

# The Impact of Closed-Circuit Television (CCTV) Installation in Crime Reduction and Suppression: A Qualitative Study

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## ABSTRACT

The increasing reliance on surveillance technologies has reshaped contemporary approaches to crime prevention and public safety. This study examined the impact of Closed-Circuit Television (CCTV) installation on crime reduction and suppression, drawing on the lived experiences of individuals in selected establishments in Ozamiz City, Philippines. A qualitative phenomenological design was employed to capture participants' perspectives on the effectiveness, implementation, and challenges of CCTV systems. Data were collected through semi-structured interviews with purposively selected participants who had direct exposure to surveillance practices. To strengthen the depth of perspectives gathered, participants included business owners, employees, security personnel, and selected community representatives with direct experience in monitored environments. Colaizzi's method guided the analysis, enabling systematic identification and organization of significant statements into coherent themes. The findings generated four major cluster themes: Observed Positive Impacts of CCTV on Crime Reduction and Behavior; Successful Strategies or Practices in CCTV Implementation; Optimization and Suggestions for CCTV Systems; and Collaboration Between Government, Businesses, and Community. The findings further revealed that while CCTV systems enhance deterrence and support investigations, concerns regarding privacy, ethical use of surveillance footage, and limitations in monitoring practices remain significant considerations among participants. The study concludes that CCTV systems contribute to crime deterrence and improved behavioral regulation when supported by strategic deployment, consistent maintenance, and multi-sectoral cooperation. However, their effectiveness is influenced by broader social and institutional factors such as public trust, policy implementation, accountability mechanisms, and responsible data management practices. It is recommended that stakeholders prioritize technological enhancements, strengthen personnel training, foster collaborative partnerships, and establish ethical guidelines on surveillance use and data protection to sustain and maximize the effectiveness of surveillance systems in promoting public safety.

**Keywords:** Behavior Regulation, CCTV Systems, Collaboration, Crime Prevention, Surveillance Technology

## INTRODUCTION

### Rationale of the Study

Crime and public safety remain critical factors that influence the overall quality of life in communities. Understanding crime patterns requires examining structural and social dynamics that shape behavior (Brayne, 2021). Variations in crime rates are often associated with socioeconomic conditions, highlighting the need for data-driven policymaking and effective resource allocation (Vargas, 2023). Public safety initiatives, particularly those combining law enforcement strategies with community engagement, play a vital role in reducing crime and fostering a sense of security among citizens (McLendon et al., 2024).

Technological advancements have significantly transformed approaches to crime prevention and control. The integration of digital tools has enhanced the efficiency of law enforcement operations, particularly through surveillance and data analytics (Soto et al., 2021). Modern monitoring systems enable real-time observation and faster incident response, improving overall situational awareness (Myagmar-Ochir, 2023). Improved data-sharing mechanisms among agencies have also strengthened coordination and strategic planning in addressing

criminal activities (Leone, 2024). Within this context, Closed-Circuit Television (CCTV) systems have become essential tools for monitoring environments and supporting investigative processes.

CCTV technology has been widely recognized for its role in deterring crime and supporting investigations. The visible presence of surveillance cameras discourages potential offenders by increasing the perceived risk of detection and apprehension (Ferreira et al., 2023). Recorded footage also provides valuable evidence that aids in identifying suspects and strengthening legal proceedings (Geldenhuys, 2023). Despite these advantages, public perception remains divided, as individuals recognize the benefits of enhanced security while also expressing concerns regarding privacy and potential misuse of surveillance data (Malik et al., 2024). Issues related to unauthorized access to recordings, improper storage of surveillance footage, and excessive monitoring have increasingly raised ethical debates regarding the balance between public safety and individual rights.

Despite its effectiveness, CCTV systems face several limitations that affect their overall impact. Surveillance technologies cannot fully prevent crime in real time, particularly in areas with insufficient coverage or technical constraints (Ratcliffe & Rosenthal, 2021). The integration of emerging technologies such as artificial intelligence has been proposed to improve detection capabilities and system efficiency (Yang et al., 2024). At the same time, the expansion of surveillance practices requires careful consideration of ethical standards and accountability measures (Slobogin & Brayne, 2023). Furthermore, existing studies predominantly focus on urban environments, leaving limited understanding of CCTV effectiveness in rural or less-developed areas. This study addresses this gap by examining the impact of CCTV installation on crime reduction and suppression across varying community contexts. The study also recognizes the importance of examining not only the perceived benefits of CCTV systems but also the institutional and ethical challenges associated with surveillance implementation, including privacy concerns, consent, and the potential misuse of collected data.

### **Statement of the Problem**

This study explored the impact of CCTV installations in crime reduction and suppression

Specifically, the study sought to answer the following research questions:

1. What are the observed positive impacts of CCTV installations on crime reduction and suppression?
2. What are the successful strategies or practices used in the implementation of CCTV installations that have led to positive crime reduction outcomes?
3. How can CCTV technology be further optimized to enhance crime prevention and law enforcement efforts?
4. How can the government, businesses, and communities work together to keep CCTV useful for crime prevention?
5. What ethical concerns and social issues are associated with CCTV implementation in monitored communities and establishments?

### **METHODS**

The study adopted a qualitative phenomenological approach to capture and interpret the lived experiences of individuals regarding the use of Closed-Circuit Television (CCTV) systems in crime prevention and public safety. This design enabled an in-depth exploration of participants' perceptions and meanings attached to the phenomenon, emphasizing rich, descriptive accounts grounded in actual experience (Creswell, 2013). Data were gathered from selected establishments in Ozamiz City, Philippines, where CCTV systems were actively utilized, providing a relevant context for examining their perceived impact. The phenomenological approach was selected because it allowed the researchers to explore how participants personally experienced and interpreted the influence of surveillance systems on safety, behavior, and community security practices.

Participants were purposively selected based on their direct exposure to CCTV systems within their workplaces or communities. Inclusion criteria required that participants be at least 18 years old, have firsthand experience with CCTV operations or observations, and be willing to share their insights. To improve the breadth of perspectives, the study included participants from different sectors such as business owners, employees, security personnel, barangay representatives, and selected community members familiar with surveillance practices. The final number of participants was guided by the principle of data saturation, wherein no new themes or significant information emerged from subsequent interviews. Semi-structured interviews were conducted to allow flexibility while maintaining focus on the research objectives. Although the study primarily relied on qualitative narratives, participants were also encouraged to describe observed trends in criminal incidents before and after CCTV installation to provide contextual support for perceived changes in crime occurrence.

Ethical protocols were strictly observed throughout the study. Participants were provided with clear information regarding the purpose of the research, the voluntary nature of their participation, and their right to withdraw at any stage without consequence. Written informed consent was secured prior to data collection, and confidentiality was ensured by anonymizing all personal identifiers. Interviews were conducted in a respectful and non-intrusive manner to promote openness and safeguard participants' well-being, consistent with established ethical research standards (Creswell, 2005). Additional ethical consideration was given to discussions involving surveillance practices, particularly issues concerning privacy, informed consent, confidentiality of CCTV recordings, and the responsible handling of sensitive information shared by participants.

Data analysis followed Colaizzi's systematic phenomenological method, which involves iterative reading, extraction of significant statements, formulation of meanings, clustering of themes, and development of an exhaustive description. To ensure methodological rigor, the study adhered to established criteria of trustworthiness. Credibility was strengthened through prolonged engagement and careful interpretation of participants' narratives. Dependability was maintained by ensuring consistency in data collection and analysis procedures, while confirmability was achieved through grounding findings in participants' accounts and minimizing researcher bias. The researchers also conducted repeated comparisons of participant responses to identify converging and diverging experiences regarding CCTV effectiveness, ethical concerns, and institutional practices associated with surveillance implementation.

## **RESULT AND DISCUSSION**

### **Cluster Theme 1: Observed Positive Impacts of CCTV on Crime Reduction and Behavior**

#### **Reduction of Theft and Criminal Incidents**

Findings revealed that the presence of CCTV systems contributed to a noticeable decline in theft and other minor criminal activities within the observed establishments. Participants described how surveillance cameras served as a deterrent, reducing opportunities for offenders to act without being identified. The perceived likelihood of being recorded increased caution among individuals, particularly in areas where valuable goods were accessible.

This aligns with prior studies indicating that CCTV deployment is associated with a reduction in property-related crimes due to heightened perceived risk and improved post-incident investigation capabilities (Aballe et al., 2022). The deterrent effect is further strengthened when surveillance systems are visible and actively monitored, reinforcing the perception of constant oversight (Ferreira et al., 2023).

Participants additionally noted that CCTV footage became useful in resolving disputes, identifying suspects, and assisting authorities during investigations, thereby strengthening confidence in security measures implemented within establishments.

#### **Influence on Behavior of Potential Offenders**

Beyond reducing specific incidents, CCTV systems were found to influence general behavior in monitored environments. Participants noted that individuals tended to act more cautiously and responsibly, avoiding

suspicious or disruptive actions. This behavioral adjustment suggests that surveillance does not only prevent crime but also promotes social order. Such findings support the argument that surveillance technologies shape behavioral norms by increasing self-awareness and accountability among individuals (Acuña & Parojenog, 2024). The psychological impact of being observed has been widely recognized as a contributing factor to compliance and deterrence in public and semi-public spaces (Brayne, 2021).

However, some participants also expressed discomfort regarding constant monitoring, suggesting that excessive surveillance may create feelings of uneasiness and perceived intrusion into personal privacy. These responses indicate that the social effects of CCTV extend beyond deterrence and involve complex perceptions of security, trust, and individual freedom.

## **Cluster Theme 2: Successful Strategies or Practices in CCTV Implementation**

### **Strategic Placement of Cameras**

Effective CCTV implementation was strongly associated with the strategic positioning of cameras in high-risk and high-traffic areas. Participants emphasized that cameras placed near entrances, exits, and transaction points provided better coverage and enhanced monitoring efficiency. Poorly positioned cameras, on the other hand, resulted in blind spots that reduced system effectiveness. This finding is consistent with existing literature highlighting that optimal camera placement is critical in maximizing surveillance coverage and minimizing vulnerabilities (Olipas, 2024). Strategic deployment ensures that critical areas are consistently monitored, thereby increasing the likelihood of both deterrence and detection. Participants emphasized that careful placement also minimizes unnecessary monitoring of private spaces, helping address ethical concerns related to surveillance overreach.

### **Community Involvement in Planning**

The study also found that involving employees and community members in the planning and implementation of CCTV systems improved acceptance and effectiveness. Participants expressed greater trust in surveillance systems when they were consulted or informed about their purpose and operation. Community engagement fosters a sense of shared responsibility and encourages cooperation in maintaining safety measures. Similar observations have been reported in previous studies, which emphasize that participatory approaches enhance the legitimacy and sustainability of public safety initiatives (Yang et al., 2024). Participants further highlighted that transparency in explaining how footage is collected, stored, and accessed helped reduce fears regarding misuse of surveillance data.

### **Regular Maintenance and Technical Upkeep**

Consistent maintenance and system reliability were identified as essential factors in ensuring the functionality of CCTV systems. Participants noted that malfunctioning cameras or unclear footage limited the usefulness of surveillance, particularly during investigations. Regular technical checks and timely repairs were therefore considered necessary to maintain operational effectiveness. This supports earlier findings that technical issues, such as poor image quality or system failure, can significantly undermine the benefits of CCTV surveillance (Ratliffe & Rosenthal, 2021). Some participants also noted that inadequate maintenance may weaken public trust in surveillance systems, particularly when incidents occur in areas assumed to be protected by functioning cameras.

## **Cluster Theme 3: Optimization and Suggestions for CCTV Systems**

### **Improvement of Camera Quality and Night Vision**

Participants recommended upgrading CCTV systems to include higher resolution cameras and improved night-vision capabilities. Enhanced image clarity was viewed as critical for accurate identification and evidence collection, particularly in low-light conditions. Technological advancements in surveillance systems have been

shown to improve detection accuracy and overall system performance, thereby strengthening crime prevention efforts (Ashkhari & Ismail, 2024). The integration of advanced imaging features allows for more reliable monitoring across varying environmental conditions. Participants further suggested that technological upgrades should be accompanied by clear policies governing data storage duration, access permissions, and proper disposal of recorded footage to prevent misuse of information.

### **Training for Personnel Handling CCTV**

The effectiveness of CCTV systems was also linked to the competence of personnel responsible for monitoring and managing the technology. Participants highlighted the need for proper training to ensure that operators can effectively identify suspicious behavior and respond appropriately. Skilled personnel contribute to proactive surveillance rather than passive observation, enhancing the system's preventive function. This finding aligns with studies emphasizing that human factors, including training and expertise, are crucial in maximizing the utility of surveillance technologies (Leone, 2024). Participants additionally stressed that training programs should include ethical standards, privacy protection measures, and accountability protocols to ensure responsible use of surveillance systems.

### **Cluster Theme 4: Collaboration Between Government, Businesses, and Community**

#### **Role of Local Government**

The involvement of local government units was identified as a key factor in supporting CCTV implementation and sustainability. Participants noted that government initiatives, such as funding support and policy development, facilitated wider adoption of surveillance systems. Institutional backing strengthens the infrastructure and regulatory framework necessary for effective crime prevention. Previous research underscores the importance of government leadership in coordinating and standardizing surveillance practices across different sectors (Acuña & Parojenog, 2024). Participants further emphasized the importance of government oversight in ensuring that surveillance systems operate within ethical and legal boundaries to prevent abuse and unauthorized use of recorded data.

#### **Partnerships and Cooperation**

Collaboration between businesses and community stakeholders was found to enhance the reach and impact of CCTV systems. Participants observed that shared resources and coordinated efforts allowed for broader surveillance coverage and improved information sharing. Partnerships contributed to a more cohesive approach to security, ensuring that gaps in monitoring were minimized.

This supports the notion that multi-sectoral cooperation is essential in addressing complex public safety challenges (Aballe et al., 2022). Participants further emphasized the importance of government oversight in ensuring that surveillance systems operate within ethical and legal boundaries to prevent abuse and unauthorized use of recorded data.

#### **Public Awareness Initiatives**

Public awareness campaigns were also identified as an important component in maximizing the effectiveness of CCTV systems. Informing individuals about the presence and purpose of surveillance increased compliance and reinforced its deterrent effect. Participants emphasized that awareness initiatives helped build trust and reduced concerns related to privacy and misuse.

This finding is consistent with literature suggesting that transparency and communication are critical in fostering public acceptance of surveillance technologies (Malik et al., 2024). The findings further suggest that public awareness initiatives should include education regarding citizens' rights, limitations of surveillance authority, and mechanisms for reporting misuse or unethical practices involving CCTV systems.

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## CONCLUSION

The findings indicate that CCTV systems contribute meaningfully to crime reduction and behavioral regulation within monitored environments. Their presence discourages opportunistic offenses, particularly theft, while promoting more cautious and orderly conduct among individuals. However, the effectiveness of surveillance is not solely dependent on installation but is shaped by how systems are implemented, maintained, and managed. Strategic camera placement, operational reliability, and competent monitoring practices emerged as critical elements that enhance both deterrence and investigative value. Moreover, the role of collaboration among local authorities, business establishments, and the community reinforces the sustainability and broader impact of CCTV initiatives. Overall, CCTV functions most effectively as part of an integrated approach to public safety that combines technological capability with human oversight and collective responsibility.

The study also highlights that surveillance systems involve ethical and institutional dimensions that require careful consideration. While CCTV installation promotes security and accountability, concerns regarding privacy, data misuse, surveillance overreach, and unauthorized access to recordings remain significant issues among participants. These findings suggest that the long-term effectiveness and public acceptance of CCTV systems depend not only on technological efficiency but also on transparent governance, ethical safeguards, and responsible implementation practices. Furthermore, the study recognizes that qualitative findings are context-bound and based on participants' lived experiences, emphasizing the need for future studies that integrate broader stakeholder perspectives and comparative evidence across monitored and non-monitored settings.

## RECOMMENDATIONS

To strengthen the impact of CCTV systems, it is recommended that stakeholders prioritize strategic planning in camera placement, particularly in high-risk and high-traffic areas, to ensure optimal coverage. Continuous system maintenance and periodic upgrades, including improvements in image quality and night-vision capabilities, should be institutionalized to maintain reliability. Capacity-building initiatives are likewise essential, with regular training provided to personnel responsible for monitoring and managing surveillance systems. Local government units are encouraged to take a more active role in establishing policies, providing resources, and fostering coordination among stakeholders. Strengthening partnerships between businesses and community members can further enhance shared accountability and system effectiveness. Lastly, sustained public awareness efforts should be implemented to promote transparency, build trust, and encourage community support for surveillance-based safety measures.

Future studies are encouraged to include larger and more diverse participant groups, including law enforcement officials, policymakers, and technology specialists, to provide broader perspectives regarding CCTV implementation and effectiveness. Comparative studies between monitored and non-monitored areas are also recommended to generate stronger evidence regarding the actual impact of surveillance systems on crime reduction. Researchers should further explore the social and institutional dynamics influencing CCTV use, particularly issues related to governance, accountability, public trust, and ethical regulation. Additionally, policies concerning privacy protection, informed consent, data storage, and access to surveillance recordings should be strengthened to ensure that CCTV systems are implemented responsibly and in accordance with ethical standards and human rights considerations.

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