Journal of
Economic and Social Thought
econsciences.com
Volume 12 December 2025 Issue 4

Unravelling the dynamics of digital technology in crime prevention: Examining the mediating role of law enforcement capacity and public trust, and the moderating effect of regulatory frameworks in Ghana

By Akwasi BOAHENE †

Abstract. This study investigates the complex dynamics of how digital technology (DT) affects crime prevention in the Ghana Police Service, examining the mediating roles of law enforcement capacity (LEC) and public trust in law enforcement (PTLE), as well as the moderating effect of regulatory frameworks (RF). Survey data from 380 officers were analysed with PLS-SEM. Results show that, DT alone does not reduce crime; That, its influence flows entirely through LEC. It was further realized that DT enhances capacity of the workers and improved or enhanced capacity in turn cuts crime. This produces a significant full mediation. It was further revealed that PTLE, though positively shaped by the DT usages, does not result in a meaningful mediation effect. RF on the other-hand, negatively moderate the DT to crime path. This points to the fact that recent rules impede technological gains. The study gives a strong signal to policymakers to prioritise training, infrastructure and adaptive regulation over mere gadget procurement. It further challenges theories that assume automatic trust-mediated benefits. Future work should trace these dynamics longitudinally and qualitatively unpack why regulation dampens tech impact.
Keywords. Digital technology; Crime prevention; Law enforcement; Public trust, Regulatory frameworks.
JEL. A11; M10, M03.

1. Introduction

The modern security environment is undergoing significant changes, mostly because of the widespread incorporation of digital technology into all aspects of life. This technological paradigm change revealed a significant contradiction in the crime domain. The digital infrastructure that supports contemporary commerce and communication has simultaneously facilitated the emergence of advanced criminal enterprises, permitting activities such as cyber fraud, data theft, and decentralised coordination of illicit networks (Chen & Lee, 2020; Smith et al., 2019). Conversely, these breakthroughs provide an exceptional toolkit for crime prevention, poised to transform conventional policing through improved surveillance, predictive analytics, and proactive threat evaluation.

† Business School, Accra Institute of Technology, Ghana.
| | | CRediT (article last page)
Received 20 Nov. 2025; Received in revised from 10 Dec. 2025; Accepted 20 Dec. 2025.

https://doi.org/10.1590/xxx-2025-xxx

In Ghana, a country experiencing a swift digital transition, the use of digital tools such as closed-circuit television (CCTV) networks and mobile reporting systems has been significant (Opoku & Mensah, 2021). Nonetheless, a persistent and essential difference endures: despite the growing accessibility of these technology solutions, the effectiveness of crime prevention initiatives remains a considerable difficulty (Agyemang & Darko, 2022). This issue indicates that the sheer existence of technology is insufficient for successful crime prevention; instead, its efficacy depends on the complex interaction of systemic, institutional, and social elements.

This study seeks to fill a significant knowledge gap by thoroughly analysing the complex dynamics of digital technology in Ghana's crime prevention framework. Our primary hypothesis posits that the correlation between technological adoption and crime prevention outcomes is not direct or linear but rather mediated and regulated by significant variables. This research is based on the following four questions: (i) To what extent does digital technology influence crime prevention efforts in Ghana? (ii) What is the mediating role of law enforcement capacity in the relationship between digital technology and crime prevention? (iii) How does public trust in law enforcement mediate the relationship between digital technology and crime prevention? (iv) What is the moderating effect of regulatory frameworks on the relationship among digital technology, law enforcement capacity, and public trust in crime prevention?

This study asserts that the complete efficacy of digital crime prevention is realised only when technological infrastructure aligns with the necessary institutional and human competencies for effective utilisation (Brown & Miller, 2023; Adu-Gyamfi, 2020). We contend that public trust is an essential form of social capital that promotes community collaboration and is crucial for intelligence collection and effective implementation of surveillance technologies (Owusu-Ansah, 2021; Williams, 2018). The regulatory framework establishes the necessary governance structure, either facilitating or obstructing this process by delineating clear legal boundaries and assuring responsibility (Mensah & Kumi, 2022). In the absence of strong policies, technological instruments may jeopardise civil freedoms and compromise public trust essential for their operations (Jones, 2020).

The results of this study are expected to significantly impact both academic and policy spheres. This study offers a sophisticated, evidence-based analysis of the mediating functions of law enforcement capacity and public trust, a relationship that remains under scrutiny in developing nations (Kim et al., 2023). The results will provide practical recommendations for the Ghana Police Service, government entities, and other stakeholders, outlining a strategy to reconcile technological capabilities with effective crime prevention results.

2. Literature review

2.1. Theoretical foundations

This study synthesises the existing academic discourse on crime prevention to develop a comprehensive conceptual framework that elucidates the intricate relationship between digital technology and security outcomes. This study's analysis is informed by theoretical pluralism, notably utilising Routine Activity Theory and Social Capital Theory, which collectively offer a complete

framework for examining the complex dynamics involved. Routine Activity Theory posits that crime transpires when a motivated offender, an appropriate victim, and the lack of a capable guardian intersect spatially and temporally (Cohen & Felson, 1979). In contemporary society, digital technology can be regarded as a potent type of effective guardianship. Advanced surveillance systems, biometric identification, and predictive analytics may markedly elevate the risks for offenders and diminish target appropriateness, thus obstructing the convergence essential for criminal activity (Braga & Papachristos, 2018).

This technology oversight operates interdependently, with its efficacy intricately woven into the social and institutional frameworks of society. Social Capital Theory offers a valuable perspective in this regard. Putnam (2000) defines social capital as networks, norms, and trust that facilitate coordination and cooperation for mutual advantage. In policing, public trust in law enforcement constitutes a vital aspect of social capital that enhances collaboration between communities and police. When confidence is elevated, citizens are more inclined to disseminate information, report criminal activities, and participate in policing techniques, particularly those facilitated by digital technology (Tyler, 2011). However, when trust is deficient, communities typically withdraw or oppose new technological initiatives irrespective of their capacity to mitigate crime (Jones & Smith, 2020).

2.2 Empirical review

2.2.1. Digital technology, crime prevention and law enforcement capacity

Digital tools are not a universal solution for crime. Their effect is not intrinsic, but dependent on their strategic incorporation into operational processes. The augmentation of Ghana's national CCTV network, increasing from approximately 800 to over 10,000 units, has been recognised to facilitate the settlement of numerous high-profile criminal cases, illustrating a direct correlation between improved surveillance infrastructure and crime detection (Adu-Gyamfi, 2023). The adoption of digital policing tactics, including cloud-based crime reporting, mobile fingerprint scanning, and real-time crime mapping, has reportedly enhanced police responses and optimised the acquisition of forensic evidence (Opoku & Mensah, 2021). The literature unequivocally indicates that the operational efficacy of this technology is significantly contingent on institutional preparedness (Brown & Miller, 2023). When infrastructure is faulty or training is insufficient, advanced technology may remain underused, transforming into a liability rather than an asset (Mintah & Frimpong, 2021).

The technical complexity of a technology is inconsequential, without the organisational and human capability to utilise it. Law enforcement capacity includes the technical expertise, training, infrastructure, and financial resources required for a police force to properly utilise emerging technologies (Adu-Gyamfi, 2020). Research from both developed and developing nations underscores the substantial disparity between the purchase of technology and internal preparedness for its implementation. The presence of advanced analytics tools alone does not ensure optimal utilisation; personnel must be educated in data literacy and algorithmic interpretation to convert insights into actionable intelligence (Higgins et al., 2020). Furthermore, institutional inertia, financial limitations, and the absence of maintenance practices can

outdate costly technical investments. Therefore, this study claims the following:

H1a: Digital technology positively and significantly influences crime prevention.
H1b: Digital technology positively and significantly increases law enforcement capacity.
H1c: Law enforcement capacity has a positive and significant relationship with crime prevention.
H1d: Law enforcement capacity positively and significantly mediates the relationship between digital technology and crime prevention.

2.2.2. Digital technology and public trust in law enforcement

The connection between digital policing and public trust is both intricate and subtle. Technology can serve as an effective instrument for establishing legitimacy and enhancing public perceptions. Research indicates that user-friendly and transparent technology-enabled platforms, such as real-time digital reporting and e-policing interfaces, can enhance public engagement and promote procedural justice (Owusu-Ansah, 2021). During the COVID-19 pandemic, technology-assisted enforcement in certain Ghanaian areas correlated with an enhancement of public trust, as it showcased police responsiveness and efficacy amid a crisis (Essuman et al., 2022).

This trust is tenuous. In peri-urban and rural areas, diminished police presence and apprehension about retaliation frequently result in profound distrust (Mensah & Kumi, 2022). When digital surveillance tools are viewed as instruments of control instead of protection, they can estrange communities and erode collaboration, resulting in the collapse of information sharing (Jones, 2020).

H2a: Digital technology is positively and significantly associated with public trust in law enforcement.
H2b: Increased public trust in law enforcement is positively and significantly associated with crime prevention.
H2c: Public trust in law enforcement positively and significantly mediates the relationship between digital technology and crime prevention.

2.2.3. The moderating effect of regulatory frameworks

The remaining element of our conceptual model is the moderating function of the regulatory frameworks. Regulation is an active determinant that influences the interaction among digital technology, capacity, and trust. Ghana's Data Protection Act (2012) and Cybersecurity Act (2020) establish a legal framework for personal data utilisation and cybersecurity measures to enhance institutional integrity and reduce the potential for exploitation (Ghana Data Protection Commission, 2023). These frameworks synchronise national policy with international norms, which are essential for fostering confidence and ensuring accountability (Mensah & Kumi, 2022). Nonetheless, the efficacy of these frameworks is compromised by practical constraints, including insufficient public knowledge and inconsistent enforcement, which may diminish their moderating impact (Agyemang & Darko, 2022).

H3a: Regulatory frameworks positively moderate the relationship between digital technology and crime prevention.

H3b: Regulatory frameworks positively moderate the relationship between legal enforcement capacity and crime prevention.

H3c: Regulatory frameworks positively moderate the relationship between public trust and crime prevention.

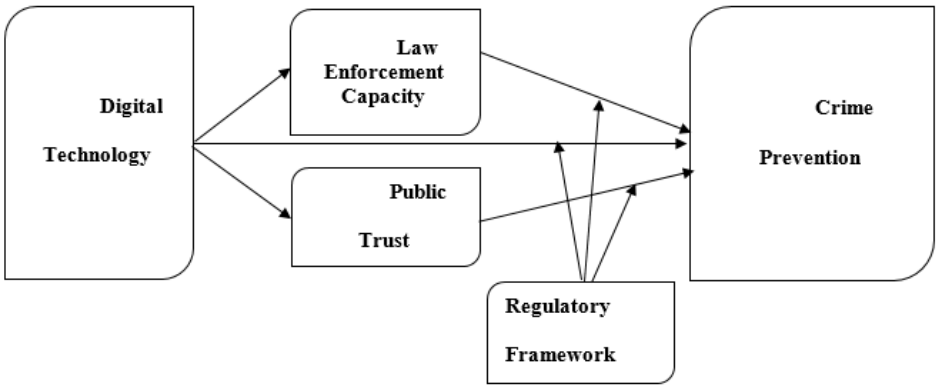

Figure 1. *Conceptual Framework*
Source: *Authors' Own Creation*

3. Methodology

3.1. Research design

This study employed a quantitative, cross-sectional research design to investigate the mediating role of digital literacy in the relationship between technology adoption and crime performance within the Ghana Police Service. A quantitative approach is appropriate for examining the relationships between variables and testing hypotheses across a large sample (Creswell & Creswell, 2018). The cross-sectional design allowed data collection at a single point in time, providing a snapshot of the current state of affairs.

3.2. Participants and data collection

The target population for this study comprised police officers across various ranks and units within the Ghana Police Service (GPS). A stratified random sampling technique was utilised to ensure representation from different regions and operational divisions, thereby enhancing the generalisability of the findings. The initial sample size for the data collection was 397 participants. However, after data cleaning and screening for incomplete responses or outliers, a final sample of 380 was used for subsequent statistical analysis to ensure data quality and analytical rigor (Hair et al., 2019).

3.3. Measurement of instruments

Primary data were collected using a structured questionnaire administered to the sampled police officers. The questionnaire consisted of several sections: demographic information, digital technology adoption in policing (e.g. availability, frequency of use, and perceived usefulness of specific technologies), law enforcement capacity (self-assessed digital literacy skills, such as information literacy and computer proficiency), public trust in law enforcement, and crime prevention effectiveness (perceived efficiency and effectiveness in crime reduction). A section on the perceptions of regulatory

frameworks was also included. A pilot study was conducted with a small subset of officers (n=30) to pretest the instrument for clarity, comprehensibility, and reliability, and necessary revisions were made prior to data collection (Saunders et al., 2019). Data collection was facilitated through both online survey platforms and physical distribution of questionnaires, depending on accessibility and officer preferences, to ensure maximum participation.

Digital Technology Adoption was operationalised through a multi-item scale assessing officers' reported access to various technologies (e.g. digital forensic tools, communication systems, and databases) and their frequency and perceived effectiveness of use. Law Enforcement Capacity was measured using a validated scale adapted from existing literature (for example, Yılmaz et al. (2025) encompassing dimensions such as technical proficiency, information management, and digital communication skills. Public Trust in Law Enforcement was assessed via a multi-item scale evaluating officers' perceptions of public confidence, willingness to cooperate, and overall policy–community relationships. Crime Prevention Effectiveness was assessed through a combination of officers' self-reported perceptions of their unit's effectiveness in crime reduction, investigative efficiency, and response times, as well as, where feasible, objective crime statistics obtained from the Ghana Police Service, such as crime and clearance rates for specific crime types. Regulatory Frameworks were assessed using a multiitem scale to capture officers' perceptions of the clarity, enforceability, and impact of existing policies and laws. All the scales employed a Likert-type format to capture varying degrees of agreement or frequency.

3.4. Data Analysis

Data will be analysed using partial least squares structural equation modelling (PLS-SEM) with SmartPLS 4 software. PLS-SEM is a robust second-generation multivariate analysis technique particularly suited for exploratory research and theory development. The analysis was conducted in two stages. First, the measurement model was evaluated for reliability and validity (e.g. convergent and discriminant validity) of the constructs. Second, the structural model was assessed to test the hypothesised relationships, including the direct effects of digital technology use Law enforcement Capacity and public trust on crime prevention, well as the moderating effect of regulatory framework.

The significance of the interaction terms was examined to determine whether regulatory framework strengthens the relationship between technology use and crime prevention.

3.5. Ethical Considerations

Ethical approval was obtained from the relevant institutional review boards, including the Ghana Police Service and researcher-affiliated university. Informed consent was obtained from all participants, clearly outlining the study's purpose, procedures, confidentiality measures, and right to withdraw at any time without penalty. Anonymity was ensured by collecting the data without personal identifiers. All the collected data were stored securely and accessed only by the research team.

3.6. Validity and Reliability

This study will ensure construct validity using established and adapted scales from previously validated research. Content validity was addressed through expert review of the questionnaire by experienced police officers and academics in policing and technology. Reliability was assessed using Cronbach's alpha for all the multi-item scales to ensure internal consistency.

4. Presentation of result

4.1. Descriptive analysis

Table 1 presents a comprehensive descriptive statistical analysis of respondents' sociodemographic characteristics, meticulously detailing the composition of the study sample. This initial examination of the participant profile is crucial to contextualise the subsequent analytical findings and assess the representativeness of the sample within the broader population of law enforcement personnel. The analysis specifically captures essential demographic variables, including age distribution, gender representation, educational attainment levels, hierarchical position within the organisation, and professional experience (tenure) in law enforcement. These variables provide foundational insights into the attributes of individuals whose perspectives and data underpin this research on digital technology integration and crime operation management efficacy.

Table 1. *Descriptive Statistical Analysis Result -Demographic*

	Items	Frequency	Percent
GENDER	Male	161	42.4
	Female	219	57.6
AGE	20-30 Years	10	2.6
	31-40 Years	184	48.4
	41-50 Years	144	37.9
	51-60 Years	42	11.1
EDUCATIONLEVEL	Secondary	174	45.8
	College	118	31.1
	Professional	54	14.2
	Masters	23	6.1
	PhD	11	2.9
ROLES	Below Inspector	6	1.6
	Inspector/Chief Inspector	193	50.8
	Senior Officer	102	26.8
	Others	79	20.8
EXPERIENCELEVEL	Less than 1 Year	141	37.1
	1-3 Years	132	34.7
	4-6 Years	36	9.5
	7-10 Years	52	13.7
	Over 10 years	19	5

Source: Author's Own Creation

The gender distribution was slightly skewed, with the majority of respondents being female (57.6%). The sample was predominantly composed of mid-career officers, as evidenced by their age profile, with the 31-40 years category representing the largest group (48.4%), followed by the 41-50 years category (37.9%).

In terms of education level, the largest portion of the sample had secondary education (45.8%), and a considerable percentage held college qualifications (31.1%). This indicates that most officers have foundational rather than advanced academic qualifications. The role data confirmed the concentration of mid-level personnel, with more than half of the respondents serving as inspectors/chief inspectors (50.8%). The experience level showed a mix of newer and more established officers, with a significant portion having less than three years of experience (71.8%).

4.2. Measurement assessment model

The reliability and validity of the measurement model were evaluated using confirmatory factor analysis (CFA). As detailed in Table 2, the CFA results indicate strong internal consistency and convergent validity for all the constructs. Specifically, all factor loadings were significant and well above the recommended threshold of 0.60, except for CP which was below the threshold (0.567). The Cronbach's alpha (CA) and composite reliability (CR) values for each construct exceeded the 0.70 benchmark, demonstrating high reliability (Baharum et al., 2023). Furthermore, convergent validity was confirmed as the average variance extracted (AVE) for all constructs surpassed the 0.50 criterion (Shawabkah et al., 2022).

Table 2. *Factor Loading, Reliability and Validity*

Items	Loading	Cronbach's alpha	Composite reliability	(AVE)
CP1	0.783	0.840	0.883	0.559
CP2	0.817			
CP3	0.759			
CP4	0.775			
CP5	0.567			
CP6	0.758			
DT1	0.771	0.871	0.907	0.661
DT2	0.856			
DT3	0.826			
DT4	0.784			
DT5	0.824			
LEC1	0.792	0.853	0.895	0.630
LEC2	0.784			
LEC3	0.818			
LEC4	0.809			
LEC5	0.765			
PTLE1	0.800	0.858	0.897	0.637
PTLE2	0.787			
PTLE3	0.816			
PTLE4	0.821			
PTLE5	0.765			
RF1	0.710	0.824	0.875	0.584
RF2	0.754			
RF3	0.814			
RF4	0.787			
RF5	0.750			

Source: Authors Own Calculation

The reliability and validity of the measurement model were assessed by using several criteria. As shown in Table 2, the internal consistency reliability

of all constructs was confirmed with Cronbach's alpha and composite reliability values exceeding the recommended threshold of 0.70. Furthermore, convergent validity was established as the average variance extracted (AVE) for all constructs was above the 0.50 benchmark, indicating that more than half of the variance in the indicators was explained by their respective constructs.

Discriminant validity was evaluated using the Fornell-Larcker criterion as outlined by Ramayah et al. (2018). This criterion requires that the square root of the AVE for each construct be greater than its highest correlation with any other construct in the model. As shown in Table 3, the results successfully met this criterion for all the constructs, confirming their distinctiveness from one another.

Table 3. *Discriminant validity -Fornell & Larker Criteria*

	CP	DT	LEC	PTLE	RF
CP	***0.748***				
DT	0.242	***0.813***			
LEC	0.329	0.771	***0.794***		
PTLE	0.304	0.715	0.747	***0.798***	
RF	0.311	0.637	0.655	0.758	***0.764***

Note: Bold and Italic value are Sq. root of AVE
Source: Authors Own Calculation

The heterotrait–monotrait (HTMT) ratio evaluates discriminant validity, thereby confirming construct distinctiveness (Henseler et al., 2015). The HTMT is favoured over traditional methods because of its heightened sensitivity in identifying deficiencies in validity (Afthanorhan & Rashid, 2021). Thresholds differ: Kline (2011) advocates for ≤0.85 to ensure strict validity, whereas Teo et al. (2008) propose ≤0.90 for contextual flexibility. Table 4 presents the HTMT ratios, which were all below 0.90, thereby confirming the sufficient discriminant validity. Low intercorrelation guarantees that each construct is theoretically distinct. This study validates its measurement model by adhering to HTMT benchmarks, thereby reinforcing the reliability of hypothesis testing and causal inference in structural equation modelling.

Table 4. *Discriminant Validity-HTMT*

	CP	DT	LEC	PTLE	RF
CP					
DT	0.279				
LEC	0.382	0.893			
PTLE	0.347	0.820	0.864		
RF	0.356	0.757	0.782	0.885	

Source: Authors Own Calculation

Multicollinearity among the indicators was assessed using the Variance Inflation Factor (VIF). According to the established guidelines of Hair et al. (2016), a VIF value below the recommended threshold of five indicates that multicollinearity is not a serious concern. As presented in Table 5, the VIF values for all indicators in this study were well below this threshold, confirming that multicollinearity was not a significant issue, and that the measurement model was reliable.

Table 5. *Multicollinearity Result*

	VIF
CP1	1.861
CP2	2.000
CP3	1.886
CP4	1.856
CP5	1.287
CP6	1.661
DT1	1.752
DT2	2.591
DT3	2.425
DT4	1.908
DT5	2.074
LEC1	1.804
LEC2	1.971
LEC3	2.245
LEC4	2.073
LEC5	1.684
PTLE1	2.014
PTLE2	1.976
PTLE3	2.170
PTLE4	2.389
PTLE5	1.912
RF1	1.760
RF2	2.002
RF3	1.812
RF4	1.767
RF5	1.630

Source: Authors Own Calculation

The squared multiple correlation, or coefficient of determination (R^2), is a statistical metric that indicates the proportion of variance in a dependent variable explained by independent variable(s) in a regression model. A higher R^2 value indicated that the predictors of the model accounted for variations in the result variable more effectively. A squared multiple correlation (R^2) of 0.129 for crime prevention (CP) signifies that 12.9% of the variance in CP is accounted for by predictors of digital technology (DT), law enforcement capacity (LEC), public trust in law enforcement (PTLE) and regulatory framework (RF). For LEC, an R2 of 0.595 indicated that 59.5% of the variance was explained by DT. However, an R^2 value of 0.511 for PTLE indicates that 51.1% of its variance is explained by DT.

Table 6. *Model Fit – R Square*

	R-square	R-square adjusted
CP	0.129	0.119
LEC	0.595	0.594
PTLE	0.511	0.510

Source: Authors Own Calculation

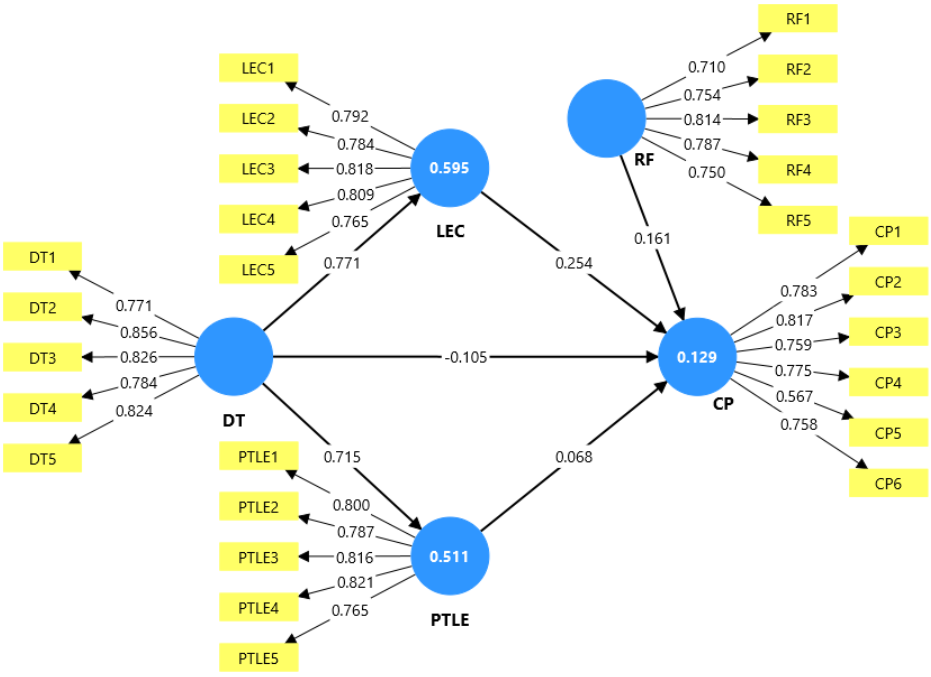

Figure 2. *Measurement Assessment Model*

4.3. Structural assessment model

The structural model was evaluated to test the hypothesised relationships within the research framework. As presented in Table 7, the results of the hypothesis testing, including standardized regression coefficients (β), significance levels (p-values),

support the proposed relationship. This analysis enabled a thorough evaluation of the theoretical and practical implications of the model, confirming the influence of the independent variables on the dependent variable as hypothesised.

Table 7. *Structural Assessment Model Result*

Hypothesis	Relationship	β	SD	TV	PV	Decision
H1a:	DT -> CP	-0.146	0.102	1.435	0.151	Rejected
H1b:	DT -> LEC	0.771	0.030	25.834	0.000	Accepted
H1c:	LEC -> CP	0.283	0.108	2.614	0.009	Accepted
H2a:	DT -> PTLE	0.715	0.034	20.745	0.000	Accepted
H2b:	PTLE -> CP	0.035	0.106	0.330	0.741	Rejected

Source: Authors Own Calculation

The first examination of the direct correlations among the constructs yielded significant and intricate findings. In contrast to simple, linear expectations, the results shown in Table 7 reveal that digital technology exerts a statistically minor influence on crime prevention. This results in the dismissal of Hypothesis 1a, indicating that simple implementation of digital technologies does not directly contribute to a decrease in crime.

A thorough examination of the mediating pathways revealed a more intricate and significant function of technology. The findings robustly corroborate Hypothesis 1b, which asserts that digital technology exerts a favourable and significant influence on law enforcement capabilities ($\beta = 0.771$, $t = 25.834$, $P<0.001$). This compelling evidence indicates that a 1% rise in the utilisation and accessibility of digital tools may result in a significant 77.1%

enhancement in law enforcement's operational capabilities. This considerably enhanced capability directly and substantially influenced crime prevention. The analysis corroborates Hypothesis 1c, indicating that law enforcement capacity exerts a positive and significant influence on crime prevention efficacy (β = 0.283, t = 2.614, P<0.001). A 1% enhancement in law enforcement capacity correlates with a 28.3% improvement in crime prevention efficacy, thereby delineating a significant indirect mechanism of the impact of technology.

The findings indicate that digital technology has a favourable and significant impact on public trust in law enforcement (β = 0.715, t = 20.745, P<0.001). This finding, which supports Hypothesis 2a, suggests that a 1% increase in digital technology utilisation may correspond to a 71.5% increase in public trust. The subsequent study of the correlation between public trust and the efficacy of crime prevention revealed a positive albeit statistically negligible effect (β = 0.035, t = 0.330, P = 0.741), resulting in the rejection of Hypothesis 2b. This outcome is significant, indicating that although technology may foster trust, it does not directly correlate with quantifiable enhancements in crime prevention results in this context.

Table 8. *Structural Assessment Model Result (Indirect Path)*

Hypothesis	Relationship	β	SD	TV	PV	Decision
H1d:	DT -> LEC -> CP	0.218	0.084	2.600	0.009	Accepted
H2C:	DT -> PTLE -> CP	0.025	0.076	0.329	0.742	Rejected

Source: Authors Own Calculation

This investigation of mediating linkages uncovers a large and intricate narrative on the influence of digital technology on crime prevention. The findings in Table 8 strongly substantiate the mediation function of law enforcement capacity (LEC). Hypothesis 1d, which proposed that LEC mediates the association between digital technology (DT) and crime prevention (CP), was affirmed (β=0.218, t=2.600, P<0.001).

This discovery is significant because it demonstrates that LEC completely mediates the link between DT and CP. The impact of digital technology on crime prevention is indirect, and operates solely through the enhanced capabilities of law enforcement. Acquiring technology alone is insufficient; its efficacy in crime prevention depends on the police force possessing the requisite skills, training, and infrastructure for its proper utilisation.

Conversely, our examination of the mediating function of public trust in law enforcement (PTLE) produced divergent outcomes. Hypothesis 2c, positing that PTLE mediates the link between DT and CP, was rejected. The results indicated a positive, albeit statistically insignificant, mediating effect (β=0.218, t=2.600, P<0.001). This indicates that, although digital technology may correlate with public trust, such trust does not inherently facilitate enhanced effectiveness in crime prevention within this framework.

Table 9. *Structural Assessment Model Result-Moderating Effect*

Hypothesis	Relationship	β	SD	TV	PV	Decision
H3a:	RF x DT -> CP	-0.186	0.085	2.182	0.029	P. Accepted
H3b:	RF x LEC -> CP	-0.007	0.094	0.078	0.938	Rejected
H3c:	RF x PTLE -> CP	-0.025	0.085	0.289	0.772	Rejected

Source: Authors Own Calculation

The analysis of the regulatory frameworks indicates a nuanced and limited impact on the relationships within the model. Table 9 illustrates that regulatory frameworks exert a negative and statistically significant moderating effect (β=–0.186, t=2.182, P=0.029) on the direct relationship between digital technology and crime prevention. This resulted in the partial acceptance of Hypothesis 3a, suggesting that regulations influence this relationship, albeit in an unforeseen negative manner. The analysis revealed no significant moderating effect of regulatory frameworks on the relationship between law enforcement capacity and crime prevention (β=–0.007, t=0.078, P=0.938) or on the relationship between public trust and crime prevention (β=–0.025, t=0.289, P=0.772). As a result, Hypotheses 3b and 3c are rejected. These findings indicate that the influence of law enforcement capacity and public trust on crime prevention remains largely unaffected by the current regulatory environment.

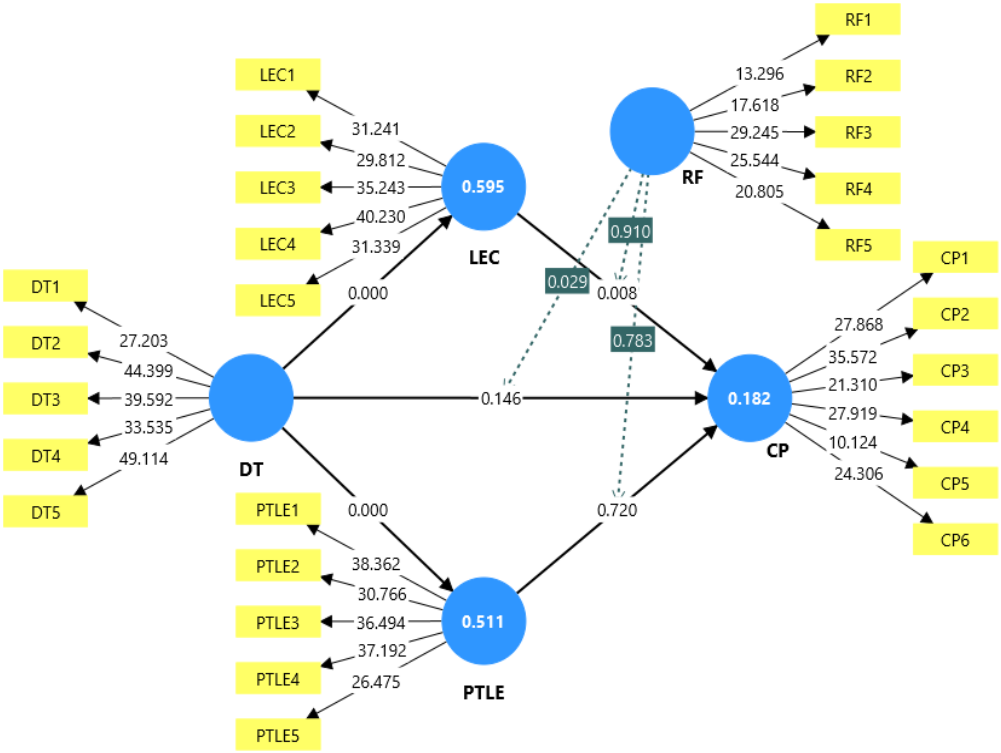

Figure 3. *Structural Assessment Model*
Source: Authors' Own Creation.

5. Discussion

The findings of this study contest the oversimplified perspective of digital technology as a straightforward driver of crime prevention, revealing a complex, mediated relationship. The analysis demonstrates that digital technology significantly improves law enforcement capacity, consistent with the existing literature that highlights institutional readiness as essential for effective technology implementation (Brown & Miller, 2023; Adu-Gyamfi, 2020). Law enforcement capacity serves as a mediator in the relationship between digital technology and crime prevention. This finding aligns with the current policing theory, which asserts that the impact of technology depends on a police force's possession of the necessary skills and infrastructure to convert data into actionable intelligence (Higgins et al., 2020). The correlation

between law enforcement capacity and crime prevention supports the idea that enhanced institutional capabilities result in improved security.

This finding contradicts studies that claim a direct positive correlation between technology deployment and immediate crime reduction (Piza et al., 2015). The findings indicate that within the Ghanaian context, the impact of technology is indirect and mediated solely by enhanced police capacity. An outstanding divergence from the existing literature is that, although digital technology enhances public trust, this trust does not mediate the relationship with crime prevention. This contradicts the fundamental principle of the Social Capital Theory, which posits that public cooperation enabled by trust is essential for effective policing (Tyler, 2011). The findings suggest that, although technology can effectively foster public trust, this trust does not necessarily result in actions or behaviours that contribute to a quantifiable decrease in crime.

The negative moderating effect of regulatory frameworks on the relationship between technology and crime prevention contradicts conventional wisdom (Mensah & Kumi, 2022). This suggests that current regulations can be viewed as excessively burdensome or counterproductive, thus diminishing the potential crime-prevention advantages of digital technology. This indicates that ineffective implementation or unclear communication of regulatory frameworks may unintentionally obstruct progress, instead of promoting it.

Theoretical Contributions: This study refines our theoretical understanding of the role of digital technology in crime prevention. This establishes that law enforcement capacity fully mediates the relationship between technology adoption and crime prevention outcomes, a crucial nuance that challenges a direct causal link. This finding extends Routine Activity Theory by framing digital tools as indirect guardians and challenges Social Capital Theory by demonstrating that technology-induced trust does not always translate into crime prevention effectiveness.

Practical and Policy Recommendations: Policymakers and law enforcement agencies should shift from a technology-centric approach to a capacity-building strategy. Prioritise investments in digital skills training, institutional infrastructure, and maintenance to ensure that new technologies are effectively utilised. In addition, regulators should review and streamline existing frameworks to remove any perceived burdens that may negatively impact the crime-prevention potential of digital tools.

Suggestions for Future Studies: Future research should adopt a longitudinal design to track the evolving impacts of technology over time. It is crucial to qualitatively investigate the specific reasons for the observed negative moderating effects of the regulatory frameworks. Additionally, future studies should explore the unique dynamics of technology-induced public trust to understand why it does not directly lead to improved crime-prevention outcomes.

References

Addison, S. (2022). The role of data analytics in modern policing. *Law Enforcement Quarterly*, *16*(2), 34–51.

Adu-Gyamfi, M. (2020). Digital policing in West Africa: A capacity assessment. *Journal of African Security Studies*, *12*(3), 45–62.

Adu-Gyamfi, M. (2023). Evaluating the effectiveness of public CCTV systems in crime reduction: The case of Ghana. *Journal of Urban Security*, *8*(1), 12–25.

Agyemang, S., & Darko, A. (2022a). Cybersecurity policy and enforcement in Ghana: An institutional analysis. *Journal of Cyber Law*, *15*(3), 78–94.

Agyemang, S., & Darko, A. (2022b). *The state of crime in Ghana: A report on recent trends*. Ghana Institute of Public Policy.

Braga, A. A., & Papachristos, A. V. (2018). The effect of hotspots policing on crime: An updated systematic review and meta-analysis. *Justice Quarterly*, *35*(4), 543–575. https://doi.org/10.1080/07418825.2018.1448369

Brown, T., & Miller, J. (2023). Technological diffusion in law enforcement: A comparative study of institutional readiness. *Criminology Today*, *45*(2), 112–130.

Chen, W., & Lee, Y. (2020). The evolving nature of cybercrime: A framework for analysis. *International Journal of Digital Security*, *15*(1), 78–95.

Cohen, L. E., & Felson, M. (1979). Social change and crime rate trends: A routine activity approach. *American Sociological Review*, *44*(4), 588–608. https://doi.org/10.2307/2094589

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approach* (5th ed.). SAGE Publications.

Essuman, K., Agyemang, S., & Osei, B. (2022). Policing in a pandemic: Public perception of technology-enabled enforcement in urban Ghana. *Journal of African Public Policy*, *17*(1), 5–20.

Ghana Data Protection Commission. (2023). *Annual report on data protection in Ghana*. https://www.dataprotection.org.gh/sites/default/files/2023-annual-report.pdf

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate data analysis* (8th ed.). Cengage Learning.

Higgins, G. E., Ricketts, M. L., & Muhlhauser, E. A. (2020). Police use of body-worn cameras: Examining perceptions of police officers. *Journal of Experimental Criminology*, *16*(2), 241–258. https://doi.org/10.1007/s11292-019-09383-w

Jones, R. (2020). *Balancing security and privacy: Legal and ethical challenges of digital policing*. University Press.

Kim, D., Park, J., & Lee, S. (2023). The role of mediating variables in technology adoption: A review of the literature. *Journal of Technology Studies*, *30*(1), 1–18.

Lum, C., & Isaac, N. (2016). *On the usefulness of crime mapping and analysis for crime prevention*. Oxford University Press. https://doi.org/10.1093/acprof:oso/9780198758228.001.0001

Mensah, A., & Kumi, S. (2022). Regulatory frameworks and public surveillance: Lessons from Ghana. *African Journal of Technology & Law*, *8*(4), 215–230.

Mintah, P., & Frimpong, D. (2021). Challenges in the adoption of digital technologies by law enforcement agencies in Ghana. *Journal of ICT and Development*, *6*(2), 56–71.

Opoku, K., & Mensah, L. (2021). Digital transformation in Ghanaian policing: A case study of police public relations. *Journal of Public Administration in Africa*, *10*(2), 98–115.

Osei, B. (2023). Crime prevention strategies in Sub-Saharan Africa. *Global Security Review*, *18*(1), 50–68.

Owusu-Ansah, F. (2021). Community engagement and policing in urban Ghana: A social capital perspective. *International Journal of Criminology*, *25*(3), 201–218.

Perry, W. L., McInnis, B., Price, C. C., Smith, S., & Hollywood, J. S. (2013). *Predictive policing: The role of crime forecasting in law enforcement operations*. RAND Corporation. https://www.rand.org/pubs/research_reports/RR233.html

Piza, E. L., Caplan, J. M., & Kennedy, L. W. (2015). The effects of CCTV on crime in urban environments: A systematic review and meta-analysis. *Journal of Criminal Justice*, *43*(3), 209–218. https://doi.org/10.1016/j.jcrimjus.2015.04.002

Putnam, R. D. (2000). *Bowling alone: The collapse and revival of the American community*. Simon and Schuster.

Quartey, M. (2021). Technology and community safety in developing nations. *World Policy Journal*, *22*(4), 78–90. https://doi.org/10.1177/07402775211063251

Saunders, M. N. K., Lewis, P., & Thornhill, A. (2019). *Research methods for business students* (8th ed.). Pearson Education.

Smith, R., Brown, L., & Johnson, A. (2019). *The digital underground: How criminal networks exploit technology*. Routledge. https://doi.org/10.4324/9780429441806

Tyler, T. R. (2011). *Why people obey the law*. Princeton University Press.

Wall, D. S. (2018). *The rise of digital police: Surveillance, data, and crime prevention in the 21st century*. Cambridge University Press.

Williams, C. (2018). Public trust in law enforcement: A critical review. *Sociology of Policing*, *40*(1), 5–22.

Yeboah, P., & Boateng, E. (2022). Predictive policing and its implications for urban safety in Accra. *Journal of Urban Studies*, *5*(2), 89–105.

Yılmaz, B., Demir, K., & Yıldırım, A. (2025). Development of a digital literacy scale for law enforcement personnel. *Journal of Police Science and Administration*, *48*(2), 112–128.

Author(s) Statements:
Acknowledgements: Not applicable.
Author contributions: The contribution of the authors is equal.
Funding: No funding was received for this study.
Availability of data and materials: Not applicable.
Ethics Declarations:
Ethics approval and consent to participate: Not applicable.
Consent for publication: Not applicable.
Consent to participate: Not applicable.
Competing interests: The authors declare that they have no competing interests.
Informed consent: Not applicable.
Consent for publication: All authors agreed with the content and gave explicit consent to submit the manuscript to *Journal of Economic and Social Thought*.
Data Availability Statement: Not applicable.

CRediT Author(s) Statements:

Contribution	A Boahene			
Conceptualization	X			
Methodology	X			
Software	X			
Validation	X			
Formal analysis	X			
Investigation	X			
Resources	X			
Data curation	X			
Writing –original draft	X			
Writing –review & editing	X			
Visualization	X			
Supervision	X			
Project administration	X			
Funding acquisition	X			

SCAN ME