Journal of Posthumanism
2025
Volume: 5, No: 11, pp. 72–87
ISSN: 2634-3576 (Print) | ISSN 2634-3584 (Online)
posthumanism.co.uk

DOI: https://doi.org/10.63332/joph.v5i11.3638

# Exploring the Influence of Technology on Policing and Crime Prevention within South African Law Enforcement

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***Abstract***

*Despite global advancements in digital policing, South African law enforcement agencies continue to face systemic barriers that limit the effective adoption and equitable deployment of technology. While numerous tools, such as surveillance systems, predictive analytics, and digital case management, have been introduced, their influence on crime prevention and policing outcomes remains uneven and under-researched. This study addresses a critical gap in the literature by examining how technological innovations are shaping operational practices, institutional culture, and public trust within the South African Police Service (SAPS), with particular attention to the urban-rural divide, ethical governance, and community acceptance. The research problem centres on the disconnection between national digital policing strategies and the localized realities of SAPS precincts, many of which struggle with inadequate infrastructure, limited technical capacity, and historical legacies of mistrust. Understanding how these challenges impact the integration and effectiveness of new technologies is essential for informing sustainable, rights-based approaches to public safety. Using a qualitative methodology grounded in documentary analysis, this study reviews policy documents, SAPS reports, oversight submissions, and civil society publications from 2018 to 2024. The findings reveal that while technology has the potential to improve crime response and data management, its impact is severely constrained by uneven deployment, lack of officer training, resistance to change, and ethical concerns, particularly around surveillance in historically marginalized communities. Moreover, the study finds that the Technology Acceptance Model (TAM), while useful, must be expanded to include social and political dimensions such as trust, legitimacy, and fairness to fully account for the South African context. This study highlights the need for inclusive, ethically grounded, and context-sensitive digital policing strategies. It offers critical insights for policymakers, law enforcement leaders, and researchers seeking to harness technology in ways that promote justice, accountability, and public trust.*

***Keywords:*** *Digital Policing, Crime Prevention, Technology Adoption, South African Police Service, Institutional Trust and Legitimacy.*

## Introduction

In an era where crime is becoming increasingly sophisticated, law enforcement agencies worldwide are turning to technology as a powerful tool to enhance policing and crime prevention. AI-driven predictive analytics to digital surveillance technology is reshaping how crime is detected, prevented, and prosecuted (Laufs & Borrion, 2022). While developed nations such as the United States and the United Kingdom have successfully integrated cutting-edge technology into their policing strategies. Developing nations, particularly in Africa, face unique challenges in leveraging these advancements effectively (Agoi & Agoi, 2024).

Nixon, Ruiu, Trignano, and Tistarelli (2024) state that across the African continent, countries like Kenya and Nigeria have begun incorporating digital forensic tools, mobile-based crime

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reporting, and biometric identification to improve policing efforts. For example, Kenya's Directorate of Criminal Investigations (DCI) has implemented Automated Fingerprint Identification Systems (AFIS) to improve suspect identification. On the other hand, Nigeria's police force has launched the 'Rescue Me' mobile app, enabling citizens to report crimes in real time and request emergency assistance (Owuondo, 2024). However, issues such as inadequate funding, limited technical expertise, and concerns over data privacy hinder the seamless integration of technology into law enforcement (Bedewy, 2024). Furthermore, Nwaobi (2024) argue that while African law enforcement agencies are making strides in digital transformation, the continent still lags in fully integrating artificial intelligence and block-chain technology into crime prevention.

Although existing studies have extensively examined the impact of technology on policing in developed nations, there remains a significant gap in understanding how African law enforcement agencies can overcome infrastructural and operational challenges to maximize the benefits of digital policing. Additionally, while some research highlights the role of technology in enhancing surveillance and forensic investigations, there is limited scholarship on how digital tools influence community engagement, crime reporting accuracy, and trust in law enforcement. Therefore, this study is significant as it seeks to contribute to this growing body of knowledge by exploring how technology is shaping policing and crime prevention in South Africa. By examining both the successes and challenges of tech-driven law enforcement, this research aims to provide insights that can inform policy recommendations and strategic implementations to strengthen crime-fighting efforts in the region.

South Africa, with its high crime rates and complex socio-economic landscape, has also embraced policing technology (Kalantar, 2025). The country has adopted surveillance systems, digital crime databases, and AI-driven crime analytics to improve law enforcement. Despite these advancements, challenges such as inadequate infrastructure, cyber threats, and concerns over data privacy remain. While these tools enhance policing efforts, their effectiveness depends on proper implementation and regulation. For example, the City of Johannesburg has implemented an extensive network of Closed-Circuit Television (CCTV) cameras integrated with AI-powered facial recognition to monitor high-crime areas. While the South African Police Service (SAPS) has adopted digital case management systems to streamline investigations and improve data analysis (Tshishonga & Justice, 2022). Additionally, SAPS has implemented advanced breathalyser technology that does not require a mouthpiece to detect whether drivers have exceeded the legal alcohol consumption limit. This non-invasive device enhances roadside testing efficiency and reduces the risk of contamination while ensuring accurate results. Despite these advancements, questions remain regarding the accessibility, ethical considerations, and overall effectiveness of these tools in addressing crime.

Technology has become an indispensable tool in modern policing, transforming crime prevention strategies worldwide (Anderez, Kanjo, Amnwar, Johnson, & Lucy, 2021). Across the globe, law enforcement agencies leverage artificial intelligence (AI), big data analytics, and real-time surveillance to combat crime effectively. China has integrated facial recognition and digital monitoring into public security systems, enhancing crime detection and response times (Kostka, Steinacker & Meckel, 2021).

This research explores the influence of technology on policing and crime prevention within South African law enforcement, critically analysing its benefits, limitations, and ethical implications. By assessing the impact of these technological interventions, this study contributes to ongoing discussions in intelligence-led policing, offering insights into best practices and policy recommendations to enhance crime prevention strategies in South Africa.

The integration of technology into modern policing has fundamentally transformed law enforcement practices, providing innovative tools to enhance crime prevention, detection, and response. In the context of South Africa, technological advancements such as surveillance systems, artificial intelligence, and predictive analytics have played a critical role in reshaping policing strategies. However, the adoption of these technologies also presents several challenges, including funding constraints, infrastructural limitations, and concerns about privacy and ethical implications. This literature review explores the role of technology in modern policing, technological innovations in crime prevention, the challenges faced in implementing such technologies, and the theoretical framework guiding the study. It also identifies research gaps and opportunities for further exploration of technological interventions in the South African policing landscape.

## The Role of Technology in Modern Policing

Technological advancements have undeniably transformed modern policing, offering substantial improvements in crime detection, response times, and data-driven decision-making. Ratcliffe (2016) and Chan (2020) emphasise that technology's role in policing is pivotal, particularly with the increasing use of surveillance tools like CCTV cameras, body-worn cameras, and automated license plate recognition (ALPR) systems. These tools not only enhance the ability to deter criminal activities but also provide crucial evidence for investigations (Azam, Dulloo, Majeed, Wan, Xin, & Sindiramutty, 2023). However, while these technologies have shown promise in global contexts, their effectiveness in South Africa requires closer scrutiny. Modise and Rakubu (2025) highlight that the adoption of "smart policing" initiatives, such as predictive analytics and digital databases, has improved intelligence sharing among South African law enforcement agencies, fostering collaboration and a more proactive approach to crime prevention.

Nevertheless, while these technologies present tangible benefits, research highlights concerns about equity and fairness in their application. Studies have shown that predictive policing algorithms can reinforce existing biases, leading to the over-policing of marginalized communities (Bates, 2024). In South Africa, where historical patterns of inequality persist, scholars argue that surveillance technologies may disproportionately target lower-income areas, thereby worsening the social disparities (Ullah & Ali, 2024). These ethical concerns underscore the need for robust regulatory frameworks to ensure that technological advancements in policing do not reinforce systemic discrimination.

## Technological Innovations in Crime Prevention

In recent years, innovations like AI, facial recognition, and geospatial mapping have gained attention as powerful tools for crime prevention. Piza (2021) and White (2019) suggest that these technologies have the potential to pre-empt criminal behaviour by identifying patterns and

hotspots, effectively enabling law enforcement agencies to allocate resources more efficiently. In South Africa, predictive policing has become increasingly prominent. As Bezuidenhout (2022) reveals, harnessing the power of big data analytics enables South African police services to anticipate criminal activity before it occurs.

However, the implementation of predictive policing in South Africa has not been without controversy. Brayne (2021) argues that predictive policing models, which often rely on historical crime data, may inadvertently reinforce existing biases, leading to the disproportionate targeting of marginalized communities. In a society grappling with the legacies of apartheid and ongoing racial tensions, such technologies could perpetuate systemic discrimination rather than alleviate it (Nwadike, 2023). Therefore, while technological innovations present an opportunity to improve crime prevention, their application must be critically assessed to avoid reproducing historical injustices (Milivojevic, 2021).

**Challenges in Implementing Policing Technology**

Despite the promising potential of policing technologies, the challenges associated with their implementation in South Africa cannot be ignored. Masiya, Davids, and Mangai (2020) argue that limited funding, infrastructural deficiencies, and digital literacy gaps are major obstacles hindering the widespread adoption of crime-fighting technologies. In particular, many areas of South Africa still struggle with inadequate technological infrastructure, which limits the effectiveness of such initiatives (Aruleba & Jere, 2022). Additionally, the digital literacy gap among officers can impede the successful integration of new technologies into daily policing practices (Dewald, 2023).

Furthermore, the ethical dilemmas surrounding data privacy and the use of AI in policing are increasingly important concerns. Katsaura (2022) highlights the need for clear frameworks to ensure that surveillance tools are used responsibly and that citizens' rights to privacy are respected. Cindrapole and Rosmini (2024) state that the potential for abuse, whether through excessive surveillance or discriminatory practices, remains a significant risk that needs to be addressed through comprehensive policy reforms and robust oversight mechanisms.

**Gaps and Opportunities**

While existing literature provides valuable insights into the role of technology in policing, there remain significant gaps in understanding its impact on crime reduction, particularly in the South African context. Most studies tend to focus on Western countries, where policing infrastructures are vastly different, leaving a critical void in the understanding of how technological interventions might function in resource-constrained environments like South Africa (Khan, Abbasi, Mehmood & Qader, 2025). This highlights the need for more localised research that considers the specific challenges faced by South African law enforcement agencies, such as limited budgets, training deficits, and infrastructure shortcomings (Molokomme, 2025b).

In addition, there is a notable lack of studies examining community perceptions of policing technology. As Van der Spuy and Röntsch (2021) note, public trust is essential for the success of community policing efforts. Future research should explore how citizens perceive the use of surveillance and predictive policing technologies, particularly in marginalized communities that

may feel disproportionately targeted. Furthermore, addressing the ethical implications of technology in policing, such as concerns about privacy, accountability, and bias, should be a central focus for future studies. Finally, strategies to bridge the digital divide and ensure equitable access to technological advancements are crucial areas for further exploration.

## Theoretical Framework

The Technology Acceptance Model (TAM) was developed by Fred Davis in 1989 to explain how users come to accept and use technology. Davis built on the Theory of Reasoned Action (TRA), adding specific constructs to focus on technology adoption. The central components of TAM are Perceived Usefulness (PU) and Perceived Ease of Use (PEOU). PU refers to the degree to which an individual believes that using a particular technology would enhance their performance, while PEOU relates to the perceived ease with which the technology can be learned and used. Davis (2024) used TAM to predict user behaviour in adopting information technology, arguing that these two factors directly affect an individual's decision to accept or reject a technology.

In the context of this study, TAM can be applied to understand how South African law enforcement officers perceive the usefulness and ease of use of various technologies used in crime prevention and policing. The adoption of new technological tools, such as predictive policing systems or digital surveillance platforms, may depend on how officers view these tools' potential to improve their effectiveness and how easily they can integrate these tools into their daily work processes (Leese, 2024). By examining officers' attitudes toward technology through the lens of TAM, the study can assess barriers to technology adoption, such as training challenges or concerns about usability, and identify factors that influence successful integration. Ultimately, TAM helps to explain the extent to which technology is accepted in law enforcement settings, influencing crime prevention strategies in South Africa.

The TAM, developed by Fred Davis (1989), is a widely accepted theoretical framework used to explain how users come to accept and use technology. The model’s core constructs are Perceived Usefulness (PU), the extent to which an individual believes that using a particular system will enhance their job performance, and Perceived Ease of Use (PEOU), which refers to the degree to which an individual believes that using the system will be free of effort. According to Davis (1989), both PU and PEOU influence users’ attitudes toward a technology, which in turn affects their behavioural intention to use it. Later empirical studies, including those by Venkatesh and Davis (2000), extended TAM to incorporate social influence and cognitive instrumental processes, making it one of the most influential models in information systems research.

Numerous scholars have applied TAM in diverse contexts. For example, Venkatesh et al. (2003) expanded TAM into the Unified Theory of Acceptance and Use of Technology (UTAUT), which has been applied in sectors such as healthcare (Holden & Karsh, 2010), education (Šumak et al., 2011), and e-government (Alomari et al., 2012). In the policing and criminal justice domain, TAM has been employed to assess law enforcement officers’ acceptance of mobile technologies (Hu et al., 2002), body-worn cameras (Gaub et al., 2016), and predictive policing tools (Joh, 2016). These studies demonstrate that officers' acceptance of technology is influenced not only by perceived usefulness and ease of use but also by organizational culture, training, and policy frameworks.

In the context of this study, TAM is useful for examining how South African law enforcement officers perceive the value and usability of emerging technologies such as digital surveillance, automated license plate recognition, or crime mapping systems. As Leese (2024) notes, the integration of such tools in policing practices is often shaped by frontline officers' technological literacy, their trust in the systems, and the extent to which these tools are seen as enhancing operational efficiency. Applying TAM in this study allows for an exploration of potential barriers to technology adoption, including limited training, resistance to change, and poor user interface design. Understanding these factors through TAM provides insights into the broader institutional and individual determinants of technology acceptance, which are critical for the successful implementation of crime prevention strategies in South Africa.

## Methodology

### Research Design

This study is situated within the interpretivist paradigm, which emphasizes understanding the meanings that individuals and institutions assign to social phenomena (William, 2024). This paradigm is appropriate for exploring how law enforcement agencies in South Africa perceive, adopt, and implement technological solutions for crime prevention. By emphasizing context, meaning, and social interpretation, this approach helps uncover how technology shapes and is shaped by policing practices in unequal and security-challenged societies (Kitchin, 2014). To align with this paradigm, the study adopts a qualitative research design that primarily focuses on secondary data analysis. This approach is particularly effective for gaining insights into systemic practices and institutional dynamics without the logistical and ethical complications of direct fieldwork (Muzari, Shava, & Shonhiwa, 2022). This approach facilitates the examination of existing scholarly and policy-based evidence to address the research questions, while maintaining sensitivity to the socio-political context in which law enforcement operates (Chan, 2001).

A systematic review of secondary sources was conducted to gather relevant qualitative data. The review focused on academic literature, policy documents, government reports, and comparative studies that explore the intersection of technology, policing, and crime prevention. These documents provide a comprehensive understanding of both global and local perspectives, offering valuable insights into the implementation and impact of technological innovations in the South African context (Molokomme & Motebe, 2025).

The study draws upon a wide range of credible and relevant secondary sources, including peer-reviewed journal articles, books, and edited volumes, and official reports from the SAPS (Karunarathna, Gunasena, De Alvis, & Jayawardana, 2024; Molokomme, 2025a). These materials were selected based on clearly defined inclusion and exclusion criteria. Inclusion criteria required sources to be published between 2014 and 2024, be peer-reviewed or from reputable institutions, and directly address themes related to policing, technology adoption, and crime prevention, particularly within the South African context. Exclusion criteria ruled out outdated publications, non-scholarly commentary, and works lacking methodological transparency. A systematic search was conducted using academic databases such as Scopus, JSTOR, Google Scholar, and SABINET, employing keywords like "technology in policing, South African law enforcement, crime prevention technology, and Technology Acceptance

Model in policing. Sources were critically reviewed for relevance, methodological rigour, and alignment with the study's theoretical framework (Zhaksylyk, Zimba, Yessirkepov, & Kocyigit, 2023; Molokomme, 2025b).. This process enhances the study's transparency and reduces the risk of bias or selective reporting. International comparative studies, such as those by Kostka et al. (2021), were included to provide broader insights into how other countries have addressed similar challenges and opportunities in tech-driven policing. This mix of sources enables a critical comparative analysis while maintaining the primary focus on South Africa.

**Data Analysis Approach**

Thematic analysis was employed to interpret the data collected from secondary sources (Squires, 2023). Following Sandhiya and Bhuvaneswari's (2025) six-phase approach, the process included familiarization with the data, generating initial codes, identifying and reviewing themes, defining those themes, and composing a structured interpretation. A predominantly inductive coding approach was used, allowing themes to emerge organically from the data without being constrained by pre-existing theoretical assumptions (Bruan & Clarke, 2006). For example, during the coding phase, recurring references to "technological resistance, training gaps, and policy inconsistency were identified across multiple SAPS reports and academic articles. These initial codes were grouped into broader themes such as institutional barriers to technology adoption and capacity-building needs (Sandhiya & Bhuvaneswari, 2025). This analytic method is particularly suitable for capturing patterns, contradictions, and conceptual relationships within large bodies of qualitative data, making it well-suited to the study's aim of exploring nuanced insights into law enforcement's interaction with technology.

The thematic approach, grounded in interpretivism, provides a comprehensive understanding of how law enforcement practices are evolving in response to technological innovation. However, the reliance on secondary sources presents certain limitations. These include the potential outdatedness of some materials, limited contextual detail, and the absence of direct engagement with the original authors, which may obscure the intended emphasis or nuance of specific arguments. Additionally, secondary data may reflect the biases or priorities of the original researchers or institutions, which must be critically considered during interpretation.

**Findings**

This study's thematic analysis of secondary data uncovered three interconnected themes that critically reflect the complex relationship between technology and policing in the South African context: (1) Technological Enhancement of Operational Efficiency, (2) Barriers to Technological Integration, and (3) Ethical and Social Implications. These themes offer a comprehensive lens through which to assess both the promises and perils of digital transformation in law enforcement. They also engage deeply with the TAM as a guiding theoretical framework, highlighting how perceptions of usefulness and ease of use mediate technology adoption in policing.

**Technological Enhancement of Operational Efficiency**

The integration of digital technologies in South African law enforcement has significantly enhanced certain dimensions of operational performance, particularly in urban crime hotspots. AI-assisted crime mapping, predictive analytics, and digital forensics have improved the speed

and precision of investigations. According to Modise and Rakubu (2025), AI-powered surveillance tools, such as facial recognition and predictive threat detection systems, are now integral to operations in Johannesburg and Cape Town. These technologies provide real-time situational awareness, enabling officers to anticipate and respond to criminal activities with greater speed and accuracy. Their study reports a 23% reduction in response time and a 17% increase in suspect identification accuracy following the deployment of these tools in high-crime precincts.

Kalantar (2025) documents additional advancements, including smart breathalysers and automated license plate recognition (ALPR) systems. These technologies have improved the efficiency of road policing, enabling officers to detect stolen vehicles and impaired drivers more effectively, with data automatically synced to national databases. In one metropolitan municipality, ALPR deployment reportedly contributed to a 30% increase in vehicle recoveries over 12 months.

When examined through the lens of the TAM, these technological enhancements underscore the influence of perceived usefulness on uptake. Officers reported increased willingness to use new systems when they observed measurable improvements in workload reduction, real-time data access, and personal safety during operations. However, successful implementation also requires addressing perceived ease of use, which remains a concern due to system complexity, user interface challenges, and inconsistent training quality across provinces. This reflects findings by Leese (2024), who argues that frontline acceptance is highly contingent on usability and localized technical support.

These South African examples mirror global trends. Laufs and Borrion (2022) found that similar AI and data-driven tools in the UK improved case clearance rates and resource allocation. However, the South African context presents distinct constraints. Infrastructure deficits in rural areas, budgetary limitations, and unequal digital literacy among officers hinder scalability and consistent performance. As noted by Pillay (2024), implementation efforts that overlook these systemic barriers often result in fragmented adoption and underutilization of potentially transformative technologies.

Thus, while digital tools have demonstrably enhanced aspects of operational efficiency in South African policing, their effectiveness is uneven. Realizing their full potential requires not only technological investment but also adaptive strategies sensitive to socioeconomic and infrastructural realities.

**Barriers to Technological Integration**

Findings from the reviewed secondary data reveal that systemic and structural limitations remain a significant barrier to the successful integration of digital technologies within the South African Police Service (SAPS). The data shows that 68% of rural and peri-urban police stations across provinces like Limpopo and the Eastern Cape lack stable internet connectivity and sufficient ICT infrastructure (Masiya et al., 2020; SAPS ICT Audit Report, 2022). In these areas, officers often rely on manual data entry and outdated filing systems, which compromise both response times and data accuracy.

Interviews and reports analyzed in the study consistently highlight chronic underfunding and policy misalignment as root causes. For example, in Limpopo, a 2021 internal audit revealed that over 70% of police stations did not have functioning desktop computers, despite national directives mandating digital case tracking (Dewald, 2023). This directly correlates with TAM's perceived ease of use dimension: officers expressed frustration with systems that were either non-functional or perceived as unnecessarily complex, leading to low adoption rates even in better-resourced districts.

Furthermore, organizational culture emerged as a recurring theme. Analysis of SAPS performance reviews and internal memos (2018–2023) pointed to a strong resistance to change, especially among mid-level command. Officers reported feeling excluded from decision-making processes around new tech rollouts, with one evaluation noting that technology is often viewed as a top-down imposition rather than an operational tool (Bezuidenhout, 2022). Even successful pilot programs, for instance, a predictive policing algorithm trialed in Gauteng, failed to scale due to fragmented leadership and poor inter-departmental communication.

In contrast to best practices in countries like the UK or Australia, where law enforcement benefits from cohesive digital ecosystems and continuous upskilling, SAPS lacks a sustained framework for capacity building. Training initiatives are either sporadic or narrowly focused, with over 50% of officers lacking even basic proficiency in data management software (Dewald, 2023).

These findings indicate that technological advancement alone is insufficient without a corresponding investment in infrastructure, capacity building, and cultural transformation. There is a pressing need for contextually grounded strategies that prioritize bottom-up innovation, inclusive change management, and province-specific infrastructure interventions.

**Ethical and Social Implications**

Findings from the analysis of secondary data, including SAPS community feedback reports (2019–2023), independent oversight body submissions, and civil society position papers, indicate a high level of public concern regarding the ethical deployment of surveillance technologies in South Africa. In particular, digital policing tools such as CCTV-linked facial recognition systems and predictive crime-mapping software were perceived by affected communities to target low-income, predominantly Black neighbourhoods disproportionately.

For example, a 2022 Civilian Secretariat for Police Services (CSPS) report noted that 84% of all pilot surveillance deployments were concentrated in previously disadvantaged urban zones, such as Khayelitsha in Cape Town and parts of Soweto, while more affluent areas received minimal or no surveillance upgrades. These patterns mirror historical policing practices under apartheid and have triggered deep mistrust and claims of "digital profiling" among residents (Bates, 2024; Katsaura, 2022).

Furthermore, stakeholder interviews and community workshop transcripts reviewed from civil society organizations (Right2Know, 2021; Black Sash, 2022) revealed a consistent narrative of exclusion in decision-making processes around the deployment of these technologies. Residents expressed concern that surveillance was being "done to them" rather than with their input or consent, raising alarm over issues of transparency, data privacy, and accountability. This aligns

with Ullah and Ali's (2024) warning that the absence of proper oversight mechanisms breeds fear of abuse and surveillance overreach.

Within the SAPS itself, internal evaluation documents revealed a lack of training on ethical use guidelines, with only 27% of officers reporting that they had received any instruction on privacy or data protection laws when engaging with digital tools (SAPS Training Audit, 2023). This creates an environment where the potential for abuse, intentional or not, is significantly heightened.

These findings confirm that public perception of fairness and legitimacy is a crucial determinant of technological acceptance, aligning with expanded interpretations of the Technology Acceptance Model (TAM), which includes social acceptance and ethical usability. The data clearly shows that without inclusive governance structures, even well-intended innovations risk being seen as instruments of oppression rather than protection.

**Implications of the Findings**

**The implications of these findings are both practical and theoretical**

**Operational Transformation Requires Structural Support**

Findings from across the reviewed datasets confirm a recurring tension: while technological solutions such as case management software, facial recognition tools, and real-time crime dashboards hold promise, their implementation frequently fails due to broader systemic constraints. This is evident in the infrastructure disparity across provinces, particularly in the Eastern Cape, Limpopo, and Northern Cape, where police stations often lack stable electricity, reliable internet access, and basic ICT maintenance support (SAPS ICT Audit, 2022).

This resource gap intersects with human capacity challenges: SAPS training records from 2020 to 2023 indicate that more than 60% of front-line officers have not received formal training on digital policing tools. In several provinces, equipment lies idle due to a lack of user competency or logistical support (Dewald, 2023). These patterns suggest that technological deployments, when not embedded within a broader framework of organisational reform and skills development, become isolated interventions with limited impact.

Moreover, tensions emerge between national policy ambitions and local implementation realities. While policy documents reviewed (National Policing Digital Strategy 2021–2026) speak to a vision of "smart policing," qualitative insights from oversight bodies and community reports reveal fragmented rollout, uneven uptake, and lack of change management protocols. This disconnect results in what Mader, Scott, and Abdul Razak (2013) describe as the "myth of the technological fix, a belief that tools alone can solve deeply embedded institutional inefficiencies. In the SAPS context, this myth is further strained by hierarchical leadership structures, bureaucratic delays, and the absence of participatory planning at the station level.

These findings collectively support the claim that technology cannot, by itself, resolve systemic inefficiencies. Rather, the evidence points to a layered challenge: technology must be accompanied by strategic investments in infrastructure, sustained training, and inclusive change

management processes if it is to enable real transformation. The contrast between the national digital agenda and local operational capacity underscores the need for context-aware, human-centred approaches to policing innovation.

**Bridging the Urban-Rural Divide is Critical**

A key finding emerging from the data is the structurally uneven deployment of digital policing technologies, which risks reinforcing rather than alleviating South Africa's deep-rooted spatial and socio-economic inequalities. Thematic analysis of government ICT rollout reports, SAPS internal planning documents, and oversight submissions reveals that technological interventions remain heavily concentrated in urban centres, particularly Gauteng, the Western Cape, and KwaZulu-Natal. In contrast, rural and peri-urban stations in provinces like Limpopo, Northern Cape, and Eastern Cape continue to operate with obsolete or no digital infrastructure (SAPS Digital Access Report, 2022; Masiya et al., 2020).

This urban bias is evident in resource allocation figures: for instance, in 2021, Gauteng received five times more funding for ICT upgrades than the combined rural provinces (National Treasury Policing Budget Review, 2022). Such disparities translate into material operational differences, rural stations report reliance on handwritten dockets, delayed information-sharing, and limited use of digital investigation tools, directly affecting service quality and response efficiency (Dewald, 2023).

Community feedback analyzed in the Right to Know surveillance equity report (2022) reveals growing frustration among residents of under-serviced areas, who perceive these disparities as a continuation of historical patterns of neglect and marginalization. Respondents noted that high-tech interventions like predictive policing and facial recognition are visible in affluent suburbs, while basic connectivity is still lacking in their precincts. These perceptions deepen public mistrust, particularly where technology is seen as reinforcing privilege rather than enhancing justice for all.

This finding underscores a critical tension between the national digital policing vision and the lived realities of rural and under-resourced stations. It affirms that technology-led reform, without an equity-driven rollout strategy, risks amplifying structural exclusion. For digital transformation to meaningfully improve policing outcomes across South Africa, it must be guided by inclusive planning frameworks that prioritize the most under-served regions first, not last.

**Ethical Governance Must Be Central**

The analysis of SAPS digital infrastructure audits (2019–2023) and provincial budget allocation reports reveals a consistent disparity in the rollout of digital policing technologies across urban and rural contexts. Data shows that over 75% of digital investment projects, such as surveillance systems, automated fingerprint identification, and digital docketing, have been concentrated in metropolitan areas like Johannesburg, Durban, and Cape Town. In contrast, rural and peri-urban stations in provinces such as Limpopo, Eastern Cape, and North West have received minimal upgrades, with some stations still lacking basic internet connectivity (SAPS ICT Audit, 2022).

This uneven distribution has tangible operational consequences. Stations without access to digital

case management systems or real-time communication tools report longer response times, manual record-keeping inefficiencies, and reduced capacity for coordinated intelligence-sharing (Dewald, 2023). These limitations directly impact the quality and consistency of policing services, particularly in communities already facing socio-economic marginalisation.

Patterns in community feedback reports and NGO monitoring data (Right2Know, 2022) further highlight growing perceptions of digital exclusion among rural populations. Residents in underserved areas expressed concerns about being "left behind or receiving second-class policing, with some pointing out that digital crime-fighting tools are primarily visible in wealthier suburbs. These perceptions are reinforced by media reports and civil society statements that note the absence of equitable deployment frameworks in national policing strategies.

These findings suggest that without deliberate planning to include under-resourced areas, the digital transformation of SAPS risks widening service delivery gaps and reinforcing historical inequalities in law enforcement. The data reflects a clear contrast between national-level ambitions for innovation and the lived realities of rural stations, underscoring the need for targeted, inclusive implementation strategies.

**Theoretical Models like TAM are Indispensable**

Findings from the analysis suggest that while the TAM offers a helpful starting point for understanding digital tool uptake within SAPS, it does not fully capture the complex social and institutional dynamics that shape technological acceptance or resistance. In interviews, policy reviews, and public submissions analyzed, officers and community stakeholders repeatedly highlighted issues of mistrust, perceived unfairness, and lack of legitimacy surrounding the use of new technologies.

For instance, officers stationed in under-resourced precincts expressed scepticism toward national tech rollouts that were seen as misaligned with frontline realities, describing them as top-down mandates with little consultation or training (SAPS Feedback Reports, 2022–2023). This lack of inclusion contributed to resistance to change, even where tools were technically functional. Such responses align with, but also go beyond, TAM's perceived ease of use and perceived usefulness constructs, indicating that perceived fairness, trust in leadership, and the legitimacy of the change process are equally influential.

At the community level, public feedback revealed deep concern about how surveillance tools are deployed, with residents questioning not just their functionality, but who is being targeted, how decisions are made, and whether their rights are respected. These findings underscore the importance of procedural justice, transparency, and community trust, none of which are explicitly captured in TAM's original formulation.

Thus, the data points to a critical extension of the TAM framework in this context: technological acceptance within SAPS is inseparable from broader issues of institutional trust, historical inequity, and perceived legitimacy. Expanding TAM to integrate social and political dimensions provides a more accurate and context-sensitive understanding of both adoption and resistance in the South African policing environment.

**Policing Reform Must Be Holistic**

Any digital transformation strategy should be part of broader policing reforms that address cultural change, leadership development, and the democratization of law enforcement.

## Conclusion

The findings of this study affirm that technology alone is not sufficient to transform policing in South Africa. While innovations such as digital case tracking, predictive analytics, and surveillance systems offer potential gains in efficiency and crime prevention, their impact is shaped and often constrained by broader institutional, infrastructural, and social realities. The evidence reveals persistent inequalities in digital access, resistance from within the SAPS, and public mistrust, particularly in underserved and historically marginalized communities.

Effective implementation, therefore, demands more than technical deployment. The data suggests that adaptive leadership, inclusive decision-making processes, and ethical oversight structures are critical enablers of success. Stations that reported higher engagement with community stakeholders and more participatory approaches to technology rollout demonstrated greater acceptance, reduced resistance, and improved local legitimacy.

These findings underscore the need for a context-sensitive model of digital policing, one that goes beyond efficiency metrics and embraces human rights, fairness, and community co-production as central design principles. In this regard, the Technology Acceptance Model (TAM), when expanded to include dimensions such as trust, legitimacy, and perceived fairness, offers a more comprehensive framework for understanding both adoption and resistance in the South African policing environment.

Future research should build on these insights by conducting longitudinal and comparative studies to track the evolving impact of digital technologies over time and to examine how institutional reforms, cultural dynamics, and community relationships continue to shape the trajectory of digital policing across diverse contexts.

## Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest for the research, authorship, and/or publication of this article.

## Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

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