

Effectiveness of Body-Worn Cameras and Alternative Recording Devices in Law Enforcement Operations: Basis for Policy Enhancement

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ABSTRACT

The increasing public scrutiny of police practices and the growing demand for transparency and accountability have led to the adoption of technological innovations such as Body-Worn Cameras (BWCs) and Alternative Recording Devices (ARDs) in law enforcement. These tools are designed to document police-citizen interactions, enhance evidence collection, and improve operational efficiency. In the Philippines, their implementation was reinforced through Supreme Court A.M. No. 21-06-08-SC and Philippine National Police (PNP) operational policies. Despite their widespread adoption, the effectiveness of BWCs and ARDs remains a subject of ongoing evaluation due to mixed findings in existing studies and various operational challenges.

This study aimed to assess the effectiveness of BWCs and ARDs in selected police sub-stations in North Caloocan City during the academic year 2025–2026. Specifically, it examined their impact on police operations, police assistance, police response, court presentation, and public perception. It also identified the challenges encountered by law enforcement personnel and proposed recommendations for policy enhancement. The study employed a quantitative descriptive research design using purposive sampling, with 150 respondents composed of patrollers, investigators, and stakeholders. Data were gathered through a structured questionnaire and analyzed using frequency distribution, weighted mean, ranking, and One-Way Analysis of Variance (ANOVA).

Findings revealed that BWCs and ARDs were generally assessed as very effective, particularly in improving documentation accuracy, accountability, decision-making, and the credibility of court evidence. However, their effectiveness in enhancing public trust and reducing citizen complaints was moderate. Key challenges identified included high acquisition and maintenance costs, storage limitations, inconsistent device activation, and privacy concerns. The study concludes that BWCs and ARDs are valuable tools in promoting transparency, accountability, and professionalism in policing. However, their effectiveness depends on proper implementation, financial sustainability, and efficient data management. It is recommended that law enforcement agencies adopt standardized protocols, strengthen training programs, ensure sustainable funding, enhance data security, and promote public awareness. Continuous monitoring and further research are encouraged to improve long-term effectiveness.

Keywords: Body-Worn Cameras (BWC), Alternative Recording Devices, Police Operations, Law Enforcement, Electronic Evidence.

INTRODUCTION

The increasing scrutiny of police practices and the growing demand for transparency and accountability in law enforcement have led to the adoption of technological innovations such as Body-Worn Cameras (BWCs) and Alternative Recording Devices (ARDs). BWCs are electronic recording systems capable of capturing, storing, and processing audio-visual data during police operations, while ARDs refer to other electronic devices that

perform similar recording functions. These technologies are widely used to document law enforcement activities, promote accountability, and provide objective evidence during investigations and legal proceedings.

Globally, the use of BWCs began in the United Kingdom in 2005 and has since been adopted by numerous law enforcement agencies. In the Philippines, the implementation of BWCs gained prominence following the 2017 case of Kian Delos Santos, which highlighted concerns regarding police accountability. In response, the Supreme Court mandated the use of BWCs and ARDs during the execution of search and arrest warrants under A.M. No. 21-06-08-SC. Similarly, the Philippine National Police (PNP) institutionalized their use through policies aimed at improving operational transparency, documentation accuracy, and public trust.

Despite their intended benefits, the effectiveness of BWCs and ARDs remains a subject of debate. While some studies suggest that these devices enhance police behavior, reduce complaints, and strengthen evidence in court, other findings indicate minimal or inconsistent impact on police conduct and community relations. Furthermore, concerns regarding privacy, operational limitations, financial costs, and compliance with activation protocols continue to challenge their implementation.

In the Philippine context, the use of BWCs and ARDs is guided by strict operational procedures, including proper activation, data handling, and chain of custody requirements. However, issues such as inconsistent usage, technical limitations, and data management constraints persist. These challenges highlight the need for a comprehensive evaluation of the effectiveness of these technologies in actual police operations.

Statement of the Problem

This study aimed to assess the effectiveness of Body-worn Cameras (BWCs) or Alternative Recording Devices (ARDs) in selected Police Sub-Station in North Caloocan City for an enhance policy in Police Operations.

Specifically, the study sought to answer the following questions:

How do the respondents assess the impact of body worn cameras in terms of:

- 1.1 Police Operation;
- 1.2. Police Assistance;
- 1.3. Police Response;
- 1.4. Court Presentation; and
- 1.5. Public Perception?

Is there any significant difference in the assessment of the respondents in connection to sub-problem number 1?

What are the problems encountered and solutions offered during the conduct of law enforcement operation while using the Body Worn Cameras?

Is there significant difference in the assessment of the respondents based on sub-problem number 3?

What recommendations and enhancement may be proposed based on the findings of the study?

Scope and Delimitation of the Study

This study evaluated the effectiveness of Body-Worn Cameras (BWCs) and Alternative Recording Devices (ARDs) in enhancing police operations in selected police sub-stations in North Caloocan City during the academic year 2025–2026. It focused on BWC features and their impact across the pre-operation, operation, and post-operation phases. The respondents consisted of 150 participants, including patrollers, investigators, operatives, and stakeholders from five selected police sub-stations.

The study was limited to uniformed police personnel with direct experience in using BWCs or ARDs during operations. Personnel without field experience or those assigned to administrative roles were excluded to ensure the accuracy and relevance of the data.

Significance of the Study

This study aimed to provide insights into the use of Body-Worn Cameras (BWCs) and Alternative Recording Devices (ARDs) in police operations to enhance transparency, accountability, and public trust.

The findings may benefit the Philippine National Police by improving operational procedures, training, and performance evaluation. They may also help strengthen community trust in law enforcement and assist policymakers in refining laws that balance effective policing with the protection of individual rights. Furthermore, this study may serve as a reference for future researchers interested in evaluating the effectiveness of BWCs and ARDs in different contexts.

LITERATURE REVIEW

Foreign studies highlight that Body-Worn Cameras (BWCs) are widely used to promote transparency, accountability, and accurate documentation in law enforcement. According to Lum et al. (2020), findings on their effectiveness remain mixed, as BWCs show no significant impact on crime rates but contribute to a reduction in citizen complaints and improved police conduct. Similarly, Petersen and Lu (2023) found that BWCs have limited effects on court outcomes, although they may be more effective in specific cases such as domestic violence. These studies emphasize the need for further research to determine their overall effectiveness.

Other international studies demonstrate more positive outcomes. Braga et al. (2021) found that BWCs helped reduce excessive force, unlawful policing practices, and citizen complaints, while Lawrence et al. (2023) reported a significant reduction in injuries during police encounters when BWCs were used. These findings suggest that BWCs can enhance safety, accountability, and professionalism in law enforcement operations.

Despite these benefits, several studies highlight challenges in BWC implementation. Ellis et al. (2022) and L'Hoiry et al. (2024) noted increased administrative workload, privacy concerns, and difficulties in integrating video evidence into legal processes. Technical limitations, inconsistent usage, and lack of training also hinder their effectiveness. These findings indicate that BWCs are not a complete solution and require proper policies, supervision, and data management systems to maximize their benefits.

In the Philippine context, the implementation of BWCs is guided by policies such as PNP Memorandum Circular 2018-009, which outlines procedures across pre-operation, operation, and post-operation phases. Local studies (Banagan et al., 2022; Andrade et al., 2024) show that BWCs improve accountability, transparency, and evidentiary support while strengthening police-community relations. However, concerns about privacy, safety, and limited resources remain significant issues affecting their implementation.

Furthermore, challenges such as limited availability of BWCs, high costs, storage requirements, and technical issues have been widely reported (Ombay, 2023; International Association of Chiefs of Police, 2020). Studies also highlight concerns about video quality, data security, and the financial burden of maintaining storage systems. Overall, while BWCs offer clear advantages in improving police operations, their effectiveness depends on proper implementation, sufficient resources, and continuous evaluation, which underscores the relevance of the present study.

THEORETICAL FRAMEWORK

This study is anchored on Deterrence Theory and Procedural Justice Theory, which provide a foundation for understanding the effectiveness of Body-Worn Cameras (BWCs) and Alternative Recording Devices (ARDs) in police operations. Deterrence Theory, proposed by Cesare Beccaria and Jeremy Bentham, suggests that individuals are less likely to engage in misconduct when they know their actions are being observed and consequences will follow. In this context, BWCs deter both police officers and civilians from improper behavior

by promoting accountability and professionalism throughout the pre-operation, operation, and post-operation phases.

Procedural Justice Theory, introduced by John Thibaut and Laurens Walker (1975), emphasizes that individuals are more likely to perceive authority as legitimate when treated fairly and respectfully. In law enforcement, fair and transparent processes during citizen-police interactions improve public trust and legitimacy. The use of BWCs and ARDs strengthens transparency by properly documenting police actions, thus fostering positive perceptions of fairness and increasing community confidence in law enforcement agencies.

As shown in the theoretical framework, the effectiveness of BWCs or ARDs is influenced by interconnected factors: citizen-police interactions, fair law enforcement processes, and perceptions of justice and legitimacy. Procedural Justice Theory explains how fair treatment builds public trust, while Deterrence Theory clarifies how the presence of recording devices influences behavior. Together, these theories highlight how BWCs and ARDs promote accountability, fairness, and legitimacy, enhancing overall police effectiveness.

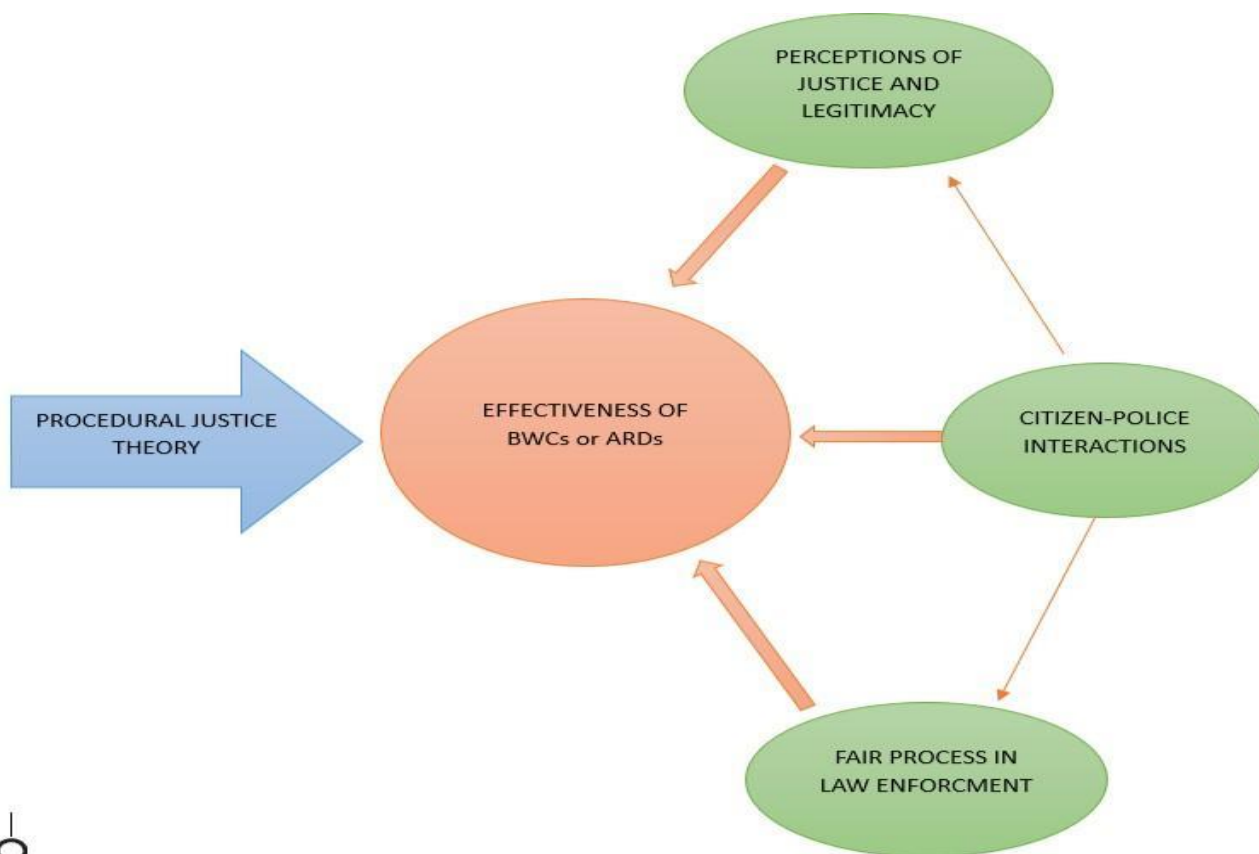


Figure 1: Theoretical Diagram

METHODOLOGY

Research Design

This study employed a quantitative descriptive research design to evaluate the capabilities of Station Patrol Officers, focusing on body-worn camera features and phases of police operations. The approach allowed objective measurement and comparison of key variables to inform law enforcement policies and practices.

Population and Sampling Scheme

The study involved 150 respondents from five Caloocan City police sub-stations, including patrol officers, operatives, investigators, and stakeholders. Purposive sampling was used to select participants with relevant experience in patrol operations to ensure rich and accurate data.

Research Instruments

A structured survey questionnaire served as the primary instrument, divided into three parts: assessing patrol capabilities, identifying challenges, and gathering recommendations for improvement. This design ensured comprehensive data collection aligned with the study’s objectives.

Validation of the Instrument

The questionnaire was validated through concurrent validity by comparing it with established tools and expert reviews. A pilot test (dry-run) was conducted with 20-30 officers to assess clarity and reliability, followed by adjustments based on feedback and reliability analysis (Cronbach’s alpha).

Data Gathering Procedures

Data collection began with an initial online interview to establish rapport, followed by survey distribution either online or in person. Completed questionnaires were checked for completeness, tabulated, and analyzed statistically to ensure accuracy and meaningful interpretation.

Statistical Treatment of Data

Descriptive statistics (frequency, percentage, weighted mean, ranking) described respondent profiles and response patterns. One-Way ANOVA was used to test for significant differences in assessments among patrol officers, investigators, and stakeholders at a 0.05 significance level, guiding the study’s conclusions.

RESULTS AND DISCUSSIONS

Table 1. Impact of Body Worn Cameras (BWC) as Assessed by the Three-group Respondents

Variable	Patroller respondents		Investigator respondents		Stakeholder respondents		AWM	VI
	WM	VI	WM	VI	WM	VI		
Police Operation	3.73	VE	3.94	VE	3.10	E	3.58	VE
Police Assistance	3.76	VE	3.83	VE	3.12	E	3.57	VE
Police Response	3.84	VE	3.84	VE	3.35	VE	3.68	VE
Court Presentation	3.70	VE	3.72	VE	3.01	E	3.48	VE
Public Perception	3.64	VE	3.84	VE	3.16	E	3.55	VE
Overall Weighted Mean	3.73	VE	3.83	VE	3.15	E	3.57	VE

Scale:1.00-1.75-Not Effective (NE);1.76-2.50-Less Effective (LE); 2.51-3.25-Effective (E);3.26-4.00-Very Effective (VE)

The study’s evaluation of Body-Worn Cameras (BWCs) and Alternative Recording Devices (ARDs) reveals a high degree of effectiveness in modern policing within North Caloocan City. With an Overall Weighted Mean of 3.57, the technology is classified as Very Effective, demonstrating that it serves as a critical tool for professionalizing law enforcement and ensuring operational transparency.

The most profound impact was observed in Police Response (3.68), where all respondent groups—including stakeholders—unanimously agreed on the technology's "Very Effective" status. This suggests that the immediate presence of a recording device during active encounters significantly improves officer conduct and decision-making. Furthermore, Police Operation (3.58) and Police Assistance (3.57) were highly rated, indicating that BWCs have successfully streamlined incident documentation and fostered a culture of accountability during routine community service and tactical executions.

Despite these strengths, the study identified a notable "perception gap" between internal and external stakeholders. While Investigators (3.83) and Patrollers (3.73) consistently viewed the technology as "Very

Effective" across all categories, Stakeholders (3.15) provided a more conservative rating of "Effective." This disparity was most evident in Court Presentation (3.48) and Public Perception (3.55), where civilians expressed a more reserved view of how video evidence translates into judicial efficiency and community trust. These findings conclude that while the BWC program is a resounding technical and operational success, its full potential relies on bridging this gap through enhanced public transparency, standardized activation protocols, and sustainable infrastructure to manage the growing demands of digital evidence.

Table 2. Challenges Encountered by the PNP Personnel in the Implementation of Body-Worn Cameras (BWC) as Assessed by the 3 Groups of Respondents

Variable	Patroller respondents		Investigator respondents		Stakeholder respondents		AWM	VI
	WM	VI	WM	VI	WM	VI		
Equipment malfunction, short battery life, poor audio-video quality	3.88	VS	3.80	VS	2.90	S	3.53	VS
Difficulty in operating the device	3.90	VS	3.30	VS	2.90	S	3.37	VS
Insufficient storage capacity	3.80	VS	3.20	S	3.70	VS	3.57	VS
Risk of unauthorized access or data breaches	3.74	VS	3.10	S	3.60	VS	3.47	VS
High initial cost of purchase, installation, and infrastructure	4.00	VS	4.00	VS	2.90	S	3.63	VS
Recurring expenses for maintenance, upgrades, and data storage	3.80	VS	4.00	VS	3.50	VS	3.77	VS
Lack of clear guidelines on activation, deactivation, data retention, and access	3.80	VS	3.20	S	2.60	S	3.20	S
Privacy concerns when recording in private spaces	3.10	S	3.70	VS	2.70	S	3.17	S
Inconsistent use or failure to activate cameras	3.88	VS	3.80	VS	3.30	VS	3.66	VS
Cameras may not capture full context due to limited and obstructed views	3.20	S	3.10	S	2.80	S	3.02	S
Victims or witnesses may feel uncomfortable being recorded	3.24	S	3.94	VS	2.40	LS	3.19	S
Public fear of increased surveillance	3.34	VS	3.90	VS	3.00	S	3.55	VS
Loss of trust when cameras are not used consistently	2.90	S	3.90	VS	3.30	VS	3.37	VS
Overall Weighted Mean	3.61	VS	3.61	VS	3.05	S	3.42	VS

Scale:1.00-1.75-Not Serious (NS);1.76-2.50-LessSerious (LS); 2.51-3.25-Serious (S);3.26-4.00-Very Serious (VS)

The table 2 presents the challenges encountered by Philippine National Police (PNP) personnel in implementing Body-Worn Cameras (BWCs), as assessed by three groups: Patrol Officers, Investigators, and Stakeholders. Each challenge is measured using a Weighted Mean (WM) and a Verbal Interpretation (VI), where ratings range from Serious (S) to Very Serious (VS). This analysis reveals the perceptions of different groups regarding the obstacles faced during BWC deployment.

Overall, the combined weighted mean from all respondents was 3.42, categorized as a Serious level of challenge. This indicates that while the implementation of BWCs is met with notable difficulties, not all issues are regarded as highly critical by every group. The findings suggest that these challenges are significant enough to warrant attention but vary in intensity across different respondents.

Among the most pressing challenges were recurring expenses for maintenance, upgrades, and data storage, which had the highest weighted mean of 3.77 and were rated Very Serious. The high initial costs for purchasing,

installing, and setting up the required infrastructure also ranked very serious, with a mean of 3.63. Technical issues such as insufficient storage capacity, equipment malfunctions, battery life problems, and poor audio-video quality further highlighted the operational constraints impacting the effective use of BWCs.

Other significant concerns included risks of unauthorized access or data breaches, inconsistent use or failure to activate cameras, and the lack of clear guidelines on activation, deactivation, data retention, and access. These issues suggest challenges related to data security, operational compliance, and procedural clarity, which could undermine the overall effectiveness and reliability of the BWC program.

Differences emerged among respondent groups, with Patrol Officers and Investigators generally rating the challenges more severely than Stakeholders, especially regarding technical and operational problems. This likely reflects the frontline experience of these groups, who interact directly with the devices. In contrast, Stakeholders, while acknowledging key issues, gave slightly lower severity ratings, perhaps due to less direct exposure or differing priorities in assessing the challenges.

Table 3. The Significant Difference in the Assessment of the Respondent in the Assessment of the Impact of Body Worn Cameras

Variable	Computed F	Critical F	Interpretation	Decision of the Null Hypothesis
Police Operation	7.413	3.466	Significant	Rejected Ho
Police Assistance	18.507	3.466	Significant	Rejected Ho
Police Response	16.312	3.466	Significant	Rejected Ho
Court Presentation	6.827	3.466	Significant	Rejected Ho
Public Perception	6.665	3.466	Significant	Rejected Ho

The table 3 showed the results of an ANOVA test conducted to examine if there were significant differences among respondent groups in their assessment of the impact of Body-Worn Cameras (BWCs) across five variables: Police Operation, Police Assistance, Police Response, Court Presentation, and Public Perception. For each variable, the computed F-values exceeded the critical F-value of 3.466, indicating statistically significant differences in how respondents evaluated the impact of BWCs. Police Assistance had the highest computed F-value at 18.507, followed by Police Response (16.312), Police Operation (7.413), Court Presentation (6.827), and Public Perception (6.665).

Because all computed F-values were greater than the critical value, the null hypothesis, which stated there would be no significant difference among the groups, was rejected for every variable. This indicated that the perceptions of the different respondent groups varied significantly regarding the effects of BWCs on police operations, assistance, response, court proceedings, and public perception. The findings highlight the importance of recognizing diverse perspectives when assessing the overall impact of BWCs in law enforcement and the justice system.

Table 4. Proposed Recommendation/Offered to Address the Problems Encountered by the PNP Personnel as Assessed by the 3 Groups of Respondents

Variable	Patroller respondents		Investigator respondents		Stakeholder respondents		AW M	VI
	WM	VI	WM	VI	WM	VI		
Procure reliable, field tested BWC models suited for Philippine weather conditions	4.00	HR	3.90	HR	4.00	HR	3.97	HR
Conduct hands on training for officers on camera use and troubleshooting	3.94	HR	3.94	HR	3.98	HR	3.95	HR
Invest in expanded cloud or server storage with automatic upload and backup systems	4.00	HR	3.98	HR	3.94	HR	3.97	HR

Strengthen cybersecurity protocols, including encryption and access controls	4.00	HR	3.96	HR	3.90	HR	3.95	HR
Secure government funding through national budget allocations, grants or inter agency support	4.00	HR	3.90	HR	3.80	HR	3.90	HR
Explore public private partnership for technology and infrastructure support	4.00	HR	3.94	HR	3.90	HR	3.97	HR
Develop standardized BWC protocols aligned with RA 10173 (Data Privacy Act) and SC guidelines	4.00	HR	3.98	HR	3.92	HR	3.97	HR
Establish rules for redaction to protect identities of minors, victims, and civilians	4.00	HR	3.94	HR	3.94	HR	3.96	HR
Promote a culture of accountability by emphasizing BWCS as tools for officer protection and transparency	4.00	HR	3.90	HR	3.88	HR	3.93	HR
Improve camera placement and provide models with wide angle lenses	4.00	HR	3.88	HR	3.94	HR	3.94	HR
Allow temporary deactivation in sensitive situations, following proper documentation	4.00	HR	3.90	HR	3.94	HR	3.94	HR
Conduct public awareness campaigns explaining benefits and protections included in BWC policies	4.00	HR	3.86	HR	3.90	HR	3.92	HR
Ensure consistent activation of cameras to reinforce trust and credibility	4.00	HR	3.88	HR	3.96	HR	3.94	HR
Overall Weighted Mean	3.99	HR	3.92	HR	3.92	HR	3.94	HR

Scale:1.00-1.75-Not Recommended (NR);1.76-2.50-LessRecommended (LR); 2.51-3.25-Recommended (R);3.26-4.00-Highly Recommended (HR)

The data presented in Table 4 reveals an overwhelming consensus among the three respondent groups—Patrollers, Investigators, and Stakeholders—regarding the proposed recommendations for the Philippine National Police (PNP) Body-Worn Camera (BWC) systems. With an Overall Weighted Mean of 3.94, all 13 indicators fall within the Highly Recommended (HR) bracket, signifying a robust mandate for the enhancement of BWC protocols and infrastructure. Notably, the Patroller respondents exhibited the highest level of agreement with a weighted mean of 3.99, giving a near-perfect score of 4.00 to almost every indicator. This suggests that the personnel on the front lines view these improvements not merely as administrative requirements, but as essential tools for operational efficiency and personal protection.

The results highlight a prioritized focus on Technical Reliability and Legal Integrity. The highest-rated indicators (AWM 3.97) emphasize the procurement of weather-resilient hardware, the expansion of secure cloud storage, and the development of protocols strictly aligned with RA 10173 (Data Privacy Act). These findings indicate that stakeholders are deeply concerned with the sustainability of the technology and the legal safety of the data collected. Furthermore, the high-rating for-redaction rules (3.96) and cybersecurity (3.95) underscore a sophisticated understanding of the risks associated with digital evidence, particularly the need to protect the identities of minors and victims.

Finally, the data reflects a positive shift in the organizational culture toward Accountability and Transparency. The strong support for promoting BWCs as tools for "officer protection" (3.93) suggests that the PNP personnel no longer view the cameras solely as a mechanism for surveillance, but as a shield against false accusations. While "soft" components like public awareness campaigns (3.92) received the lowest relative scores, they still remain within the "Highly Recommended" range. Ultimately, the results suggest that for the BWC program to be successful, the PNP must balance the acquisition of high-end, field-tested hardware with rigorous hands-on training and a transparent legal framework that protects both the officer and the civilian.

Table 5. The Significant Difference in the Assessment of the Respondent on the Problems Encountered and Recommendation Offered

Variable	Computed F	Critical F	Interpretation	Decision of the Null Hypothesis
Problems Encountered	6.782	3.259	Significant	Rejected Ho
Recommended Solution	14.933	3.259	Significant	Rejected Ho

The data presented in Table 5 provides a statistical validation of the varying perspectives among the three respondent groups regarding the implementation of Body-Worn Cameras (BWCs). By comparing the Computed F-values against the Critical F-value of 3.259, the analysis reveals a statistically significant difference in how Patrollers, Investigators, and Stakeholders assess both the challenges and the solutions. Specifically, the variable for "Problems Encountered" yielded a Computed F of 6.782, while the "Recommended Solution" produced an even higher value of 14.933. In both instances, because the computed figures exceed the critical threshold, the Null Hypothesis (H_0) is rejected. This indicates that the differences in scores across the groups are not due to random chance but are rooted in the distinct roles, experiences, and priorities of the respondents.

The rejection of the null hypothesis for Problems Encountered suggests that while all groups recognize that issues exist, they do not perceive the nature or severity of these problems identically. For example, a Patroller might be more sensitive to technical malfunctions in the field, whereas a Stakeholder might focus on the "problem" of data privacy or public transparency. Similarly, the significant difference in Recommended Solutions implies that although all groups generally support the proposed improvements, their level of urgency or preference for specific interventions varies. The Investigators might prioritize high-speed data retrieval for evidence building, while Patrollers might place a higher premium on the physical durability of the hardware.

CONCLUSIONS

1. BWCs and ARDs are overall very effective, especially in police response, operations, and assistance, though a perception gap exists between internal users and stakeholders regarding court presentation and public trust.
2. BWC implementation faces serious challenges due to financial constraints, technical limitations, and concerns over data security and unclear policies, with frontline personnel perceiving these issues more strongly.
3. Significant differences exist among respondent groups in assessing BWC impact, with the greatest variation in police assistance and response, highlighting the influence of roles and experiences.
4. Respondents show strong consensus on highly recommended measures, prioritizing technical reliability, secure data storage, compliance with RA 10173, and data protection, while viewing BWCs as tools for accountability and officer protection.
5. Statistically significant differences exist in perceptions of problems and recommended solutions, reflecting varied priorities between frontline personnel (operational focus) and stakeholders (transparency and data privacy).

RECOMMENDATIONS

1. Strengthen transparency initiatives to build public trust, standardize usage protocols to ensure reliable evidence, conduct community engagement to promote understanding, and improve evidence handling systems to support court admissibility and judicial efficiency.
2. Allocate sustainable funding for long-term maintenance, upgrades, and secure data storage systems; invest in high-quality, durable BWC units; and develop and enforce clear operational guidelines for camera use and data management. Strengthening cybersecurity measures is essential to prevent data breaches, while continuous technical training should be provided to personnel to enhance system utilization and minimize operational issues.

3. Develop role-specific training programs, enhance coordination among different respondent groups, improve the integration of BWC evidence in judicial processes, and conduct public awareness campaigns to align perceptions across stakeholders.
4. Law enforcement agencies invest in durable and reliable equipment, implement secure cloud-based storage systems, enforce strict data privacy policies, enhance cybersecurity frameworks, provide regular training for personnel, and strengthen public education initiatives regarding BWC use.
5. Adopt a multi-stakeholder approach in policy development, tailor solutions to specific user needs, establish continuous feedback mechanisms, and integrate policy, technology, and training interventions to ensure a more effective and balanced implementation of BWCs.
6. Future studies may explore longitudinal or comparative research to assess the long-term impact of BWCs on crime rates, complaint resolution, and judicial efficiency.

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