

TECHNOLOGY INTEGRATION AND CRIME PREVENTION IN MALAWI'S SECURITY SECTOR: EVIDENCE FROM AN URBAN POLICING ENVIRONMENT

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ABSTRACT

Technology has become an important tool for enhancing crime prevention and public security, yet its adoption within Malawi's security sector remains limited. This study examined the influence of technology integration on crime prevention at Lilongwe Police Station using a quantitative correlational research design. Data were collected from 39 police officers through structured questionnaires and analyzed using SPSS with descriptive statistics, Pearson's correlation, and simple linear regression.

The findings identified the 997 Rapid Response System as the primary technology supporting crime prevention. A strong positive relationship was found between technology integration and crime prevention effectiveness ($r = .845$, $p < .001$), with technology explaining 71.3% of the variation in crime prevention performance ($R^2 = .713$). However, inadequate infrastructure, limited funding, insufficient ICT training, weak technical support, and low public awareness hinder effective implementation.

The study concludes that technology integration is essential for improving crime prevention in Malawi. It recommends greater investment in digital infrastructure, continuous ICT capacity building, stronger technical support, and increased public awareness to enhance technology-enabled policing and inform security sector modernization.

KEYWORDS: Technology integration; crime prevention; digital policing; Malawi; 997 Rapid Response System.

INTRODUCTION

Technological advancement has transformed policing across the world by enabling law enforcement agencies to prevent crime more effectively, improve operational efficiency, and strengthen public safety. The rapid growth of information and communication technologies (ICTs) has fundamentally changed the way police organizations operate, communicate, and deliver services. Modern policing increasingly depends on digital technologies such as artificial intelligence (AI), surveillance systems, geographic information systems (GIS), predictive analytics, drones, crime databases, mobile reporting platforms, biometric identification systems, and emergency communication systems. These technologies improve information sharing, facilitate rapid response to emergencies, enhance criminal investigations, support intelligence-led policing, and enable evidence-based decision-making. By allowing police agencies to collect, analyze, and utilize real-time information, technology has become an indispensable tool in addressing increasingly complex security challenges and improving overall policing effectiveness (Laufs & Borrion, 2022; Scottish Government, 2023).

The increasing importance of technology in policing is largely driven by the changing nature of crime. Criminal activities have become more sophisticated, with offenders increasingly exploiting digital communication platforms, mobile technologies, cyber systems, and advanced methods to coordinate illegal activities. Consequently, conventional policing approaches alone are no longer sufficient to address emerging forms of crime. Law enforcement agencies are therefore embracing digital transformation to strengthen crime prevention strategies, improve resource allocation, enhance situational awareness, and increase accountability. Technologies such as integrated command centres, digital communication networks, and automated data management systems have become essential components of modern policing because they enable officers to respond quickly, coordinate effectively, and make informed operational decisions.

Globally, police organizations have increasingly adopted technology-driven strategies to address emerging security challenges. In developed countries, predictive policing systems, automated license plate readers, facial recognition technologies, body-worn cameras, crime mapping systems, and integrated command centres have significantly improved crime detection, criminal investigations, and resource allocation (Ninaquispe Soto et al., 2021). Predictive policing technologies use historical crime data to identify potential crime hotspots, allowing police agencies to deploy officers proactively rather than reactively. Similarly, body-worn cameras and digital evidence management systems have enhanced transparency,

accountability, and public trust by providing objective records of police encounters. Integrated command centres also facilitate effective coordination among emergency responders, ensuring that resources are deployed efficiently during critical incidents.

Technology adoption is not limited to developed countries. Several African countries have increasingly incorporated digital technologies into policing operations as part of broader public sector modernization programmes. South Africa has expanded the use of intelligence-led policing, digital crime analysis, and surveillance technologies to combat organized crime and violent offences. Kenya has invested in closed-circuit television (CCTV) systems, integrated emergency response centres, and digital monitoring platforms to strengthen urban security and improve police response to emergencies (Nzesya, 2024). Other countries, including Rwanda, Ghana, and Botswana, have also introduced electronic crime databases, digital communication systems, and technology-assisted investigations to improve policing effectiveness. Although financial and infrastructural limitations continue to affect many African countries, these developments demonstrate a growing recognition that technological innovation is essential for improving public safety and enhancing law enforcement capacity.

Malawi has also embarked on the modernization of policing through technological innovation. The Malawi Police Service (MPS) has introduced several digital initiatives aimed at improving crime reporting, operational coordination, information management, and public service delivery. Among these innovations is the **997 Rapid Response System**, which enables members of the public to report crimes, road traffic accidents, fires, and other emergencies through a toll-free number. By providing a direct communication channel between citizens and the police, the system facilitates quicker police response, improves emergency coordination, and strengthens communication between communities and law enforcement agencies. The 997 Rapid Response System also supports community policing by encouraging greater public participation in crime reporting and emergency response. In collaboration with the Malawi Communications Regulatory Authority (MACRA), the Malawi Police Service has also begun introducing drone technology and digital communication systems to improve surveillance, forensic investigations, and operational efficiency (Malawi Police Service, 2023). These initiatives reflect the government's commitment to leveraging technology to improve policing services. Nevertheless, compared with many developed and emerging economies, technology adoption within Malawi remains relatively limited and uneven across police formations.

Despite these technological developments, crime continues to pose a significant challenge in Malawi. National crime statistics indicate an increase in reported criminal cases over recent

years, while Lilongwe Police Station continues to experience relatively high crime volumes because of rapid urbanization, population growth, expanding commercial activities, and increased population mobility. These developments place considerable pressure on police resources and highlight the need for more effective technological support in crime prevention and law enforcement. Digital technologies such as the 997 Rapid Response System have the potential to improve operational efficiency by reducing response times, enhancing communication between police officers and the public, and enabling faster deployment of law enforcement resources. However, the extent to which these technologies contribute to improved crime prevention outcomes within the Malawian context remains insufficiently understood.

Although the Malawi Police Service has made efforts to improve crime prevention through digital technologies, limited empirical research has evaluated the effectiveness of these technologies within the Malawian policing context. Existing studies have largely focused on general ICT adoption in public institutions, electronic governance, or organizational digital transformation without quantitatively examining how technology integration influences crime prevention outcomes at police station level. Consequently, there remains limited evidence regarding whether investments in technologies such as the 997 Rapid Response System translate into measurable improvements in policing effectiveness. This lack of localized empirical evidence creates uncertainty for policymakers, police administrators, and development partners regarding the extent to which technological investments contribute to improved operational performance and public safety.

Furthermore, several operational challenges continue to constrain technology adoption within the Malawi Police Service. These include inadequate ICT infrastructure, insufficient financial resources, limited technical expertise, poor network connectivity, shortages of technological equipment, inadequate maintenance and technical support, and limited public awareness regarding the availability and appropriate use of digital policing services. Such constraints reduce the effectiveness of existing technologies and limit their potential contribution to crime prevention. Without empirical evidence identifying both the benefits and challenges associated with technology integration, policy decisions regarding technological investment may fail to address the actual operational needs of police officers and the communities they serve.

This study therefore examined the effect of technology integration on crime prevention strategies at Lilongwe Police Station. Specifically, it sought to identify the technologies currently employed in crime prevention, determine the relationship between technology

integration and crime prevention effectiveness, and identify the major challenges affecting technology adoption. The findings provide empirical evidence that may inform strategic planning, policy formulation, resource allocation, and investment decisions aimed at strengthening technology-enabled policing in Malawi. The study also contributes to the broader literature on digital policing within developing countries by providing quantitative evidence from a resource-constrained policing environment, thereby offering insights that may support future research and guide the modernization of policing practices.

Literature Review

Technology Integration in Modern Policing

Technology integration has fundamentally transformed policing by enabling law enforcement agencies to shift from reactive responses toward proactive crime prevention. Contemporary policing increasingly relies on digital technologies that improve operational efficiency, intelligence gathering, communication, and decision-making. These technologies include emergency response systems, closed-circuit television (CCTV), Geographic Information Systems (GIS), artificial intelligence (AI), predictive analytics, drones, biometric identification systems, mobile reporting applications, and integrated crime databases. Collectively, these innovations enhance police visibility, accelerate emergency response, improve evidence collection, and strengthen public safety (Laufs & Borrión, 2022).

Technology integration extends beyond simply introducing new equipment into police organizations. It encompasses the systematic incorporation of digital technologies into organizational processes, operational procedures, and strategic decision-making. Successful integration therefore depends not only on technological availability but also on organizational readiness, infrastructure, leadership support, personnel competence, and continuous investment (Scottish Government, 2023).

Digital policing has become particularly important in urban environments where increasing population density and complex crime patterns require rapid information exchange and coordinated responses. Modern police organizations increasingly utilize technology to predict crime hotspots, allocate patrol resources efficiently, monitor criminal activities in real time, and facilitate intelligence-led policing. Consequently, technology has become an indispensable component of effective law enforcement across both developed and developing countries.

Technology and Crime Prevention

Crime prevention refers to organized interventions designed to reduce opportunities for criminal behavior before crimes occur. Rather than focusing exclusively on apprehending offenders after crimes have been committed, contemporary crime prevention emphasizes early detection, risk reduction, environmental management, and community engagement. Technology supports these objectives by improving surveillance, increasing police visibility, facilitating rapid communication, and strengthening intelligence gathering (Ninaquispe Soto et al., 2021).

Several technological innovations have demonstrated considerable effectiveness in reducing crime. CCTV surveillance increases offender apprehension while discouraging criminal activity in public places. Geographic Information Systems enable police agencies to identify crime hotspots and deploy officers strategically. Predictive analytics assists commanders in forecasting crime trends and optimizing patrol allocation. Likewise, emergency communication systems shorten police response time, allowing officers to intervene before criminal incidents escalate (Laufs & Borrión, 2022).

Although technology itself does not eliminate crime, it significantly enhances police capability when combined with effective organizational management, adequate training, and community participation. Consequently, technology should be viewed as an enabler of evidence-based policing rather than as a substitute for professional policing practices.

Empirical Evidence from International Studies

International literature consistently demonstrates that technology contributes positively to policing outcomes. In many developed countries, police agencies have successfully integrated artificial intelligence, predictive policing software, automated license plate recognition systems, digital forensic laboratories, and integrated command centers into routine operations. These innovations have improved operational efficiency while supporting intelligence-led policing strategies.

Research by Laufs and Borrión (2022) concluded that technological innovation enhances surveillance capabilities, improves operational coordination, and strengthens crime prevention through better information management. However, the authors also observed that technological success depends largely on organizational preparedness, institutional commitment, and adequate financial investment.

Similarly, the Scottish Government (2023) reported that digital technologies improve public safety through enhanced crime reporting, intelligence sharing, and operational coordination.

Nevertheless, the report emphasized that technology alone cannot improve policing outcomes unless officers possess the necessary technical competencies and organizational systems support effective implementation.

Ninaquispe Soto et al. (2021) further observed that technology improves policing through enhanced data collection, crime analysis, and decision-making. Their findings indicate that statistical analysis and digital information systems facilitate objective resource allocation and improve operational accountability.

Collectively, these international studies demonstrate that technology integration enhances police effectiveness when supported by appropriate institutional capacity, financial resources, and professional training.

Technology Integration within African Policing

African police organizations have increasingly embraced digital transformation to improve law enforcement despite significant resource limitations. However, technology adoption remains uneven across the continent because of financial constraints, inadequate infrastructure, limited technical expertise, and inconsistent policy implementation.

In Kenya, CCTV surveillance has become an important component of urban policing, particularly within Nairobi. Nzesya (2024) found that surveillance technologies improved criminal investigations, increased prosecution success, and strengthened public confidence in policing. However, maintenance challenges, limited geographical coverage, and inadequate technical capacity constrained long-term effectiveness.

In Ghana, qualitative research demonstrated that technologies such as mobile communication platforms, CCTV, and drone surveillance improved crime detection and operational coordination. Nevertheless, financial limitations, inadequate digital literacy, and weak community trust continued to hinder widespread technology adoption (Duho et al., 2024).

Similarly, research conducted in Nigeria found that predictive policing models improved deployment planning and reduced emergency response times. However, concerns regarding data quality, algorithmic transparency, and institutional readiness limited full implementation (Adeyemi & Ojo, 2024).

Evidence from Zambia further indicates that successful digital policing requires supportive governance structures, effective ICT policies, adequate funding, and skilled personnel. Despite government commitment toward digital transformation, bureaucratic delays and insufficient ICT expertise continue to impede implementation (Chomba & Mwewa, 2026).

These African studies consistently demonstrate that technological innovation enhances policing performance while simultaneously highlighting the importance of institutional capacity, sustainable financing, and human resource development.

Technology Integration in Malawi

The Malawi Police Service has gradually embraced digital technologies to improve policing effectiveness. National initiatives have focused on strengthening crime reporting, emergency response, information management, and operational coordination. Strategic modernization efforts have emphasized expanding ICT infrastructure, improving digital communication, and strengthening crime analysis capabilities.

One of the most notable technological innovations is the 997 Rapid Response System, which provides the public with a toll-free emergency reporting platform. The system facilitates timely communication between citizens and police officers, enabling quicker emergency response and improved coordination during incidents. Additionally, collaboration between the Malawi Police Service and the Malawi Communications Regulatory Authority has introduced drone technology to support surveillance, search-and-rescue operations, and forensic investigations. These initiatives represent important milestones toward modernizing policing in Malawi.

Despite these developments, technological integration remains relatively limited compared with international standards. Advanced technologies such as integrated CCTV networks, predictive policing software, facial recognition systems, and sophisticated crime-mapping platforms remain largely unavailable across most police formations. Existing infrastructure limitations, inadequate financial resources, inconsistent internet connectivity, insufficient ICT equipment, and limited technical expertise continue to constrain technological expansion.

Consequently, although digital transformation has begun, Malawi still requires substantial investment in technological infrastructure, organizational capacity, and human capital development to realize the full benefits of technology-enabled policing.

Research Gap

Although extensive international literature demonstrates the benefits of technology integration within policing, relatively few studies have quantitatively examined its impact in Malawi. Existing studies primarily describe technological innovations or discuss implementation challenges without statistically evaluating the relationship between technology integration and crime prevention outcomes.

Furthermore, much of the African literature relies on qualitative methodologies, limiting opportunities to quantify the magnitude of technology's contribution to policing effectiveness. Local studies also provide limited evidence regarding how emergency response systems, digital communication platforms, and ICT infrastructure influence operational performance within individual police stations.

The present study addresses these limitations by employing a quantitative correlational design to examine the relationship between technology integration and crime prevention strategies at Lilongwe Police Station. By using descriptive statistics, Pearson correlation, and regression analysis, the study provides empirical evidence to support evidence-based policy formulation and technological investment within the Malawi Police Service.

Theoretical Framework

This study is anchored in **Routine Activity Theory (RAT)** developed by Cohen and Felson (1979). The theory proposes that crime occurs when three essential elements converge simultaneously: a motivated offender, a suitable target, and the absence of a capable guardian. Crime prevention therefore depends largely on disrupting this convergence through the introduction of effective guardianship.

Within contemporary policing, technology functions as a modern capable guardian. Digital surveillance systems, emergency communication platforms, crime databases, predictive analytics, and mobile reporting applications enhance police presence, improve situational awareness, increase offender detection, and reduce opportunities for criminal activity. Consequently, technology strengthens guardianship by improving the capacity of law enforcement agencies to prevent crime before it occurs.

Routine Activity Theory provides an appropriate theoretical foundation for this study because it directly explains how technological innovations contribute to crime prevention without necessarily changing offender motivation. Technologies such as the 997 Rapid Response System reduce police response time, improve communication between the public and police officers, and increase the likelihood of timely intervention. These mechanisms reduce opportunities for crime by increasing the probability that offenders will encounter capable guardians.

Despite its usefulness, Routine Activity Theory has several limitations. The theory largely ignores broader socioeconomic factors that influence criminal behavior, including poverty, unemployment, inequality, substance abuse, and psychological conditions. It also provides limited explanation for cybercrime, where offenders and victims may never occupy the same

physical space. Consequently, while Routine Activity Theory effectively explains the operational role of technology in crime prevention, it should be interpreted alongside broader criminological perspectives that recognize the structural causes of crime.

Overall, the theory offers a strong conceptual foundation for examining the relationship between technology integration and crime prevention strategies at Lilongwe Police Station because it demonstrates how technological innovations strengthen police guardianship, improve operational efficiency, and reduce opportunities for criminal activity.

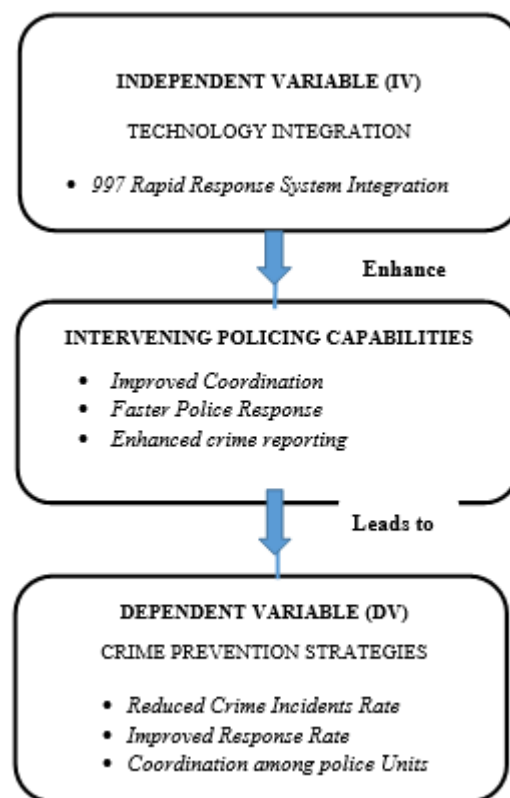


Figure 1: Conceptual Framework.

Source: Developed from the Literature

METHODOLOGY

Research Design

This study adopted a **quantitative research approach** using a **correlational research design** to examine the relationship between technology integration and crime prevention strategies at Lilongwe Police Station. A quantitative approach was considered appropriate because it enables researchers to measure variables objectively, test hypotheses statistically, and generalize findings from a representative sample to a broader population (Ninaquispe Soto et al., 2021; Scottish Government, 2023).

The correlational design was selected because the study sought to determine whether technology integration is associated with improvements in crime prevention without manipulating any operational variables. Unlike experimental designs, correlational studies allow researchers to investigate naturally occurring relationships within real organizational settings where experimental intervention is impractical or unethical. This design was therefore suitable for examining policing operations within the Malawi Police Service.

Study Area

The research was conducted at **Lilongwe Police Station**, located in Lilongwe City, the capital of Malawi. The station serves one of the country's largest urban populations and records a comparatively high volume of reported criminal cases. Owing to rapid urbanization, increasing population density, and growing security demands, Lilongwe Police Station provides an appropriate setting for evaluating the effectiveness of technology integration in crime prevention.

The Malawi Police Service reported that Lilongwe Police Station consistently records one of the highest crime volumes among police stations in Malawi, making it an appropriate case for investigating the contribution of technological innovation to policing effectiveness.

Population and Sampling

The target population comprised **383 police officers** serving at Lilongwe Police Station across various ranks and operational units. Since technology utilization varies according to organizational responsibilities, the study employed **stratified random sampling** to ensure adequate representation of officers from different hierarchical levels.

A sample of **40 police officers**, representing approximately 10% of the target population, was selected proportionately across the different ranks. Ultimately, **39 completed questionnaires** were returned and found suitable for analysis, yielding an overall response rate of **97.5%**. Such a response rate is considered excellent for quantitative survey research and minimizes the likelihood of non-response bias.

Data Collection Instrument

Primary data were collected using a **structured self-administered questionnaire**. The questionnaire consisted primarily of closed-ended questions measured using a **five-point Likert scale**, ranging from **1 (Strongly Disagree)** to **5 (Strongly Agree)**. The instrument was designed to capture respondents' perceptions regarding technology integration, crime prevention outcomes, and challenges affecting technology adoption.

The questionnaire contained four sections:

- demographic characteristics of respondents;
- technologies used in crime prevention;
- effectiveness of technology integration in crime prevention; and
- challenges affecting technology adoption.

The use of standardized questions ensured consistency in data collection while facilitating quantitative statistical analysis.

Measurement of Variables

The study examined one independent variable and one dependent variable.

The **independent variable** was **technology integration**, measured using indicators relating to the adoption and utilization of technological innovations supporting policing operations, particularly the **997 Rapid Response System**, digital communication tools, and related ICT applications.

The **dependent variable** was **crime prevention strategies**, measured through respondents' perceptions of improvements in operational effectiveness, emergency response, crime reporting, coordination among police units, and crime prevention outcomes.

Challenges affecting technology adoption including inadequate ICT infrastructure, insufficient financial resources, inadequate training, poor technical support, and low public awareness were analyzed descriptively to identify barriers to successful implementation.

Reliability and Validity

Table 1: Reliability Test. (Cronbach's Alpha Summary)

Variable	Items	Cronbach's Alpha	Decision
Type of technology integration	5	0.818	Reliable
Effect of technology integration	5	0.771	Reliable
Challenges of technology adoption	5	0.813	Reliable

Source: Data Analysis (2026)

The reliability of the research instrument was assessed using **Cronbach's alpha coefficient**, one of the most widely accepted measures of internal consistency for Likert-scale instruments. The questionnaire demonstrated acceptable reliability, indicating that the items consistently measured the intended constructs. Content validity was enhanced through an extensive review of contemporary literature on technology integration and policing, ensuring that questionnaire items adequately represented the study variables.

Prior to the main survey, the questionnaire was reviewed to improve clarity, relevance, and appropriateness for the policing context.

Data Collection Procedure

Ethical clearance and institutional authorization were obtained before commencing data collection. An introductory letter was obtained from **DMI St. John the Baptist University**, after which permission was granted by the **Malawi Police Service Headquarters**. Authorization was subsequently communicated through the Commissioner responsible for the Central West Region to the Officer-in-Charge of Lilongwe Police Station.

Questionnaires were personally distributed to the selected respondents during working hours. Participants completed the questionnaires voluntarily, and completed questionnaires were collected immediately after completion to maximize the response rate and minimize data loss.

Data Analysis

The collected data were coded and entered into the **Statistical Package for the Social Sciences (SPSS) Version 30** for analysis. Both descriptive and inferential statistical techniques were employed.

Descriptive statistics including frequencies, percentages, means, and standard deviations were used to summarize respondents' demographic characteristics and perceptions regarding technology integration.

Inferential statistics were employed to test the study hypotheses. **Pearson's product-moment correlation coefficient** was used to determine the strength and direction of the relationship between technology integration and crime prevention strategies. Simple linear regression analysis was subsequently conducted to evaluate the predictive effect of technology integration on crime prevention outcomes. Statistical significance was evaluated at the **5% significance level ($\alpha = .05$)**.

Table 2: Pearson Correlation Matrix.

Variable	997 Rapid Response System	Crime Prevention Strategies
997 Rapid Response System	1	$r = 0.845$
Crime Prevention Strategies	$r = 0.845$	1
Sig. (2-tailed)	-	$p < 0.001$
N	39	39

Source: Data Analysis (2026)

Hypothesis

The study tested the following hypothesis:

H₀: Technology integration has no statistically significant effect on crime prevention strategies at Lilongwe Police Station.

H₁: Technology integration has a statistically significant effect on crime prevention strategies at Lilongwe Police Station.

RESULTS AND DISCUSSION

Results

Response Rate

A total of **40** questionnaires were distributed to police officers selected through stratified random sampling. Of these, **39** questionnaires were completed and returned, representing a **97.5% response rate**. This high response rate exceeds the minimum threshold generally recommended for survey research and therefore provides confidence that the findings are representative of the target population.

Respondent Characteristics

As shown on Table 3, the respondents represented different demographic groups, including gender, age, police rank, branch, and years of service. This diversity ensured that the study captured perspectives from officers occupying strategic, tactical, and operational roles within Lilongwe Police Station. Such representation strengthened the reliability of the findings because technology utilization differs according to organizational responsibilities and operational experience.

Table 3: Descriptive Results of the Respondents. (n = 39)

Variable	Category	Frequency (f)	Percentage (%)
Gender	Male	25	64.1
	Female	14	35.9
Age Group	18-25	3	7.7
	26-35	15	38.5
	36-45	19	48.7
	46 above	2	5.1
Rank	Sergeant	17	43.6
	Sub Inspector	16	41.0
	Inspector	4	10.3
	Assistant Superintendent	1	2.6
	Superintendent	1	2.6
Branch	General Duties	9	23.1
	HRM&D	4	10.3

Length of Years of Service	CID	7	17.9
	Community Policing	3	7.7
	Other	16	41.0
	<1	4	10.3
	1-3	8	20.5
	4-6	10	25.6
	7-10	8	20.5
	10>	9	23.1

Source: Data Analysis (2026)

Technologies Supporting Crime Prevention

The first objective sought to identify the technologies currently supporting crime prevention at Lilongwe Police Station. The descriptive analysis revealed that the **997 Rapid Response System** constitutes the principal technological innovation used in daily policing operations. The system facilitates emergency communication between the public and the police, allowing incidents to be reported quickly and enabling officers to respond more efficiently.

Respondents generally agreed that the system had improved emergency reporting, coordination among officers, and operational responsiveness. However, advanced policing technologies commonly used internationally such as integrated CCTV surveillance, predictive policing software, facial recognition systems, Geographic Information Systems (GIS), and drone-supported routine policing were either unavailable or used only on a very limited scale. Consequently, technology integration at Lilongwe Police Station remains concentrated on communication-based technologies rather than comprehensive digital policing systems.

Effect of Technology Integration on Crime Prevention

To determine whether technology integration influences crime prevention strategies, descriptive statistics were first computed. Respondents generally expressed favorable perceptions regarding technology integration, indicating that digital technologies contribute positively to policing operations.

The Technology Integration Index recorded a **mean of 3.71** ($SD = 0.83$), while the Crime Prevention Strategies Index recorded a **mean of 3.67** ($SD = 0.80$). These relatively high mean scores suggest that respondents perceived technology as contributing positively to operational effectiveness and crime prevention activities.

Correlation Analysis

Pearson's correlation coefficient was calculated to determine the relationship between technology integration and crime prevention strategies.

The analysis revealed a **strong positive correlation** between technology integration and crime prevention strategies, $r = .845$, $p < .001$. This result indicates that higher levels of technology integration are associated with more effective crime prevention strategies.

According to Cohen's (1979) guidelines, a correlation coefficient above .70 represents a strong relationship. Therefore, the findings demonstrate that technology integration constitutes an important predictor of policing effectiveness at Lilongwe Police Station.

Since the probability value was below the conventional significance level of .05, the null hypothesis was rejected. The study therefore concludes that technology integration is significantly associated with improvements in crime prevention strategies.

Regression Analysis

Simple linear regression was conducted to determine the extent to which technology integration predicts crime prevention strategies.

Table 4: Model Summary.

Model	R	R Square	Adjusted R Square	Std. Error
1	0.845	0.713 (71.3%)	0.706	0.43437

Source: Data Analysis (2026)

Interpretation

On Table 4, the R-squared value of 0.713 shows that the model accounts for 71.3% of the variation in crime prevention strategies, suggesting a strong fit.

Table 5: ANOVA.

Model	Sum of Squares	df	Mean Square	F	Sig. (p)
1 Regression	17.378	1	17.378	92.105	0.000
Residual	6.981	37	0.189		
Total	24.359	38			

Source: Data Analysis (2026)

Interpretation

On Table 5, the ANOVA results show that the regression model is statistically significant ($F = 92.105$, $p = 0.000$, indicating that the model is fit for the data.

The regression model produced a coefficient of determination of $R^2 = .713$, indicating that technology integration explained **71.3%** of the variation in crime prevention strategies. This represents substantial explanatory power, suggesting that technology integration is one of the principal determinants of policing effectiveness within the study setting.

The regression model was statistically significant ($p < .001$), confirming that technology integration significantly predicts improvements in crime prevention.

These findings provide empirical support for the study hypothesis and demonstrate that strengthening technological capacity within the Malawi Police Service is likely to improve operational performance.

Table 6: Regression Coefficients.

Independent Variable	β	Std. Error	Beta	t	Sig	95.0% Confidence Interval	
						Lower bound	Upper bound
1 Constant	0.635	0.324		1.961	0.057	-0.021	1.292
997 Rapid Response System	0.819**	0.085	0.845	9.597	0.000	0.646	0.992

Source: Data Analysis (2026)

Interpretation

On Table 6, the results show that the 997 Rapid Response System is a significant predictor of Crime Prevention Strategies ($\beta = 0.819$, $p = 0.000$). This implies that a one-unit increase in the 997 Rapid Response System leads to a positive change in Crime Prevention Strategies. Since the p-value is less than 0.05, the null hypothesis is therefore rejected.

Challenges Affecting Technology Adoption

The final objective examined barriers affecting technology integration.

Respondents identified several significant challenges as shown on Table 7:

Table 7: Challenges faced by Lilongwe Police in technology adoption.

Variable	N	Mean	Std. Deviation
Inadequate technological equipment	39	4.41	0.966
Inadequate ICT training	39	4.26	0.850
Limited public awareness	39	4.26	1.069
Insufficient financial resources	39	4.23	0.842
Limited technical support	39	4.13	0.951
Total	39	-	-

Source: Data Analysis (2026)

The consistently high mean scores indicate strong agreement among respondents that these factors substantially hinder effective technology integration.

Inadequate technological infrastructure emerged as the most serious challenge. Without sufficient ICT equipment, police officers are unable to maximize the benefits of digital

policing. Likewise, inadequate funding limits procurement, maintenance, and upgrading of technological systems.

Respondents further emphasized that insufficient ICT training reduces officers' confidence and competence in utilizing available technologies. Low public awareness also reduces the effectiveness of the 997 Rapid Response System because many citizens remain unaware of how and when to utilize the service.

Collectively, these findings demonstrate that successful technology integration requires investments not only in hardware but also in human capacity development, institutional support, and public education.

DISCUSSION

The findings demonstrate that technology integration significantly enhances crime prevention strategies at Lilongwe Police Station. The strong positive relationship observed between technology integration and policing effectiveness supports the growing international consensus that digital technologies improve operational efficiency and public safety.

The prominence of the **997 Rapid Response System** indicates that communication technologies remain the cornerstone of digital policing within Malawi. Emergency communication enables rapid reporting of criminal incidents and enhances coordination among responding officers, thereby reducing response times and improving operational effectiveness. However, reliance on a single communication platform also highlights the relatively early stage of technological development within the Malawi Police Service.

The strong correlation ($r = .845$) between technology integration and crime prevention supports previous findings by Laufs and Borrión (2022), who argued that technological innovation strengthens surveillance, operational coordination, and evidence-based policing. Likewise, the findings align with the Scottish Government (2023), which concluded that digital technologies improve organizational efficiency by enhancing communication, intelligence sharing, and decision-making.

The regression results further reinforce earlier empirical evidence by demonstrating that technology integration explains over 70% of the observed variation in crime prevention effectiveness. This finding suggests that investment in policing technologies could substantially improve operational performance in Malawi. Similar conclusions have been reported in Ghana (Duho et al., 2024), Kenya (Nzesya, 2024), Nigeria (Adeyemi & Ojo, 2024), and Zambia (Chomba & Mwewa, 2026), where digital technologies enhanced police responsiveness despite institutional challenges.

Nevertheless, the study also demonstrates that technology alone cannot guarantee improved policing outcomes. Respondents consistently identified inadequate infrastructure, financial constraints, limited technical support, and insufficient ICT training as major barriers to successful implementation. These findings are consistent with those reported by Laufs and Borrión (2022), who emphasized that organizational readiness and institutional capacity determine whether technological investments translate into improved policing performance.

The study additionally supports **Routine Activity Theory**, which proposes that crime can be reduced by strengthening capable guardianship. The 997 Rapid Response System increases police visibility, improves communication, and enables faster intervention, thereby reducing opportunities for criminal activity. Technology therefore functions as an effective guardian by enhancing the operational capacity of law enforcement agencies.

Overall, the findings suggest that Malawi Police Service modernization should extend beyond communication technologies toward comprehensive digital policing systems incorporating integrated CCTV networks, Geographic Information Systems, predictive analytics, digital crime databases, mobile reporting platforms, and advanced decision-support systems. Such investments, accompanied by continuous officer training and institutional support, would further strengthen crime prevention and improve public confidence in policing.

CONCLUSION AND RECOMMENDATIONS

Conclusion

The study concludes that technology integration significantly improves crime prevention strategies at Lilongwe Police Station. The 997 Rapid Response System has strengthened emergency communication, improved police responsiveness, and enhanced overall crime prevention performance. The empirical results show a clear positive association between technology use and crime prevention outcomes.

At the same time, the study concludes that the full benefits of technology integration are constrained by limited infrastructure, funding shortages, inadequate ICT training, weak maintenance systems, and low public awareness. Therefore, the success of technology-based policing depends not only on acquiring equipment but also on sustained institutional support and community engagement.

Recommendations

To maximize the impact of technology integration on crime prevention, the Malawi Police Service should upgrade its technological infrastructure, expand modern communication

equipment, and ensure the regular maintenance of emergency response systems. It should also allocate sufficient financial resources for the acquisition, operation, and modernization of policing technologies.

In addition, regular ICT training should be provided to police officers to improve their ability to use digital systems effectively. Dedicated technical support units should also be established to handle maintenance, troubleshooting, and continuous monitoring.

The Government of Malawi should increase budgetary support for police technology modernization and promote partnerships with MACRA, telecommunications companies, and development partners to expand digital policing solutions.

Public awareness campaigns should be intensified through radio, television, social media, and community policing forums to improve citizens' understanding and use of the 997 Rapid Response System. Greater community participation should also be encouraged to strengthen collaboration between the police and the public.

Limitations and Future Research

The study relied on responses from participants who may have provided socially desirable answers or subjective views about the use of technology in policing. This may have affected the accuracy of some findings. Future studies should therefore use multiple data sources, including official records, observation, and interviews, to obtain a more balanced understanding of the subject.

In addition, the study used mainly quantitative methods, which provided strong statistical evidence but did not fully capture the lived experiences and practical challenges of officers using technology in crime prevention. Future research should include qualitative methods to explore the barriers, perceptions, and contextual factors influencing technology adoption in policing.

Further studies should also examine additional variables such as training, infrastructure, internet connectivity, cybersecurity, community cooperation, and policy support, as these may influence how well technology contributes to crime prevention.

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Mr. Maurice Sambo supervised the entire work by providing academic direction, reviewing the manuscript, offering constructive feedback, and approving the final version for submission.

Ethical Considerations

The researcher requested permission to collect and use Permission to conduct the study was obtained from the relevant authorities. Participation was voluntary, and respondents were informed that the information collected would be used for academic purposes only. Confidentiality and privacy were maintained throughout the research process.

About the author

Martin Chitipula is a student at DMI-St. John the Baptist University, Malawi. His research interests include crime prevention, technology integration in policing, public safety management, and law enforcement research.

Data Availability

The data supporting the findings of this study may be made available upon reasonable request, subject to institutional approval and confidentiality requirements.

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