect on reducing re-commissioning of crime. The US department of Justice (2011) in their study “Electronic monitoring reduces recidivism,” the analysis revealed that electronic monitoring reduces the offender’s risk of failure by 31%, it was also observed that there were different perceptions with regards to electronic monitoring as 85% of offenders stated that electronic monitoring does not affect the possibility of them absconding while 58% of probation officers were of the view that electronic monitoring will most likely deter offenders from absconding. The findings of this study showed that 80% of the participants indicated that the use of GPS tracking of well-known offenders does not deter them from re-committing the offences of unlawful entry and theft in Gweru Urban Police District. These three findings are in concurrence.

CONCLUSIONS

From the results presented, researchers therefore made the following conclusions

1. CCTV systems are not being used in policing the crime of unlawful entry and theft in Gweru Urban Police District despite the study revealing that CCTV systems are very useful and can result in the reduction of crime rate.
2. Drones are not be utilized in Gweru Urban Police District to manage the crime of unlawful entry and theft although the study showed that they are effective and efficient in policing this specific crime.
3. The study deduced that the installation and use of intrusion detectors can greatly reduce the crime of unlawful entry and theft in Gweru Urban Police District; however, there is no coordination between the police and the community in managing the crime of unlawful entry and theft through the installation and use of intrusion detectors in houses and business premises.
4. Gweru Urban Police District does not utilize GPS tracking system in monitoring well known offenders of the crime of unlawful entry and theft within their area of policing so as to deter these well-known offenders from re-committing the crime.

RECOMMENDATIONS

The researcher recommends the following basing on the findings of the study;

1. Gweru Urban Police District must use CCTV systems in policing the crime of unlawful entry and theft within its area of policing.
2. The district must utilize drones to effectively and efficiently manage the crime of unlawful entry and theft.
3. Gweru Urban Police District must strongly encourage residents and business owners to install intrusion detectors on their houses and premises which are linked to the monitoring centers at police stations so as to manage the crime of unlawful entry and theft in the district.
4. Since the study revealed that Gweru is not using GPS tracking system researchers therefore recommend that Gweru Urban must adopt this technology in policing the crime of unlawful entry and theft

AREAS OF FURTHER RESEARCH

The Zimbabwe Republic Police is a big organization that is mandated to provide security services to the citizens across the country hence it is recommended that further studies be conducted to establish the position of the entire organization with regards to its application of technological innovations in policing different crimes as some technology can be effective and efficient on some crimes and less effective on others. Different methodologies may be applied to the future researches in order to come up with more accurate results that enable the organization to plan strategically and achieve all set objectives.

References

- Ahmed, A. (2008) Ontological, Epistemological and Methodological Assumptions: Qualitative Versus Quantitative. <https://files.eric.ed.gov>. [Accessed 25/10/21]
- Anderez, D.O., Kanjo, E., Anwar, A., Johnson, J. and Lucy, D. (2021) The Rise of Technology in Crime Prevention: Opportunities, Challenges and Practitioner's Perspective.
- Al-Dhaqm *et al* (2021) Research Challenges and Opportunities in Drone Forensics Models. *Journal of Electronics*, Vol 10, Issue 13, 1519.
- Awadh, A and Al-Dhaafri, H.S (2018) The Effect of Training and Information Technology Management on Organisational Performance of Sharjah Police, *Journal of Management Research*, Vol 10, No 3, pp31-51.
- Belur *et al* (2017) What Works Crime Reduction Systematic Review Series, A Systematic Review of the Effectiveness of Electronic Monitoring of Offenders.
- Boote, D.N and Beile, P (2005) Scholars Before Researchers: On the Centrality of the Dissertation Literature Review in Research Preparation, *Educational Researcher*, Vol 34, No 6, pp3-15.
- Brewster, B., Gibson, H. and Gunning, M. (2018) Policing the Community Together: The Impact of Technology on Citizen Engagement, Leventakis, G and Habermeld, M (eds) *Societal Implications of Community Oriented Policing and Technology*. Springer Briefs in Criminology, Springer. Cham. <https://doi.org>. [Accessed 22/09/21].

Brooke, C (2000) A Framework for Evaluating Organisational Choice and Process Re-design Issues, *Journal of Information Technology*. <https://www.researchgate.net>. [Accessed 30/09/21].

Brooks, D. (2014) Intrusion Detection Systems in the Protection of Assets. In: Gill, M (eds) *The Handbook of Security*, Palgrave Macmillan, London.

Burkard, H.C (2013) Homicidal Patterns of Filicidal Parents: A Correlational Study. <https://searchproquest.com>. [Accessed 19/10/21]

Casteel, A. and Bridier, N.L (2021) Describing Populations and Samples in Doctoral Student Research, *International Journal of Doctoral Studies*, Vol 16, pp 339-362.

Cohen, L., Manion, L. and Morrison, K. (2007) *Research Methods in Education*, 6th Edition, Routledge, London.

Collis, J. and Hussey, R. (2014) *Business Research: A Practical Guide for Undergraduate and Postgraduate Students*, 4th Edition, Palgrave Macmillan, London.

Ellahi, A and Manarvi, I (2010) Understanding Attitudes Towards Computer Use in the Police Department of Pakistan. *The Electronic Journal on Information Systems in Developing Countries*, Vol 42, No 1, pp 1-26.

Ericksen, K. (2019) *Policing With Eyes in Sky: Analysis of Drone Programs in Law Enforcement*. Thesis, Rochester Institute of Technology. <https://scholarworks.rit.edu/theses>. [Accessed 16/09/21]

Fatih, T., and Bekir, C. (2015). Police Use Of Technology To Fight Against Crime. *European Scientific Journal, ESJ*, Vol 11(10)

Faqir, R.S.A (2013) The Use of Technology of Global Positioning System (GPS) in Criminal Investigations and Right to Privacy Under the Constitution and Criminal Legislation in Jordan :*Legal Analysis Study*, Vol 84, pp433-462.

Ferguson, A.G (2020) Structural Sensor Surveillance, *Lowa Law Review*, Vol 106, Issue 1.

Fleming, J. and Zegwaard, K. (2018) Methodologies, Methods and Ethical Considerations for Conducting Research in Work-Integrated Learning, *International Journal of Work-Integrated Learning, Special Issue 19 (3)*, pp205-213.

Galante, A (2019) 10 Ways That Police Use Drones to Protect and Serve. <https://www.forbes.com>. [Accessed 09/09/21]

Gelles, M., Mirkow, A. and Mariani, J (2019) The Future of Law Enforcement, Policing Strategies to Meet the Challenges of Evolving Technology and a Changing World. <https://www.deloitte.com>. [Accessed 11/10/21].

Grabosky, P. and Ayling, J. (2006) When Police Go Shopping. *Policing: An International Journal of Police Strategies and Management*, Vol 29 (4) pp 665-690.

Heen, M.S.J, Lieberman, J.D and Miethe, T.D (2018) The Thin Blue Line Meets The Big Blue Sky: Perceptions Of Police Legitimacy And Public Attitudes Towards Aerial Drones, *Criminal Justice Studies*, Vol 31, No 1, pp 18-37.

Helgesson, G and Eriksson, S. (2015) Plagiarism in Research: Medicine, Health Care and Philosophy, Vol 18 (1), pp91-101.

Hiller, J. (2016) Epistemological Foundations of Objectivist and Interpretivist Research. <https://ecommons.udayton.edu>. [Accessed 04/11/21].

Hrabovska, N., (2020). Eyes On Innovation—Using Drones In Law Enforcement. <https://www.scholar.google.com>. [Accessed 14/10/21].

Jackson, B.A., Greenfield, V.A., Morral, A.R. and Hoolywood, J.S (n.d) Police Department Investments in Information Technology Systems: Challenges Assessing their Payoff. <https://www.rand.org>. [Accessed 13/10/21].

Jenn N. C. (2006). Common Ethical Issues In Research And Publication. *Malaysian Family Physician : The Official Journal of the Academy of Family Physicians of Malaysia*, 1(2-3), pp74–76.

Jili, B. (2020) The Spread of Surveillance Technology in Africa Stirs Security Concerns, *Africa Center for Strategic Studies*. <https://africacenter.org>. [Accessed 29/07/21].

Kabir, S.M.S. (2016) Methods of Data Collection. <https://www.researchgate.net>. [Accessed 28/10/21]

Kivunja, C. (2018) Distinguishing between Theory, Theoretical Framework, and Conceptual Framework: A Systematic Review of Lessons from the Field, *International Journal of Higher Education*, Vol 7, No 6, pp 44-53.

Khalid, K., Hilman, H., and Kumar, D. (2012) Get Along With Quantitative Research Process, *International Journal of Research in Management*, Vol 2, Issue 2, pp 15-29.

Klauser, F (2021) Police Drones and the Air: Towards a Volumetric Geopolitics of Security, *Swiss Political Science Review*, Vol 27, Issue 1, pp 158-169.

Koper, C.S (2015) Realising the Potential of Technology in Policing. <https://cebcp.org>. [Accessed 11/10/21].

Lee, S. (2010) Installation Trends and Characteristics of Residential Burglar Alarms: *Journal of Applied Security Research*, Vol 5, pp176-207.

Leedy, P.D. and Ormrod, J.E. (2001) *Practical Research: Planning and Design*, 7th Edition, Merrill Prentice Hall, New Jersey.

Livingston, S. (2013) Africa's Information Revolution: Implications for Crime, Policing and Citizen Security, *Africa Center for Strategic Studies*, Research Paper No 5. <https://solutionscenter.nethope.org>. [Accessed 29/07/21].

Mafumbabete, C *et al* (2019) Mapping the Spatial Variations in Crime in Rural Zimbabwe Using Geographic Information Systems, *Cogent Social Sciences*, Vol 5, Issue 1.

Majid, U. (2018) Research Fundamentals: Study Design Population and Sample Size, Undergraduate Research in Natural and Clinical Science and Technology Journal (URNCST) Vol 2, Issue 1, pp 1-7.

Maunga, M., Mugari, I. and Tundu, M. (2015) Perspectives on Vigilantism in the Republic of Zimbabwe, *Mediterranean Journal of Social Sciences*, Vol 6, No 5, pp323-334.

Mbokane, A. (n.d) Research Design, Research Methods and Population. <https://uir.unisa.ac.za>. [Accessed 25/10/21]

Mohajan, H. (2017) Two Criteria for Good Measurements in Research: Validity and Reliability, *Annals of Spiru Haret University*, Vol 17 (3), pp 58-82.

Monmouth University (2013) U.S Supports Un armed Domestic Drones. <https://www.monmouth.edu>. [Accessed 30/09/21]

Moyo, S. (2019) Evaluating the Use of CCTV Surveillance Systems for Crime Control and Prevention: Selected Case Studies from Johannesburg and Tshwane, Gauteng.

Munir, U (2017) Research Instruments for Data Collection. <https://www.academia.edu>. [Accessed 16/09/21]

Musiiwa, R. (2018) Perspectives on the Use of CCTV Systems in Retail Outlets: A Case Study of OK Zimbabwe, First Street Branch, Harare. <https://elibrary.buse.ac.zw>. [Accessed 25/10/21]

Mutongoti, J. (2015). An Assessment Of The Effect Of Closed-Circuit-Television Surveillance On Company Performance In The Zimbabwean Manufacturing Sector. (*Unpublished master's thesis*). University of Zimbabwe.

Ndonye, N.R. (2019) Implications of Technological Advancement on Performance of Police Officers: Case of Kenya Railways Police Unit. <https://ir-library.ku.ac.ke>. [Accessed 27/7/21]

Nunn, S (2001) Police Technology in Cities: Changes and Challenges, *Technology in Society*, Vol 23, pp 11-27.

Park, H.H, Oh, G.S, and Peak, S.Y. (2012) Measuring the Crime Displacement and Diffusion of Benefit Effects of Open-street CCTV in South Korea, *International Journal of Law, Crime and Justice*, Vol 40, Issue 3, pp 179-191.

Piza, E., Welsh, B., Farrington, D. and Thomas, A. (2019). CCTV Surveillance for Crime Prevention: A 40-Year Systematic Review with Meta-Analysis. *Criminology & Public Policy*, 18(1): 135-159.

Razemba, F and Chitumba, P. (2019) Net Closes In On Machete Attackers, The Herald 14 November [online] <https://www.herald.co.zw>. [Accessed 30/09/21].

Rodriguez, J.R (1991) Interior Intrusion Detection Systems, Division of Safeguards and Transportation, Washington DC.

Romain, P.L (2015) Conflict of Interest in Research Looking Out for Number One Means Keeping the Primary Interest Front and Center, *Current Reviews in Musculoskeletal Medicine*, Vol 8 (2), pp 122-127.

Saunders, M. (2015) Understanding Research Philosophies and Approaches. <https://www.reserachgate.net>. [Accessed 27/07/21].

Schober, P. (2018) Correlation Coefficient: Appropriate Use and Interpretation Anesthesia and Analgesia, Vol126, Issue 5, pp 1763-1768.

Sileyew, K.J (2019) Research Design and Methodology. <https://www.intechopen.com>. [Accessed 12/06/21]

Smith, J (2005) Global Positioning Systems/ Global Information Systems: Usage for Law Enforcement, Criminal Justice Institute. <https://www.cji.edu>. [Accessed 16/09/21]

Strom, K. (2016) Research on the Impact of Technology on Policing Strategy in the 21st Century. *RTI International Police Executive Research Forum*, Research Triangle Park.

Surantha, N and Wicaksono, W.R (2018) Design of Smart Home Security System Using Object Recognition and PIR Sensor. *Procedia Computer Science* 135, pp 465-472.

Taherdoost, H. (2016) Sampling Methods in Research Methodology. How to Choose a Sampling Technique for Research. *International Journal of Academic Research in Management (IJARM)*, Vol 5, No 2, pp18-27.

Tseloni, A. et al (2017) Domestic Burglary Drop and the Security Hypothesis, *Crime Science*, Vol 6 (1)

Valdovinos, M., Specht, J., and Zeunik, J. (2016) Law Enforcement and Unmanned Aircraft Systems (UAS): Guidelines to Enhance Community Trust. Washington, DC: Office of Community Oriented Policing Services. <https://rems.ed.gov>. [Accessed 29/09/21].

Vollaard, B and van Ours, J.C (2011). Does Regulation of Built-in Security Reduce Crime? Evidence from a Natural Experiment, *Economic Journal, Royal Economic Society*, Vol. 121(552), pp 485-504,

Welsh and Farrington (2009) Public Area CCTV and Crime Prevention: An Updated Systematic Review and Meta- Analysis, *Justice Quarterly*, Vol 26, No 4.

Williams, C. (2007) Research Methods, *Journal of Business and Economic Research*, Vol5, No 3, pp 65-72.

Willis, M., Taylor, E., Leese, M. & Gannoni, A. (2017). Police Detainee Perspectives on CCTV. *Trends and Issues in Crime and Criminal Justice*, 538.

Zawislak, P.A et al (2012) Innovation Capability: From Technology Development to Transaction Capability, *Journal of Technology Management and Innovation*, Vol 7, Issue 2, pp 14-27.

Zimbabwe 2020 Crime and Safety Report – OSAC. <https://www.osac.gov>. [Accessed 27/07/21].

Zukauskas, P (2018) Philosophy and Paradigm of Scientific Research. <https://www.intechopen.com>. [Accessed 04/11/21].

More Burglary Suspects Arrested, Zimbabwe Republic Police. <https://www.zrp.gov.zw>. [Accessed 30/09/21].

Intrusion Detection Systems, Guidance for Security Managers (2013) Center for the Protection of National Infrastructure. <https://www.cpni.gov.uk>. [Accessed 30/09/21].

Literature Review and Focusing the Research. <https://www.sagepub.com>. [Accessed 22/09/21].

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