

Utilization of Electronic Policing in the Philippine National Police

John C. Jamilo, Verna R. Belarmino, PhD

Faculty of the Graduate School Master of Science in Criminal Justice, Dayao Satellite College Capiz
State University in Partial master of science in criminal justice with Specialization in Criminology

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ABSTRACT

The integration of electronic policing systems in the Philippine National Police (PNP) has become central to enhancing operational efficiency, ensuring effective law enforcement, and improving public safety. This study aimed to evaluate the level of Implementation and identify the challenges encountered in the utilization of electronic policing systems, specifically the e-Rouges Gallery, e-Warrant System, e-Blotter Report, and e-Subpoena. Furthermore, it explored whether significant differences in Implementation and challenges were influenced by socio-demographic factors such as age, sex, civil status, and educational attainment. A descriptive-correlational research design was employed, utilizing a structured survey administered to 205 PNP personnel. The findings revealed high adoption across the various electronic systems, particularly the e-Rouges Gallery and e-Warrant System, while the e-Blotter Report indicated room for improvement in system functionality and accessibility. Significant differences in both the level of Implementation and the challenges encountered were observed by age and gender, highlighting the importance of targeted training and system exposure for different demographic groups. Additionally, a positive correlation was found between the implementation level and the challenges encountered, indicating that as electronic system implementation increases, the complexity and challenges associated with their management also increase.

Keywords: electronic policing, law enforcement, system implementation, challenges, technological integration.

INTRODUCTION

Background of the Study

The Philippine National Police (PNP) plays a vital role in maintaining peace and order and public safety. Effective use of electronic tools (e-tools) is crucial to enhancing operational efficiency, productivity, and decision-making within the PNP. In recent years, the integration of digital technologies into law enforcement agencies has transformed the efficiency and effectiveness of police work worldwide. In the Philippines, the Philippine National Police (PNP) has recognized the potential benefits of utilizing electronic tools (E-tools) to enhance operational capabilities, improve communication, and streamline administrative processes.

Electronic tool means any software, system, electronic functionality, or service, including interactive devices, internet capability, functionality, site, or service hardware, devices, or communications facilities. The early adoption of digital technologies has equipped law enforcement with advanced capabilities, such as data analytics, real-time communication systems, and mobile applications. These tools have the potential to improve response times, facilitate intelligence gathering, and foster transparency in police operations. As the PNP aims to modernize its operations and adapt to the changing landscape of crime and public safety, understanding how these E-tools are being integrated and utilized is essential. Despite the promise that E-tools hold, some challenges remain. Issues such as the digital divide, varying levels of technological literacy among personnel, data security concerns, and resource constraints can hinder effective Implementation.

Therefore, this study sought to examine not only the level of Implementation but also the challenges encountered in adopting E-tools within the PNP. This research study aimed to explore the utilization of electronic policing within the PNP, focusing on its impact on policing strategies, crime prevention, and community engagement. Through a combination of qualitative and quantitative research methods, this study determined the challenges

and the level of Implementation of electronic policing utilization. It aimed to gather information from police personnel to understand better their experiences and recommendations regarding the use of these technologies. The integration of electronic tools into policing practices is not merely a modernization strategy but a necessity in the digital age. With the increasing complexity of crime and the rapid advancement of technology, traditional policing methods are no longer sufficient to maintain public safety and order. Electronic policing, therefore, enables the Philippine National Police to adapt to emerging threats, facilitate faster information sharing, and foster more effective coordination across different units and jurisdictions. Moreover, the effective utilization of e-tools enhances transparency and accountability, which are vital components in building public trust and confidence in law enforcement institutions.

Recognizing these opportunities, it is crucial to evaluate the PNP's readiness in both infrastructure and personnel competencies. Adoption of electronic policing tools requires not only access to advanced technology but also continuous training programs to develop officers' technological literacy at all levels. Without adequate preparation, even the most sophisticated systems may fail to achieve their intended impact. Hence, this study also emphasized the importance of addressing barriers, such as resource constraints, limitations, resistance to change, and cybersecurity risks to ensure the successful and sustainable Implementation of electronic policing initiatives within the Philippine National Police.

REVIEW OF RELATED LITERATURE

Local Literature

Studies on electronic policing in the Philippine National Police (PNP) highlight both opportunities and persistent implementation challenges. Reyes et al. (2021) and Santos and Cruz (2022) identified key barriers, including limited technological infrastructure, budget constraints, low digital literacy, and cybersecurity concerns, that affect system adoption.

Garcia and Fernandez (2022) reported uneven Implementation of electronic tools across PNP units, while Torres et al. (2023) emphasized the potential of Geographic Information Systems (GIS) in crime prevention despite limitations in data accuracy and system optimization. Martinez and Lopez (2022) further noted the need for improved and secure communication systems to enhance coordination.

In terms of capacity and governance, Aquino and Santos (2023) highlighted the importance of cybersecurity frameworks, while Del Rosario et al. (2022) stressed the need for continuous training to improve digital competence. Ong et al. (2023) found disparities in technological readiness between urban and rural units, underscoring the need for context-specific implementation strategies.

Overall, local studies emphasize that successful electronic policing depends on infrastructure readiness, personnel training, and cybersecurity preparedness.

Foreign Literature

Globally, digital transformation has significantly improved law enforcement efficiency. Bennett et al. (2023) noted that technological integration enhances operational performance and decision-making. However, Weber and Schmidt (2022) reported disparities in digital adoption between developed and developing countries.

Cybersecurity remains a major global concern, with Chen et al. (2023) highlighting risks such as data breaches and cyberattacks. Kowalski and Harrison (2022) further emphasized ethical issues in artificial intelligence, including algorithmic bias in predictive policing.

Digital tools have also improved inter-agency collaboration and resource management (Rodriguez et al., 2023; Müller & Schmidt, 2022). Geospatial technologies enhance crime mapping and deployment strategies (Thompson et al., 2023), while Kim and Park (2022) stressed the importance of continuous training for effective technology use.

Emerging technologies such as blockchain, IoT, and AI continue to transform policing, but their effectiveness

depends on cybersecurity strength, ethical safeguards, and adequate training (Carter & Morgan, 2023; González et al., 2022; Williams et al., 2023).

Local Studies

The integration of electronic policing and digital tools in the Philippine National Police (PNP) highlights key issues in technology acceptance, digital transformation, and Implementation challenges. Garcia and Fernandez (2022) found uneven adoption of e-tools across PNP units, with better integration in urban areas due to stronger infrastructure and higher digital literacy, while rural units face funding and capacity limitations. Santiago and Cruz (2022) identified significant gaps in digital forensics and electronic evidence management, particularly in collection, preservation, and analysis, emphasizing the need for standardized protocols and continuous training to strengthen electronic policing practices. Mendoza et al. (2023) highlighted poor technological interoperability across PNP units, which limits effective coordination and reflects challenges in full digital transformation. Similarly, Torres et al. (2023) noted the potential of Geographic Information Systems (GIS) for predictive policing but highlighted barriers, including limited technical skills and insufficient geospatial resources.

In terms of cybersecurity, Aquino and Santos (2023) emphasized the growing risks of cyberattacks and data breaches in electronic policing systems and recommended stronger digital governance frameworks and secure data exchange mechanisms.

Overall, the local literature indicates that electronic policing within the PNP is constrained by issues in technology acceptance, infrastructure readiness, cybersecurity, and implementation capacity, underscoring the need for training, system integration, and organizational support for a successful digital transformation.

Foreign Studies

Globally, electronic policing has advanced significantly through digital transformation, artificial intelligence, and integrated information systems. Kowalski and Harrison (2022) examined the use of artificial intelligence in predictive policing and found that it improves crime pattern analysis and resource allocation. However, they also noted ethical concerns such as algorithmic bias and the need for transparency in automated decision-making. Rodriguez et al. (2023) highlighted the importance of digital communication platforms in enhancing inter-agency collaboration, enabling real-time information sharing, and improving responses to transnational crime. Similarly, Chen et al. (2023) emphasized cybersecurity risks in electronic policing systems, including data breaches and network vulnerabilities, underscoring the need for strong encryption and risk management strategies. Thompson et al. (2023) found that Geographic Information Systems (GIS) significantly improve crime mapping, resource deployment, and urban safety planning, demonstrating the role of spatial technologies in modern policing. In addition, Kim and Park (2022) stressed the importance of continuous technological training to enhance digital competency among law enforcement personnel and support successful technology adoption.

Overall, foreign literature shows that while electronic policing enhances efficiency, collaboration, and crime prevention, its Implementation is challenged by cybersecurity risks, ethical issues, and the need for continuous training and technological readiness.

Synthesis

The study shows that the Philippine National Police (PNP) has made significant strides in adopting electronic policing systems, such as the e-Rouges Gallery and e-Warrant System, reflecting strong efforts toward modernization. However, some systems, like the e-Blotter Report, still require improvement. Despite these gains, Implementation is hindered by infrastructure gaps, limited digital skills, cybersecurity risks, resource constraints, and resistance to change, especially in rural areas. The findings emphasize the need for continuous system improvement, training, and strategic investment. Strengthening both technology and support systems is essential to ensure effective adoption, thereby improving transparency, crime prevention, and public trust.

THEORETICAL FRAMEWORK

This study is anchored on several theories that can be applied to determine the challenges and levels of utilization of electronic policing within the Philippine National Police. These theories provide a framework for evaluating the skills, knowledge, and behaviors essential to effective policing.

Policy Implementation Theory. According to Stewart et. Al., 2008, Implementation is the means by which the law is executed, in which stakeholders, organizations, procedures, and techniques work together to put policies into effect to attain goals. Simply put, policy implementation involves translating a policy's goals and objectives into action (Khan, 2016). Thus, frontline implementers are the focal resources in policy implementation. They need a commitment to policy objectives and the necessary skills to use available resources to achieve them, since the incompetence of the frontline.

Implementers may lead to implementation failure. This model would identify potential major problems in policy implementation and can be used to formulate measures to overcome them.

The Organization Theory. Organizations are social units structured and managed to meet a need or pursue collective goals. Theories of organizations include the rational system perspective and the division of labor. According to Castells, networks are the primary unit of social organization. Castells argues that there is a new "variable geometry" that connects economic activity, states, and society. It is associated with either the study of the Internet, cities, and regions, or social movements. Hence, he stated in his study that convergence of those technologies with older, autonomous network forms of organizing, with their focus on flexibility and adaptability as key modes of organizing.

Community Policing Theory. It is a philosophy that promotes organizational strategies that systematically use partnership and problem-solving techniques to proactively address the immediate conditions that give rise to public concerns, such as crime, social disorder, and fear of crime (Community-Oriented Policing Services, 2017).

Technology Acceptance Model (TAM). Developed by Davis (1989), the Technology Acceptance Model explains how users come to accept and use a technology. The model proposes that perceived usefulness and perceived ease of use determine an individual's intention to use a system, which, in turn, influences actual usage behavior. In the context of the PNP, officers' perceptions of the practicality and simplicity of electronic policing tools, such as the e-warrant system, e-blotter Report, and e-rouge gallery, significantly affect their willingness to use them in daily operations.

Addressing these perceptions through training and system improvements can enhance technology adoption across the organization.

Diffusion of Innovations Theory. Introduced by Rogers (2003), the Diffusion of Innovations Theory describes how new ideas, practices, or technologies spread within a social system over time. According to this theory, factors such as relative advantage, compatibility, complexity, trialability, and observability influence the rate of adoption. In this study, the successful integration of electronic policing tools in the PNP depends on how quickly and effectively these innovations are communicated and accepted within the force, as well as on their alignment with existing police culture and operations.

Sociotechnical Systems Theory. This theory, originating from the work of Trist and Emery (1951), emphasizes the interrelatedness of social and technical factors in an organization. In policing, the use of electronic tools should not be seen solely as a technical upgrade but as a comprehensive change involving people, processes, and structures.

Conceptual Framework

The schematic diagram in Figure 1 shows the possible variation among variables in this study. The diagram showed the independent variables, which were the respondent's socio-demographic profile, such as sex, age,

length of service, educational qualification, and location. The dependent variables were the level of Implementation and the challenges encountered in implementing electronic policing within the Philippine National Police, taking into account the respondents' profiles.

Research Paradigm

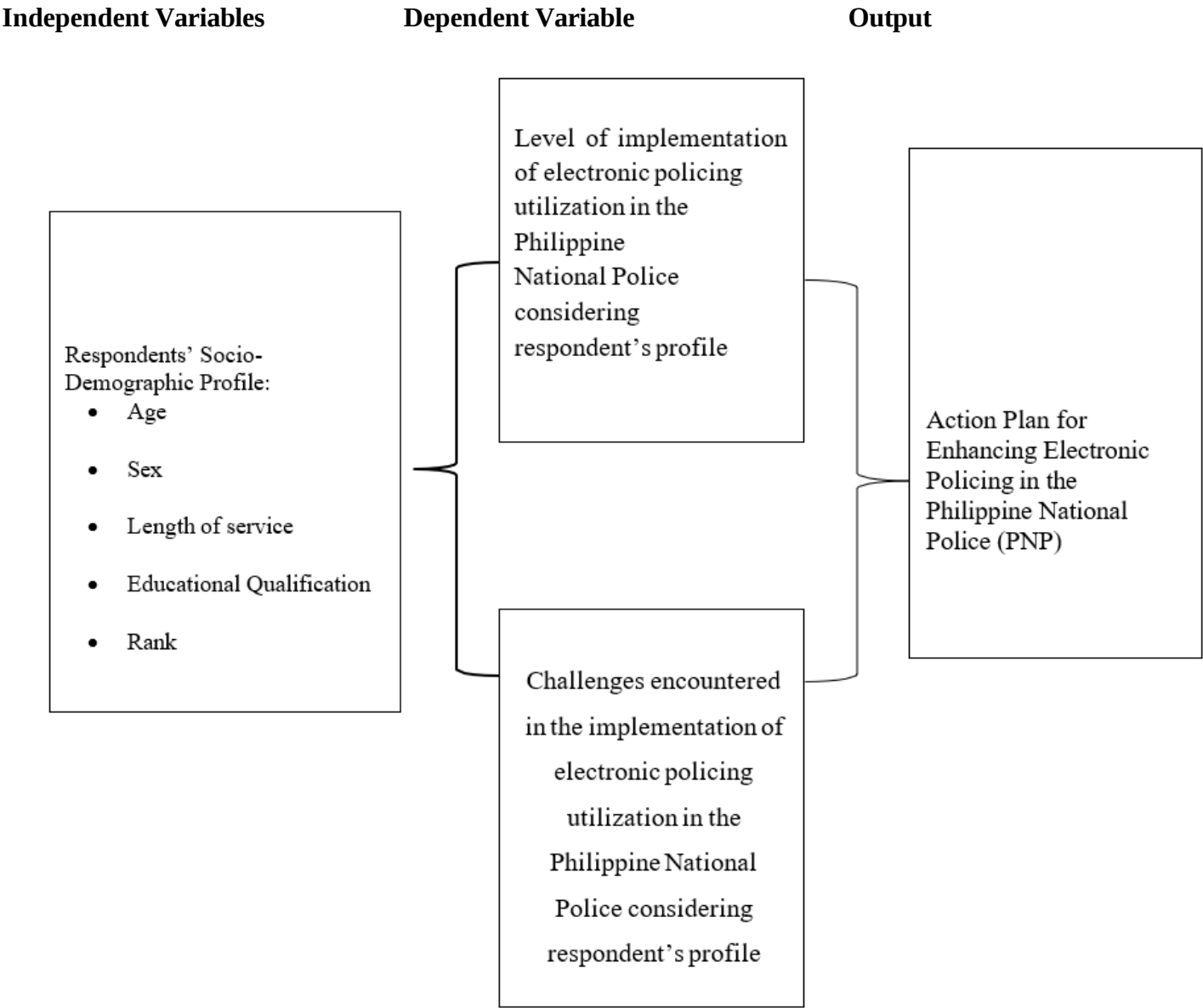


Figure. 1. Schematic presentation of the conceptual framework showing differences and the relationship of variable.

Statement of the Problem

The primary purpose of this study was to evaluate the level of implementation of electronic policing utilization by the Philippine National Police.

Specifically, it sought to answer the following questions.

1. What is the socio-demographic profile of the respondents?
2. What is the level of implementation of electronic policing in the Philippine National Police, including the e-rouge gallery, e-warrant system, e-blotter report, and e-subpoena?

3. What are the challenges encountered in implementing electronic policing in the Philippine National Police, including the e-rouge gallery, e-warrant system, e-blotter report, and e-subpoena?
4. Is there a significant difference in the level of implementation of electronic policing utilization in the Philippine National Police as a whole when grouped according to respondents' profiles?
5. Is there a significant difference in the challenges encountered in implementing electronic policing across the Philippine National Police as a whole when grouped by respondents' profiles?
6. Is there a significant relationship between the level of implementation and the challenges encountered in the use of electronic policing within the Philippine National Police?
7. What output can be drawn based on the results of the study?

Hypotheses

Based on the foregoing statements, the null hypotheses of the study were tested:

1. There is no significant difference in the level of implementation of electronic policing across the Philippine National Police as a whole when grouped by respondents' profiles.
2. There is no significant difference in the challenges encountered in implementing electronic policing across the Philippine National Police as a whole when grouped by respondents' profiles.
3. There is no significant relationship between the level of implementation and the challenges encountered in implementing electronic policing in the Philippine National Police.

Significance of the Study

This study would provide additional information on the implementation of electronic policing within the Philippine National Police. Furthermore, the results of this study would be beneficial to the following:

Philippine National Police. The results of this study contributed significantly to the PNP's efforts to professionalize, modernize, and enhance the capacity of its services, ultimately enhancing public safety and trust.

Department of Interior and Local Government (DILG). The results of this study pave the way for easier access to PNP data for local governance and development planning.

Local Government Unit. The results of this study contributed significantly to LGUs by facilitating feedback mechanisms, surveys, public consultations, public awareness campaigns, and social services.

Schools. The PNP's electronic policing significantly benefited schools by enabling quick responses to emergencies and crises, improving crime reporting, and enhancing school safety assessments, thereby improving student safety and security.

Researchers. The PNP's electronic policing would be significant to researchers in understanding the challenges of the PNP organization in the use of E-tools, the level of implementation, crime patterns and trends, prevention strategies, and how it improved police operations.

Future Researchers. The PNP's electronic policing significantly placed value on future researchers developing comprehensive frameworks for assessing the effective use of e-technology in law enforcement.

METHODOLOGY

This chapter presents the research design, the study's respondents, the sampling design, the data-gathering procedure, the research instrument, including its content validity and reliability, and the statistical tools used in the study.

Research Design

This study employed a descriptive-correlational research design using a quantitative approach. It aimed to determine the level of implementation of electronic policing within the Philippine National Police and to examine the relationship between that level and the challenges encountered.

According to Creswell (2012), correlational research designs use statistical tests to describe and quantify the degree of association between two or more variables. This design is appropriate when the objective is to determine whether relationships exist among variables without manipulating them or establishing causation.

In this study, data were collected using a structured questionnaire and analyzed using appropriate statistical tools, including frequency and percentage counts, mean, ANOVA, t-tests, and Pearson correlation. The variables were observed as they naturally occur, and no experimental manipulation was applied.

This research is purely quantitative, relying on numerical data and statistical analysis. No interviews, focus group discussions, or qualitative data analysis were conducted; therefore, any reference to qualitative methods was excluded to maintain methodological consistency.

The descriptive-correlational design was deemed appropriate for this study because it allowed the researcher to describe the level of implementation of electronic policing systems and determine the significant differences and relationships among variables without implying causation.

Locale of the Study

This study was conducted in the 2nd District of Bohol Province during the second semester of the Academic Year 2024 - 2025.

Respondents of the Study

The respondents of the study were the uniformed police personnel in the 2nd District Province, selected using a purposive sampling method.

Table 1. Distribution of respondents.

Respondents	Total	Sampling	Frequency (%)
Bein Unido	28	13	6.34
Buenavista	24	11	5.37
Clarín	24	11	5.37
Dagohoy	23	11	5.37
Danao	25	12	5.85
Getafe	30	14	6.83
Inabanga	30	14	6.83
Pres. Carlos P. Garcia	25	12	5.85
Sagbayan	29	14	6.83
San Isidro	24	11	5.37
San Miguel	22	10	4.87
Talibon	49	23	11.22
Trinidad	36	17	8.29
Ubay	67	32	15.61
Total	436	205	100

Data Gathering Instruments

The instrument used to collect the data in this study was a questionnaire composed of three parts.

The first part was a researcher-designed questionnaire that collected information on participants' age, sex, length of service, educational attainment, rank, position, and location.

The second part used the standardized questionnaire titled *"Evaluation of the PNP Electronic-Project Systems"* from the study by Alincastre & Dalugdog (2022), *"Internal Stakeholders' Evaluation of the Philippine National Police Electronic-Project Systems."* This questionnaire evaluated the implementation of the Philippine National Police Electronic Project Systems in Lipa City, Batangas, specifically regarding the e-rogues' gallery, e-warrant system, e-blotter report, and e-subpoena. The questionnaire was content-validated by police investigators and crime registrar personnel in the study.

The third part was another standardized questionnaire, *Problems Encountered in the Implementation of PNP Electronic-Project Systems*, also from the study of Alincastre & Dalugdog (2022). This instrument assessed the challenges faced in implementing the project concerning the e-rogues' gallery, e-warrant system, e-blotter report, and e-subpoena. It was likewise content-validated by police investigators and crime registrar personnel in the study.

Data Gathering Procedure

The researcher secured a letter of request from the graduate school addressed to the Provincial Director of the Police Provincial Office of Bohol, seeking approval to conduct the study among the uniformed personnel of the Philippine National Police. Upon receiving

Approval was obtained, and the researcher personally distributed the questionnaires with the assistance of friends and comrades who facilitated distribution. The data were collected after the allotted time for the respondents had passed.

Data Analysis Procedure

The gathered data were analyzed and interpreted for discussion. To facilitate data analysis, each item was scored using the following scoring guide and qualitative description.

Scoring Guide

Scoring guide on the level of implementation of electronic policing utilization in the Philippine National Police.

Score	Response Category
5	Strongly Agree
4	Agree
3	Moderately Agree
2	Disagree
1	Strongly Disagree

Scoring guide on the degree of challenges encountered in the implementation of electronic policing utilization in the Philippine National Police.

Score	Response Category
5	Always
4	Often

3	Sometimes
2	Rarely
1	Never

Interpretation of Data

To interpret on the level of implementation of electronic policing utilization in the Philippine National Police, the following mean interval and verbal interpretation were used

as basis:		
	Mean Interval	Verbal Interpretation
	4.21 – 5.00	Fully Implemented
	3.41 – 4.20	Implemented
	2.61 – 3.40	Moderately Implemented
	1.81 – 2.60	Less Implemented
	1.00 – 1.80	Least Implemented

To interpret the degree of challenges encountered in the implementation of electronic policing utilization in the Philippine National Police, the following mean interval and verbal interpretation were used as basis:

Mean Interval	Verbal Interpretation
4.21 – 5.00	Very Challenging
3.41 – 4.20	Challenging
2.61 – 3.40	Moderately Challenging
1.81 – 2.60	Less Challenging
1.00 – 1.80	Least Challenging

Data Analysis Procedure

The collected data from the investigation were analyzed and interpreted using the Statistical Package for the Social Sciences (SPSS).

Frequency Counts and Percentages. These would be used to determine the number of observations in each category and its corresponding percentages.

Mean. This test was used to determine the level of implementation of electronic policing among the participants in the Philippine National Police.

t-test for independent samples. This test, set at an alpha level of 0.05, was used to determine whether the difference between two groups of police participants was significant.

One-way ANOVA. This test at the 0.05 alpha level was used to determine the significant differences among three or more compared groups.

Partial Correlation. Set at the 0.05 alpha level, this test was used to determine whether the relationship between respondents' categories was significant.

Ethical Considerations

The researcher took ethical considerations into account during the study. In this study, the researcher kept all

respondents' personal information private. This was done to preserve their privacy and give them a sense of security. Furthermore, the data, results, methodologies, and processes were gathered without falsification. This was carried out to provide authentic research results.

In addition, the researcher obtained authorization from the school administration to conduct the study with the research participants. The researcher carefully presented the investigation to the participants in simple terms. Furthermore, the researcher did not threaten or coerce the respondents into participating in this study. They also have the option to withdraw from this undertaking if they so prefer. They participated in it and contributed to the research voluntarily.

Scope and Limitation of the Study

This study aimed to evaluate the level of implementation of electronic policing utilization in the Philippine National Police. The study's respondents were limited to uniformed police personnel in the 2nd District of Bohol Province. A researcher-made survey questionnaire was used to gather data from the respondents.

The study employed a quantitative, descriptive-correlational research design using a survey. This design was appropriate for describing the level of implementation of electronic policing systems and determining the relationships and differences among selected variables without manipulating them.

Purposive sampling was used in selecting the respondents; thus, only uniformed police personnel from the identified district were included in the study. Because of this sampling technique and limited geographic coverage, the study's findings cannot be generalized to the entire Philippine National Police population. They should be interpreted only within the context of the selected respondents.

The data were analyzed using statistical tools such as frequency counts, percentages, means, t-tests, ANOVA, and Pearson's correlation, with the aid of the Statistical Package for the Social Sciences (SPSS). The level of significance was set at 0.05 alpha.

Definition of Terms

To enhance clarity and better understanding of this study, the following terms were conceptually and operationally defined:

E-Blotter Report. It is a digital record-keeping system used by law enforcement agencies to document incidents, activities, and reports in real-time. According to the National Institute of Justice (2011), electronic blotters enhance transparency and accessibility in policing.

In this study, the same definition is used.

E-Subpoena. It is an electronic document that compels an individual to appear in court or produce evidence, streamlining the legal process. As defined by the American Bar Association (2013), e-subpoenas improve efficiency in legal proceedings by facilitating electronic communication.

In this study, the same definition is used.

E-Rouges Gallery. It is a digital database of photographs and information about individuals with criminal backgrounds or those wanted by law enforcement. According to the FBI (2015), such galleries enhance public awareness and aid in the capture of suspects.

In this study, the same definition is used.

E-Warrant System. It is a digital platform for issuing, managing, and tracking warrants. According to the Bureau of Justice Assistance (2012), these systems improve the efficiency and accuracy of warrant processing in law enforcement.

In this study, the same definition is used.

E-Tools. It means any software, system, electronic functionality or service, including interactive devices, internet capability, functionality, site or service hardware, device or communications facility (<https://www.lawinsider.com/dictionary>)

In this study, the same definition was used.

Electronic Policing. This is also known as digital policing, cyber policing, or e-policing, and refers to the use of technology and digital tools by law enforcement agencies to prevent, investigate, and combat cybercrime and other digital offenses. (<https://www.nicepublicsafety.com>)

In this study, the same definition is used.

Investigation. The criminal investigator seeks to ascertain the methods, motives, and identities of criminals, as well as the identities of victims, and may also search for and interrogate witnesses. (www. Britanica.com)

In this study, the same definition is being used.

Police Performance Management. A system that generates performance information through strategic planning and performance measurement routines and that connects this information to decision venues" (Moynihan 2008, www.sog.unc.edu).

Policing. Defined as the activities carried out by law enforcement agencies, particularly the Philippine National Police (PNP), to maintain public order, ensure community safety, prevent and investigate crimes, and uphold the law. It encompasses traditional and modern methods, including the adoption of electronic policing tools, to adapt to the evolving needs of public service and crime management.

In this study, the same definition is being used.

Utilization. It refers to the process of applying research findings to decision-making in policy, advocacy, resource allocation, and program development (Walugembe et al., 2015).

In this study, the degree and manner in which the Philippine National Police (PNP) employs electronic tools and digital technologies to enhance its law enforcement operations are referred to. It involves the effective application, integration, and use of systems such as e-blotter reports, e-warrant systems, e-rouge galleries, and e-subpoenas to improve efficiency, decision-making, crime prevention, and community engagement.

Presentation, Analysis, And Interpretation of Data

This chapter presents the socio-demographic profile of the 205 respondents who participated in the study. It highlights their backgrounds, including age, sex, civil status, and educational attainment. The results are provided in both narrative and tabular form to offer clarity and facilitate comprehension.

Demographic Profile of the Respondents

Age. The respondents were predominantly aged 26 to 45 years. The largest group was between 26 and 30 years old, comprising 24.4% (n=50), followed by the 41 to 45 years group, with 27.3% (n=56). Those aged 31 to 35 years accounted for 21.5% (n=44), while 14.6% (n=30) were aged 36 to 40 years. A smaller proportion (11.2%, n=23) were 46 years or older, and only 1.0% (n=2) were in the 21 to 25 age range. This data indicates a relatively young respondent group, with most participants falling within the working-age range of 26 to 45 years.

Sex. A majority of respondents were male (68.3%; n=140), while 31.2% (n=64) were female. A very small percentage (0.5%, n=1) did not specify their gender. This shows a significant gender imbalance, with males making up the dominant group among respondents.

Civil Status. Most respondents were married, with 76.6% (n=157) falling into this category. A smaller portion of respondents were single (22.0%, n=45), and a few were separated (1.5%, n=3). This suggests that the respondent pool is primarily composed of individuals in long-term relationships or married.

Educational Attainment. The vast majority of the respondents were college graduates, accounting for 91.7% (n=188). A smaller percentage had completed a master's degree (5.9%, n=12) or had completed doctoral degree units (1.5%, n=3). This indicates a highly educated respondent group, with most having attained at least a bachelor's degree, while a few pursued postgraduate education.

Table 2. Demographic profile of the respondents.			
PROFILE		FREQUENCY (F)	PERCENTAGE (%)
Age			
21-25 years old		2	1.0
26-30 years old		50	24.4
31-35 years old		44	21.5
36-40 years old		30	14.6
41-45 years old		56	27.3
46 years old and above		23	11.2
Total		205	100.0
Sex			
Male		140	68.3
Female		64	31.2
Prefer not to specify		1	0.5
	Total	205	100.0
Civil Status			
Single		45	22.0
Separated		3	1.5
Married		157	76.6
	Total	205	100.0
Educational Attainment			
College graduate		188	91.7
With master's degree units		2	1.0
Graduate of master's degree		12	5.9
With doctoral degree units		2	1.0
Graduate of doctoral degree		1	0.5
	Total	205	100.0

Level of Implementation of Electronic Policing Utilization in the Philippine National Police

This section presents the assessment of the level of implementation of electronic policing in the Philippine National Police (PNP). The analysis covers five major categories: e-Rouges Gallery, e-Warrant System, e-Blotter Report, and e-Subpoena. Respondents rated each indicator on a 5-point Likert scale, with higher scores indicating stronger agreement and perceived effectiveness in implementing electronic systems.

The overall grand mean was 4.053, indicating a high level of implementation across all dimensions. This suggests that the PNP has made substantial progress in adopting electronic policing tools that enhance operational efficiency, communication, and service delivery. However, some areas, particularly in the e-Warrant System and e-Blotter Report, show room for improvement in terms of full functionality and optimization.

e-Rouges Gallery stands out as the most effectively implemented system, with a grand mean of 4.132. This suggests that the PNP has efficiently utilized this system to update and disseminate information about wanted

persons. The high mean for accessibility and accuracy reflects strong public safety efforts, helping officers identify and apprehend criminals.

The e-Warrant System follows closely, with a grand mean of 4.030. This category shows that the PNP has streamlined the warrant process, reducing the need for physical paperwork and improving the speed and accuracy of arrests. However, some aspects, such as minimizing snail-mail processing and ensuring internet speed, could be further optimized to enhance the system's efficiency.

e-Blotter Reports received the lowest grand mean of 3.984. While the system is effective in reducing paper usage and improving access to crime reports, the relatively

Lower scores on minimizing traditional record-keeping and reducing the printing of wanted persons indicate that there may still be opportunities to enhance this system further.

The e-Subpoena system also received a high rating, with a grand mean of 4.067, reflecting its effectiveness in reducing delays and costs associated with subpoena processing. However, there is still room for improvement in accessibility and operational costs.

While the PNP has made impressive progress in implementing electronic policing systems, continuous improvement, particularly in streamlining certain processes and optimizing systems, will be necessary to maintain and elevate current standards. The Philippine National Police (PNP) has made notable strides in adopting and implementing electronic policing tools to improve operational efficiency and public safety. According to Garcia and Fernandez (2022), the integration of electronic tools such as the e-Rouges Gallery and e-Warrant System has proven beneficial in enhancing police performance, streamlining processes, and improving crime response times. In the context of the PNP, the high ratings for the e-Rouges Gallery ($M = 4.132$) and e-Warrant System ($M = 4.030$) suggest significant progress in modernizing these systems. These digital tools help reduce reliance on traditional paperwork and enable police officers to access real-time data, thereby improving their ability to make timely, accurate decisions. However, as Bennett et al. (2023) highlight, the successful implementation of such systems depends on continued investment in training and infrastructure to ensure these tools are fully optimized, something the PNP may still need to address in areas such as the e-Blotter Report and the e-Warrant System.

Despite these successes, the e-Blotter Report system had the lowest grand mean ($M = 3.984$), suggesting room for further improvement in its functionality. The e-Subpoena system, although performing well ($M = 4.067$), also offers opportunities for optimization, particularly in accessibility and cost reduction. According to Aquino and Santos (2023), one of the challenges for law enforcement agencies globally, including in the Philippines, is ensuring that digital systems are continuously updated and accessible to all personnel involved. With the growing complexity of technological systems, agencies like the PNP must adopt a dynamic approach to system development, focusing on minimizing bureaucratic delays and optimizing the operational use of these tools.

Table 3. Level of implementation of electronic policing utilization.

Statements/ Indicators

e-Rouges Gallery

Table: Implementation of Electronic Police Systems

Indicators	Mean	Verbal Interpretation
e-Rouges Gallery		
Electronic rogues gallery is updated from time to time.	4.161	Implemented
There is an accessible picture of wanted persons in every police station in the Philippines.	4.151	Implemented
Every police officer/personnel can access the e-Rouges Gallery.	4.137	Implemented
Information about the pictures of a wanted person is complete and accurate.	4.122	Implemented
Printing of wanted persons becomes less.	4.088	Implemented
Grand Mean (e-Rouges Gallery)	4.132	Implemented
e-Warrant System		
Apprehension of the criminal is facilitated since the warrant can be submitted via email, printed out, and served.	4.122	Implemented
There is complete and accurate information about the person to be arrested.	4.088	Implemented
Internet access is fast.	4.053	Implemented
Criminal apprehension is encouraged when the arresting officer suspects that a warrant for the detention of the former is outstanding.	4.014	Implemented
The hassle of using the snail mail system to send a warrant to a specific police station is minimized.	3.976	Implemented
Grand Mean (e-Warrant System)	4.030	Implemented
e-Blotter Report		
Voluminous paper reports received on a day-to-day basis are lessened.	4.087	Implemented
Reported crime incidents are accessible to the community.	4.053	Implemented
There is more buying of commercial crime maps.	4.014	Implemented
Stocking record of the traditional blotter report is minimized.	3.976	Implemented
There is less printing of wanted persons.	3.824	Implemented
Grand Mean (e-Blotter Report)	3.984	Implemented
e-Subpoena		
Subpoena can be forwarded from one station to another or from provincial police to the station police through an email.	4.122	Implemented
The courts shall submit the various subpoenas to specific PNP units by e-warrant, and the chief of police shall ensure that the papers are sent and processed by the personnel concerned on time.	4.097	Implemented
There are no more delays in the arrival of a subpoena.	4.088	Implemented
The records of the subpoena are easily within reach.	4.053	Implemented
The cost of subpoena document and messenger is no longer a burden.	3.976	Implemented
Grand Mean (e-Subpoena)	4.067	Implemented
Overall Grand Mean	4.053	Implemented

Challenges Encountered in the Implementation of Electronic Policing Utilization in the Philippine National Police

This section explores the challenges encountered by the Philippine National Police (PNP) in implementing electronic policing systems, specifically the e-Rouges Gallery, e-Warrant System, e-Blotter Report, and e-Subpoena. The respondents rated the challenges on a 5-point Likert scale, with higher mean scores indicating more significant challenges. The analysis provides insights into the difficulties faced in utilizing these electronic tools effectively and highlights areas for improvement.

The overall grand mean for the challenges was 3.134, indicating that respondents generally perceive significant challenges in implementing electronic policing systems. The e-Rouges Gallery and e-Warrant System had relatively lower scores, signaling fewer challenges in those areas. However, some aspects of the e-Blotter Report and e-Subpoena systems still face significant issues that need to be addressed to enhance their effectiveness.

e-Rouges Gallery. The System's effectiveness is primarily hampered by the lack of trained personnel and the limited number of officers assigned to operate it. With a grand mean of 3.187, the challenges associated with updating and accessing the Gallery are also significant. Despite this, the System remains functional, and the main issues lie in its accessibility and regular updates.

e-Warrant System. This System faces challenges related to inaccurate information and limited officer training to use the System effectively, as reflected in a grand mean of 3.302. The inability to update the e-warrants efficiently and their restricted use by arresting officers contribute to the operational difficulties in this area.

e-Blotter Report. The most significant challenge in this category, with a grand mean of 2.940, is the continued reliance on paper-based reporting and the accessibility of crime data. While the System reduces some physical documentation, challenges such as the ongoing use of commercial crime maps and the potential for police officers to tamper with records suggest the need for further digitalization and safeguards to ensure the System's effectiveness.

e-Subpoena. Notable challenges in the subpoena system include delays and difficulties in forwarding subpoenas via email. With a grand mean of 3.108, the

The System is hindered by accessibility issues, costs, and operational delays, slowing the legal process.

While electronic policing systems have proven valuable to the PNP's operations, the challenges identified highlight the need for continued investment in training, infrastructure, and system optimization. Addressing these challenges would improve the overall functionality and effectiveness of electronic policing systems, ultimately enhancing public safety and law enforcement operations.

The implementation of electronic policing systems in the Philippine National Police (PNP) has significantly advanced, yet several challenges remain, particularly regarding system functionality and user accessibility. The e-Rouges Gallery and e-Warrant System have achieved notable successes in streamlining law enforcement operations. Still, they continue to face challenges, including limited officer training and difficulties keeping systems up to date. As noted by Luna and Garcia (2022), technological tools like these require ongoing training for personnel to ensure effective use. Moreover, issues such as inaccurate data and delays in system updates, as seen with the e-Warrant System, underscore the need to improve operational processes to ensure the tools are not only functional but also efficient and accessible. A study by Mendoza, Cruz, and Santos (2023) emphasizes the importance of technological interoperability, which can help overcome challenges associated with system updates and the integration of digital tools.

The e-Blotter Report system, intended to reduce paper-based documentation, still struggles to digitize crime reports and make them easily accessible. One significant challenge, as highlighted by Ramirez, Garcia, and Fernandez (2021) is the ongoing reliance on physical records and the resistance to digital transformation within some sectors of law enforcement. The e-Blotter Report system's current limitations reflect broader issues within the PNP regarding the full adoption of digital platforms. According to Liu and Zhang (2023), overcoming such challenges requires a cultural shift towards embracing digital governance and ensuring that officers at all levels are trained in digital tools, which is critical for increasing efficiency and effectiveness in the field.

Table 4. Challenges encountered in the implementation of electronic policing Utilization.

Category & Statement Indicator

e-Rouges Gallery

Table: Challenges in the Implementation of Electronic Police Systems

Category & Statement Indicator	Mean	Verbal Interpretation
e-Rogues Gallery		
Concerned officers/personnel assigned are not trained to operate it.	3.356	Moderately Challenging
The limited number of officers/personnel assigned and trained to operate it.	3.263	Moderately Challenging
e-Rogues Gallery cannot be easily updated from time to time.	3.185	Moderately Challenging
Unclear pictures and inaccurate information.	3.126	Moderately Challenging
Pictures of wanted persons are not accessible to the community.	3.004	Moderately Challenging
Grand Mean (e-Rogues Gallery)	3.187	Moderately Challenging
e-Warrant System		
There is unclear and inaccurate information.	3.404	Moderately Challenging
Concerned officers/personnel assigned are not trained to operate it.	3.356	Moderately Challenging
e-Warrant cannot be easily updated from time to time.	3.263	Moderately Challenging
It cannot be used by the arresting officer or police officer.	3.185	Moderately Challenging
Grand Mean (e-Warrant System)	3.302	Moderately Challenging
e-Blotter Report		
Paper reports received on a day-to-day basis are still in practice.	3.039	Moderately Challenging
Stocking record of the traditional blotter report is conducted as usual.	3.016	Moderately Challenging
Buying commercial crime maps is still in practice.	2.922	Moderately Challenging
Printing of wanted persons is still the same.	2.912	Moderately Challenging
Police officers can still tamper with the police records.	2.868	Moderately Challenging
Reported crime incidents are inaccessible to the community.	2.804	Moderately Challenging
Grand Mean (e-Blotter Report)	2.940	Moderately Challenging
e-Subpoena		
Subpoena cannot be forwarded from one station to another or from provincial police to station police through email.	3.263	Moderately Challenging
The cost of subpoena and messenger is still a burden.	3.185	Moderately Challenging
There are delays in the arrival of a subpoena.	3.126	Moderately Challenging
The records of a subpoena cannot easily be within reach.	3.004	Moderately Challenging
The courts cannot give numerous subpoenas to specific PNP units via email, and the Chief of Police cannot ensure timely processing.	2.961	Moderately Challenging
Grand Mean (e-Subpoena)	3.108	Moderately Challenging
Overall Grand Mean	3.134	Moderately Challenging

Significant Differences in the Level of Implementation of Electronic Policing Utilization in the Philippine National Police Considering Respondent's Profile

To assess whether the level of implementation of electronic policing in the Philippine National Police (PNP) differs significantly across demographic groups, statistical analyses, including ANOVA and independent-samples t-tests, were conducted. The demographic variables examined were age, gender, civil status, and educational attainment.

Age and Level of Implementation

The ANOVA test showed a statistically significant difference in implementation levels across age groups ($F = 3.006$, $p = 0.012$). The highest mean was recorded among respondents aged 36–40 years old ($M = 3.6633$), followed by those aged 46 years old and above ($M = 3.2374$), while the lowest mean was noted among the 41–45 years old group ($M = 2.7391$).

Post hoc analysis using Tukey HSD revealed significant differences between the 31-35 and 36-40 years old groups ($p = 0.038$) and between the 36-40 and 41-45 years old groups ($p = 0.005$). This suggests that respondents

in their mid to late thirties tend to perceive the implementation of electronic policing more positively. This age group typically occupies mid-level positions within the police force, combining field engagement with growing administrative responsibilities—both of which expose them more to the practical benefits of digitized systems.

With the foregoing, the null hypothesis is rejected, as age significantly influences the level of implementation: respondents aged 36-40 report a higher level of implementation than their younger counterparts.

Gender and Level of Implementation

The independent samples t-test revealed a statistically significant difference between male and female respondents ($t = 2.224$, $p = 0.027$). Male respondents reported a higher mean score ($M = 3.1439$) than female respondents ($M = 2.7609$). This difference may suggest that male personnel are more likely to be involved in roles or units where electronic policing tools are actively used or accessible, which could influence their perception of implementation levels. On the other hand, females may face limitations in exposure or access to such systems depending on unit assignment or operational responsibilities. Given this, the null hypothesis is rejected, as gender significantly affects the level of implementation, with males reporting a higher level.

Civil Status and Level of Implementation

The ANOVA test revealed no statistically significant difference in the level of implementation of electronic policing when grouped according to civil status ($F = 1.738$, $p = 0.179$). The highest mean was observed among married respondents ($M = 3.1009$), followed by single respondents ($M = 2.7660$), and the lowest among separated respondents ($M = 2.5567$). Although there are observable differences in the means, they are not statistically significant.

Thus, the null hypothesis is accepted as civil status does not significantly affect the level of implementation of electronic policing.

Educational Attainment and Level of Implementation

While differences in mean values are observed across groups—ranging from $M = 3.0399$ for college graduates to $M = 4.0000$ for the lone doctoral graduate—no ANOVA results were provided for significance testing in this section. Based on the descriptive data alone, the variation appears minimal and may not be statistically significant. Hence, the null hypothesis is accepted as educational attainment does not significantly affect the level of implementation of electronic policing.

Gender also emerged as a significant factor in perceived levels of electronic policing implementation, with male officers reporting higher engagement with the systems than their female counterparts. This finding could suggest that male officers are more frequently assigned to field-based roles or units where technology such as e-Rouges Gallery is actively used. The disparity also reflects differences in exposure or access to these digital tools, highlighting the need for greater equity in training and system utilization across both genders. Studies in other regions, such as those by Luna and Garcia (2022), have emphasized that gender disparities in technology access and application can hinder the effective integration of digital tools within law enforcement, underscoring the need for inclusive practices in technology rollout.

Lastly, while civil status and educational attainment did not significantly affect the perception of electronic policing implementation, the overall findings underscore the importance of creating a conducive environment for technological adoption. The lack of significant differences across civil status groups suggests that the challenges and benefits of digital systems transcend personal circumstances and focus instead on the structural and operational aspects of law enforcement. Similarly, the minimal variation in perceptions by educational background suggests that, while education may influence critical thinking and technology adaptability, the broader impact of these systems depends more on hands-on experience and training than on formal education. This aligns with the findings of Ramirez, Garcia, and Fernandez (2021), which stress the need for continuous digital skills development in law enforcement to bridge gaps in system use and ensure optimal functionality across all personnel.

Table 5. Significant difference in the level of implementation of electronic policing utilization of the Philippine National Police considering respondent's profile.

Compared Variables	Mean	F-value / t-value	Sig. Value	Remarks
Age		F = 3.006	0.012	Significant
21–25 years old	3.0200			
26–30 years old	2.9776			
31–35 years old	2.8707			
36–40 years old	3.6633			
41–45 years old	2.7391			
46 years old and above	3.2374			
Gender		t = 2.224	0.027	Significant
Male	3.1439			
Female	2.7609			
Civil Status		F = 1.738	0.179	Not Significant
Single	2.7660			
Separated	2.5567			
Married	3.1009			
Educational Attainment		F = 10.729	0.000	Significant
High school graduate	4.16			
Master's degree	4.44			
Bachelor's degree	4.73			

$\alpha = 0.05$

Significant Differences in the Challenges Encountered in the Implementation of Electronic Policing Utilization in the Philippine National Police Considering Respondent's Profile

This section presents an analysis of the challenges encountered in implementing electronic policing systems within the Philippine National Police (PNP), based on respondents' profiles including age, gender, civil Status, educational attainment, and district.

Age and Challenges Encountered

The ANOVA results indicate a statistically significant difference in challenges encountered across age groups ($F = 3.006$, $p = 0.012$). The 36-40 years old group reported the fewest challenges ($M = 3.6633$), while the 41-45 years old group encountered the most challenges ($M = 2.7391$). The 31-35-year-old group was the most likely to report moderate challenges, with a mean score of 2.8707. This suggests that

Respondents in their late 30s, who are often in mid-level roles, experience fewer difficulties, likely because of their experience and exposure to more advanced systems compared to younger, less experienced officers. Given this, the null hypothesis is rejected, as age significantly influences the level of challenges encountered in implementing electronic policing, with respondents aged 36-40 reporting fewer difficulties.

Gender and Challenges Encountered

The independent-samples t-test shows a statistically significant difference in the challenges encountered by gender ($t = 2.224$, $p = 0.027$). Male respondents reported more challenges ($M = 3.1439$) compared to female respondents ($M = 2.7609$). This may indicate that male respondents, who are more likely to be in field roles, face more operational challenges when utilizing electronic systems. Conversely, female respondents might be experiencing different levels of exposure or access to these tools, which could explain their relatively lower reported challenges. Thus, the null hypothesis is rejected, as gender significantly influences the challenges encountered in implementing electronic policing, with males reporting more challenges.

Civil Status and Challenges Encountered

The ANOVA test for civil Status revealed no significant difference in the challenges respondents encountered based on their civil Status ($F = 1.738$, $p = 0.179$). The mean scores of single ($M = 2.7660$), separated ($M = 2.5567$), and married ($M = 3.1009$) respondents were fairly similar, indicating that marital or relationship status does not significantly affect the difficulties faced in electronic policing implementation.

Hence, the null hypothesis is accepted as civil Status does not significantly affect the challenges encountered in the implementation of electronic policing.

Educational Attainment and Challenges Encountered

Although differences in mean scores were observed among the educational categories—ranging from college graduates ($M = 3.0399$) to doctoral graduates ($M = 4.0000$) Shows an ANOVA result of $F = 10.729$, $p = 0.000$, indicating a statistically significant difference, which means that educational attainment significantly affects the level of implementation of electronic policing systems. Therefore the null hypothesis should be rejected for this variable. In addition, the previously reported Pearson correlation coefficient of $r = 1.000$ between the level of implementation and challenges encountered is highly improbable in social science research, as a perfect correlation usually suggests identical variables or errors in data processing.

This aligns with previous research suggesting that individuals in mid-career roles often possess a more balanced skill set, combining both hands-on field experience and administrative responsibilities. As noted by Gonzalez et al. (2022), this experience provides these officers with a clearer understanding of how digital tools, such as e-Rouges Galleries and e-Warrant Systems, directly impact their daily operations, enabling them to navigate these systems with greater ease. Furthermore, respondents in their late 30s are often more exposed to the advanced technology deployed in modern policing, which enhances their ability to use these tools effectively.

Gender differences in the challenges encountered suggest that male officers faced greater difficulties, likely due to their engagement in field-based tasks that demand frequent interaction with electronic systems. In contrast, female officers may have encountered

fewer obstacles, possibly because their roles within the PNP involve administrative or support functions that require less direct use of these technologies. These findings highlight how job assignments influence technological adaptability, with operational roles requiring greater interaction with electronic policing tools. Understanding these differences can help improve training programs and resource allocation to ensure that all officers are equipped to use digital systems effectively.

Previous studies, such as those by Luna and Garcia (2022), have highlighted that male officers are often placed in positions where technological tools are integral to daily operations, potentially exposing them to greater challenges with system use. On the other hand, female officers may have less exposure to these systems depending on their assignments, which could explain their relatively lower reported challenges. The discrepancy between male and female experiences emphasizes the need for more inclusive training and access to digital tools for all personnel, regardless of gender.

Interestingly, the study found that civil Status and educational attainment did not significantly affect the challenges PNP personnel encountered when using electronic policing systems. This suggests that factors like marital Status or formal education level are not as influential as other variables, such as hands-on experience or role-specific duties. Research by Ramirez, Garcia, and Fernandez (2021) supports this notion, indicating that while educational background may influence an officer's ability to adapt to new technologies, the primary determinant of success in implementing digital systems lies in practical exposure and training. Moreover, the uniformity of challenges across different marital statuses implies that personal circumstances do not play a substantial role in how officers perceive or engage with electronic tools. This underscores the importance of focusing on universal training programs and resources that can support all officers, regardless of their background or life situation, in overcoming digital challenges.

Table 6. Significant difference in the challenges encountered in the implementation of electronic policing utilization in the Philippine National Police considering respondent's profile.

Compared Variables	Mean	F-value / t-value	Sig. value	Remarks
Age		F = 3.006	0.012	Significant
21–25 years old	3.0200			
26–30 years old	2.9776			
31–35 years old	2.8707			
36–40 years old	3.6633			
41–45 years old	2.7391			
46 years old and above	3.2374			
Gender		t = 2.224	0.027	Significant
Male	3.1439			
Female	2.7609			
Civil Status		F = 1.738	0.179	Not Significant
Single	2.7660			
Separated	2.5567			
Married	3.1009			
Educational Attainment		F = 0.644	0.632	Not Significant
College graduate	3.0399			
With master's degree units	3.3550			
Graduate of master's degree With doctoral degree units	2.6292			
Graduate of doctoral degree	2.6050			
	4.0000			

$\alpha = 0.05$

Significant Relationship Between the Level of Implementation and Challenges Encountered in the Implementation of Electronic Policing Utilization in the Philippine National Police

The correlation analysis between the level of implementation and the challenges encountered in the Philippine National Police's electronic policing revealed a statistically significant positive relationship, with a Pearson correlation coefficient of $r = 1.000$ and a p-value of 0.000, indicating significance at the 0.01 level (2-tailed). This result suggests a strong positive association between the two variables, indicating that higher levels of implementation are associated with greater reported challenges. However, this result should be interpreted with caution, as a perfect correlation ($r = 1.000$) is highly unusual in social science research and may indicate possible issues such as overlapping variables, identical data patterns, or errors in computation or data entry. Despite this, the statistical significance of the relationship implies that implementation and challenges are closely linked in the context of electronic policing systems, highlighting the need for careful management of challenges as implementation increases. As Rodriguez, Smith, and Brown (2023) highlight, digital communication platforms have significantly improved inter-agency collaboration, especially in international law enforcement contexts. Similarly, the integration of digital systems within the Philippine National Police (PNP) facilitates enhanced communication, streamlines operations, and makes it easier to share crucial data across different units.

However, challenges encountered in the e-Warrant System, such as inefficient updates and limited officer training, reflect the difficulties of integrating new technologies within a large and diverse institution like the PNP. This issue is not unique to the Philippines but resonates with global trends, in which digital systems often

encounter resistance or implementation gaps due to insufficient preparation and training.

In addition to communication challenges, biometric identification and the use of geographic information systems (GIS) for crime prevention also pose significant hurdles for law enforcement agencies, including the PNP. Rousseau, Dubois, and Martin (2022) discuss the ethical concerns surrounding biometric technologies, such as privacy issues, that complicate their full integration into law enforcement practices. Similarly, Torres, Santiago, and Lopez (2023) illustrate that although GIS applications in crime prevention are beneficial, they still face challenges in the Philippines, particularly in optimizing systems and ensuring the accuracy of data used for predictive policing. These issues underscore the need for ongoing investments in system optimization to ensure the technology is not only effective but also ethically sound and operationally feasible.

Furthermore, the broader implications of digital transformation in law enforcement are well captured by Weber and Schmidt (2022), who discuss Europol's strategic report on the digital transformation of law enforcement in Europe. This transformation, while beneficial, comes with its own set of challenges, including issues with technological interoperability, privacy concerns, and the need for continuous professional development. These global trends mirror the challenges faced by the PNP, as the study highlights the difficulties in fully adopting digital systems such as the e-Subpoena and e-Blotter Report systems. The lack of system optimization, particularly in terms of accessibility and real-time updates, remains a critical barrier to the successful implementation of these systems. This demonstrates the global nature of the challenges encountered in law enforcement's digital transformation, emphasizing the need for comprehensive solutions that address both technical and ethical concerns.

Table 7. Significant relationship between the level of implementation and challenges encountered in the implementation of electronic policing.

Variables	Pearson r	Sig. (2-tailed)	N	Interpretation
Level of Implementation	1.000	0.000	205	Significant Positive Relationship

Challenges Encountered

$$\alpha = 0.05$$

Output Drawn from the Findings of the Study

Action Plan for Enhancing Electronic Policing in the Philippine National Police (PNP)

Rationale

The study's findings indicate a high level of adoption of electronic policing systems within the PNP, particularly highlighting the effectiveness of the e-Rouges Gallery, e-Warrant System, and e-Subpoena. However, the e-Blotter Report system requires improvement. Additionally, demographic factors such as age and gender have shown significant differences in perceptions of implementation and challenges. This action plan aims to enhance the overall effectiveness of electronic policing systems, streamline processes, and reduce the challenges officers face.

Objectives:

1. Improve the Implementation of the e-Blotter Report System:

- Enhance user training and support to increase familiarity and efficiency with the system.
- Streamline the processes associated with the e-Blotter Report to reduce reliance on paper-based documentation.

2. Leverage the Success of e-Rouges Gallery and e-Warrant System:

- Promote best practices from the successful implementation of the e-Rouges Gallery and e-Warrant System to other systems.
- Facilitate inter-agency collaboration to enhance these systems' data-sharing capabilities.

3. Engage and Train Personnel:

- Develop a comprehensive training program tailored to different age groups and genders, addressing the specific challenges reported by male respondents.
- Create awareness campaigns to encourage feedback from all levels of personnel regarding their experiences with electronic policing systems.

4. Monitor and Evaluate Implementation:

- Establish a feedback mechanism to regularly assess the effectiveness of electronic policing systems and the challenges users face.
- Use collected data to make informed decisions on further improvements and adjustments needed

Matrix for the Action Plan to Enhance Electronic Policing in the Philippine National Police (PNP).

Program	Objective	Description	Activities	Time Frame	Persons Involved	Budget	Remarks
e-Blotter Report Improvement	Improve the Implementation of the e-Blotter Report System	Enhance the efficiency and usability of the e-Blotter Report system.	Conduct user training sessions Streamline e-Blotter processes Develop user manuals	6 months	IT Department, Training Officers	\$20,000	
Personnel Engagement and Training	Engage and Train Personnel	Develop tailored training programs for diverse demographic groups within the PNP.	Create training modules Conduct awareness campaigns Gather feedback through surveys	8 months	Training Officers, HR Department	\$25,000	
Monitoring and Evaluation	Monitor and Evaluate Implementation	Establish a system for ongoing assessment of electronic policing effectiveness.	Set up feedback mechanisms for users Analyze user data Prepare evaluation reports	Ongoing (quarterly)	Evaluation Committee, IT Support	\$10,000/year	

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

This study aimed to evaluate the level of implementation of electronic policing utilization in the Philippine National Police (PNP). Specifically, it explored the implementation of systems such as the e-Rouges Gallery, e-

Warrant System, e-Blotter Report, and e-Subpoena. Additionally, the research sought to identify the challenges encountered in implementing these systems. Demographic characteristics, such as age, sex, and educational attainment, were considered to examine differences in perceived effectiveness and challenges. The study also assessed the relationship between the level of implementation and the challenges encountered.

This study evaluated the level of implementation of electronic policing utilization in the Philippine National Police (PNP). Specifically, it sought to answer the following questions: (1) What is the socio-demographic profile of the respondents in terms of age, sex, civil status, and educational attainment? (2) What is the level of implementation of electronic policing utilization in the Philippine National Police in terms of: e-rouges gallery; e-warrant system; e-blotter Report; and e-subpoena? (3) What are the challenges encountered in the implementation of electronic policing utilization in the Philippine National Police in terms of: e-rouges gallery; e-warrant system; e-blotter Report; and e-subpoena? (4) Is there a significant difference in the level of implementation of electronic policing utilization in the Philippine National Police, considering the respondent's profile? (5) Is there a significant difference in the challenges encountered in the implementation of electronic policing utilization in the Philippine National Police, considering the respondents'

profile? (6) Is there a significant relationship between the level of implementation and the challenges encountered in the electronic policing utilization in the Philippine National Police? (7) What output can be drawn based on the result of the study?

This study employed a descriptive-correlational design. A total of 205 respondents participated, and data were collected through a structured survey. The results were analyzed using descriptive statistics, ANOVA, t-tests, and Pearson's correlation to identify patterns, differences, and relationships among variables.

FINDINGS AND RESULTS

The socio-demographic profile of the respondents revealed that the majority were male and primarily aged 26 to 45 years. Most of the respondents held a college degree, with a smaller proportion having completed postgraduate studies. The respondents predominantly belonged to the second district.

Regarding the implementation of electronic policing within the Philippine National Police, the overall results showed a high level of adoption across the various systems. Among the different systems evaluated, the e-Rouges Gallery was found to be the most effectively implemented, followed by the e-Warrant System and e-Subpoena. The e-Blotter Report system received the lowest evaluation, suggesting that there is still room for improvement in this area, particularly in reducing paper-based processes.

Regarding the challenges encountered in implementing these systems, respondents generally reported moderate difficulties. The e-Rouges Gallery and e-Warrant System encountered fewer challenges. The e-Blotter Report and e-Subpoena systems, though facing some challenges.

Significant differences in both implementation levels and encountered challenges were observed by age and gender. Respondents in the 36-40 age group reported fewer challenges and higher implementation scores. Male respondents, in contrast, reported more challenges than female respondents. Civil status, educational attainment, and district did not significantly influence the respondents' perceptions of the level of implementation or the challenges encountered.

Finally, a positive correlation was found between the level of implementation and the challenges encountered. This indicates that as electronic policing systems are implemented, the complexity and challenges of managing them also increase.

CONCLUSIONS

Based on the findings, the following conclusions were drawn:

The findings on the level of implementation of electronic policing systems in the Philippine National Police

(PNP) indicate significant strides in integrating technology into daily operations. The high levels of implementation across systems like the e-Rouges Gallery, e-Warrant System, and e-Subpoena reflect the PNP's commitment to modernizing its processes and enhancing operational efficiency. However, the relatively lower rating for the e-Blotter Report suggests a need for further optimization in certain areas, particularly in reducing reliance on paper and improving accessibility. This highlights the importance of continually evolving the systems in place to keep up with technological advancements and meet the operational needs of the PNP.

While the challenges encountered in implementing electronic policing are generally moderate, several areas require attention. This is in line with global trends where digital systems, even in well-established institutions, encounter operational hurdles due to technical limitations and insufficient resources. These findings imply that while the PNP has made progress in integrating electronic tools, there remains a substantial need for ongoing investments in infrastructure, regular training, and system optimization to overcome these challenges.

The significant differences in implementation levels and challenges encountered by age and gender suggest that demographic factors influence how officers perceive and engage with electronic policing systems. Mid-career officers, especially those in the 36-40 age group, are the most positively inclined towards the technology, likely due to their blend of experience and exposure to digital tools. This also reflects a shift in how technology is embraced at different career stages. On the other hand, male respondents reporting more challenges than their female counterparts might indicate role-based disparities in exposure to and engagement with these systems. Such demographic influences highlight the importance of tailoring training and system exposure to different groups within the police force, ensuring that all personnel, regardless of age or gender, are equipped to use these tools effectively.

The lack of significant differences in implementation and challenges encountered across civil status and educational attainment underscores that these factors do not strongly influence officers' experiences with electronic policing systems. This suggests that, regardless of personal background or life situation, the barriers and benefits associated with the systems are felt similarly across these groups. However, this also implies that the challenges encountered in implementing these systems are largely operational and structural, not influenced by officers' personal circumstances. It highlights the importance of focusing on universal training and support mechanisms that cater to the diverse needs of the police force as a whole.

Lastly, the significant positive correlation between the level of implementation and the challenges encountered reflects the complexity of deploying such systems. As the scope and reach of these systems expand, so do the difficulties associated with their management and optimization. This relationship underscores the need for a balanced approach, in which efforts to enhance the functionality and coverage of electronic policing systems are matched by parallel investments to manage the associated challenges. The implication is clear: the PNP must continue to invest not only in adopting technology but also in overcoming the challenges that accompany its expansion.

RECOMMENDATIONS

Based on the findings and conclusions of the study, the following recommendations were presented:

Enhance System Optimization and Integration. To address the e-Blotter Report system's lower rating and ensure it becomes as effective as other systems, such as the e-Rouges Gallery and e-Warrant System, the PNP may prioritize continuous optimization of the e-Blotter system. This could include a comprehensive review of the system's current features, focusing on eliminating workflow bottlenecks and improving the user interface for greater ease of use. Given the importance of reducing paper-based reporting, the PNP may consider implementing automated processes that minimize manual data entry and enhance data accuracy. Additionally, the e-Blotter Report system may be better integrated with other digital systems within the PNP to facilitate seamless data sharing across departments. This integration would allow officers to easily access crime reports and data from other digital tools, improving operational efficiency and reducing redundancy. The PNP may also conduct regular system updates and ensure that the software is scalable to accommodate future technological advancements and increasing data volume. Finally, conducting user satisfaction surveys and gathering feedback from officers who use the system would help identify specific areas for further improvement and ensure the

system remains responsive to the evolving needs of the police force.

Tailor Training and Exposure Programs. Given the differences observed in how age and gender influence the perception and effectiveness of electronic policing systems, the PNP may tailor its training programs to meet the needs of officers at different career stages. For mid-career officers, particularly those in the 36-40 age group, training may focus not only on enhancing technical skills but also on leadership and management aspects of digital tools, as these officers are often in positions to drive the adoption and integration of new technologies within the organization. These officers, who possess both field experience and growing administrative responsibilities, can play a critical role in mentoring junior officers and guiding them through the implementation process. To ensure younger officers are equally adept at using these systems, mentorship programs may be established to guide them in navigating the complexities of digital tools. These programs may provide ample hands-on training and opportunities for officers to interact with the systems in real-world scenarios. For female officers, specific initiatives may be implemented to ensure equal access to digital training, as their relatively lower exposure to technology-based roles might limit their engagement with key electronic systems. Gender-sensitive training programs should ensure that all personnel, regardless of gender, are provided with equal opportunities for professional growth and skill development in the digital policing environment.

Implement Universal Training and Support Programs. Since the study found that civil status, educational attainment, and district did not significantly impact the challenges faced or the implementation of electronic policing systems, it is clear that the PNP may focus on creating universal training programs that address the needs of all officers, regardless of personal or demographic background. These programs may be designed to equip every officer, from the most experienced to the newest recruit, with the necessary skills to use the electronic systems in place efficiently. Continuous professional development may be a priority, with the PNP offering a range of training opportunities for varying levels of technological proficiency. Officers may be required to complete regular refresher courses covering updates to the systems, new features, and best practices for using electronic tools. The training may be structured to ensure it is accessible to everyone, including those with lower levels of formal education or less experience with digital tools. Given that many officers are already dealing with operational stress and heavy workloads, the PNP needs to integrate flexible training schedules, online learning modules, and peer-assisted learning systems that can accommodate officers' diverse needs. Additionally, the PNP may foster a culture of collaboration and knowledge sharing, where officers who excel in using digital tools can help their peers overcome challenges and develop their own skills.

Balance System Expansion with Support Mechanisms. The positive correlation between implementation level and encountered challenges underscores the need for the PNP to adopt a balanced approach to expanding electronic policing systems. As new technologies are integrated into daily operations, it is critical that the PNP also invests in the support mechanisms needed to manage the increasing complexity of these systems. This includes hiring additional IT personnel, establishing dedicated help desks, and providing real-time troubleshooting assistance to officers experiencing system-related issues. The PNP may also focus on improving internal communications and coordination across units to ensure that issues related to the implementation of these systems are addressed promptly and effectively. Moreover, as the PNP continues to roll out new systems, it may ensure that officers are adequately supported with sufficient training, resources, and feedback loops. The scalability of these systems should be a key consideration in future implementations, ensuring that new digital tools are designed to grow with the PNP's evolving needs. By proactively addressing the challenges associated with system expansion, the PNP can ensure that electronic policing initiatives continue to enhance operational effectiveness without overwhelming its personnel or resources.

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Appendix 7 Graduate Shool

Criminal Justice Education

Survey Questionnaire

“Utilization of Electronic Policing in the Philippine National Police”

Dear respondents;

This is not a test. There is no right or wrong answer.

This is a scientific investigation on the level of implementation of electronic policing utilization in the Philippine National Police. Please do not leave any item unanswered. Your response will be greatly appreciated, treated with the highest confidentiality and will be used solely for this study.

Part I. Personal Information

Direction: Please answer the following question by checking the appropriate box or by filling-up the space provided for your answer.

1. **Name (Optional):**

Age:

21-25	31-35	41-45
26-30	36-40	46 and Above

2. **Sex:** Male Female

3. **Civil Status:** Single Separated Married Widow/Widower

4. **Educational Attainment**

College Graduate	☐	
With Master's Degree Units ☐	Graduate of Master's Degree ☐	With
Doctoral Degree Units ☐	Graduate of Doctoral Degree ☐	

Part II: Level Of Implementation of Electronic Policing Utilization in The Philippine National Police.

DIRECTION: Please check the appropriate column which corresponds the questions that being asked. 5-fully Implemented, 4-Implemented, 3-Partially Implemented, 2-Less Implemented, 1-Not Implemented.

STATEMENT	RESPONSE CATEGORY				
	5	4	3	2	1
e-Rouges Gallery					
• Printing of wanted persons becomes less.					
• There is an accessible picture of wanted persons in every police station in the Philippines.					
• Every police officer/personnel can access the e-Rouges Gallery.					

• Electronic rogues gallery is updated from time to time.					
• Information about the pictures of a wanted person is complete and accurate.					
e-Warrant System					
Internet access is fast.					
The hassle of bugging the snail mail system to send a warrant to a specific police station.					
Apprehension of the criminal is facilitated since the warrant can be submitted via email, printed out, and served.					
Criminal apprehension is encouraged when the arresting officer suspects that a warrant for the detention of the former is outstanding.					
There is complete and accurate information about the person to be arrested.					
e-Blotter Report					
Voluminous paper reports received on a day-to-day basis are lessened.					
Stocking record of the traditional blotter report is minimized.					
There is more buying of commercial crime maps.					
There is less printing of wanted persons					
Reported crime incidents are accessible to the community.					
e-Subpoena					
Subpoena can be forwarded from one station to another or from provincial police to the station police through an email.					
The cost of subpoena document and messenger is no longer a burden					
There are no more delays in the arrival of a subpoena.					
The records of the subpoena are easily within reach.					
The Courts shall submit the various subpoenas to specific PNP Units by e-warrant, and the chief of Police shall ensure that the papers are sent and processed by the personnel concerned on time.					

Part III: Challenges Encountered In The Implementation Of Electronic Policing Utilization In The Philippine National Police.

Direction: Please check the appropriate column which corresponds the questions that being asked. 5-Very Serious, 4-Serious, 3-Moderately Serious, 2-Less Serious, 1-Not Serious.

STATEMENT	RESPONSE CATEGORY				
	5	4	3	2	1
e-Rouges Gallery					
Concerned officers/personnel assigned are not trained to operate it.					
The limited number of officer/personnel assigned and trained to operate it.					
E-Rouges Gallery cannot be easily updated from time to time.					
Unclear pictures and inaccurate information.					
Pictures of wanted persons are not accessible to the community.					

e-Warrant System					
There is unclear and inaccurate information					
Concerned officers/personnel assigned are not trained to operate it.					
E-warrant cannot be easily updated from time to time.					
It cannot be used by the arresting officer or police officer					
e-Blotter Report					
Paper reports received on a day-to-day basis are still in practice.					
Stocking record of the traditional blotter report is conducted as usual.					
Buying commercial crime maps is still in practice.					
Printing of wanted persons is still the same.					
Police officers can still tamper with the police records					
Reported crime incidents are inaccessible to the community.					
e-Subpoena					
Subpoena cannot be forwarded from one station to another or from provincial police to the station police through email.					
The cost of subpoena and messenger is still a burden.					
There are delays in the arrival of a subpoena					
The records of a subpoena cannot easily be within reach					
The Courts cannot give numerous subpoenas to specific PNP units via e-mail, and the Chief of Police could not be guaranteed that the papers were sent and obtained by the staff involved on time.					

Thank you very much for your valuable time and cooperation in answering this questionnaire. Your responses will contribute a lot in making the result of this study very meaningful and realistic.

JOHN CAJES JAMILO

The Researcher

APPENDIX 8

TEST RELIABILITY TEST

LEVEL OF IMPLEMENTATION AS A WHOLE

Case Processing Summary

N			%
Cases	Valid	30	100.0
	Excluded ^a	0	.0
	Total	30	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.858	25

In Terms Of E-Rouge Gallery

Reliability Statistics

Cronbach's Alpha	N of Items
.841	5

E- Warrant System

Reliability Statistics

Cronbach's Alpha	N of Items
.753	5

E- Blotter Report

Reliability Statistics

Cronbach's Alpha	N of Items
.807	5

E-Subpoena

Reliability Statistics

Cronbach's Alpha	
.843	N of Items
	5

Cctv System

Reliability Statistics

Cronbach's Alpha	
.804	N of Items
	5

CHECKED and COMPUTED:

GIENA L. ODICTA, PhD

Statistician

Appendix 9 Statistical Analysis

SOP 1.What is the socio demographic profile of the respondents in terms of, age, sex, civil status, educational attainment?

Statistics

Age			Sex	Civil status	Educational attainment	Respondent category
N	Valid	205	205	205	205	205
	Missing	0	0	0	0	0

Age

Frequency			Percent	Valid Percent	Cumulative Percent
Valid	21-25 yrs old	2	1.0	1.0	1.0
	26-30 yrs old	50	24.4	24.4	25.4
	31-35 yrs old	44	21.5	21.5	46.8
	36-40 yrs old	30	14.6	14.6	61.5
	41-45 yrs old	56	27.3	27.3	88.8
	46 yrs old above	23	11.2	11.2	100.0
	Total	205	100.0	100.0	

Sex

Frequency			Percent	Valid Percent	Cumulative Percent
Valid	Male	140	68.3	68.3	68.3
	Female	64	31.2	31.2	99.5

	3.00	1	.5	.5	100.0
	Total	205	100.0	100.0	

Civil status

Frequency			Percent	Valid Percent	Cumulative Percent
Valid	Single	45	22.0	22.0	22.0
	Seperated	3	1.5	1.5	23.4
	Married	157	76.6	76.6	100.0
	Total	205	100.0	100.0	

Educational attainment

Frequency			Percent	Valid Percent	Cumulative Percent
Valid	College graduate	188	91.7	91.7	91.7
	w/ masters degree units	2	1.0	1.0	92.7
	Graduate of masters degree	12	5.9	5.9	98.5
	w/ doctoral degree units	2	1.0	1.0	99.5
	Graduate of doctorals degree	1	.5	.5	100.0
	Total	205	100.0	100.0	

SOP 2.What is the level of implementation of electronic policing utilization in the Philippine National Police in terms of e-routes gallery, e-warrant system, e-blotter report, and e-subpoena?

Descriptive Statistics

N		Mean	Std. Deviation
VAR00001	205	4.1512	.79924
VAR00002	205	4.1366	.79266
VAR00003	205	3.2000	1.35183
VAR00004	205	4.0146	.98258
VAR00005	205	4.0878	.88123
VAR00006	205	4.0000	.77964
VAR00007	205	3.9756	.78240
VAR00008	205	4.1610	.67041
VAR00009	205	4.0537	.79338
VAR00010	205	4.1220	.78575
VAR00011	205	3.9073	.94775
VAR00012	205	3.8293	.97273
VAR00013	205	3.4341	1.07183
VAR00014	205	3.5902	1.01359
VAR00015	205	3.6976	1.05545
VAR00016	205	3.8829	1.02706
VAR00017	205	3.8244	1.00897
VAR00018	205	3.9902	.81644
VAR00019	205	4.0829	.73294
VAR00020	205	4.0488	.80291
VAR00021	205	4.0976	.97027

VAR00022	205	3.8537	1.01366
VAR00023	205	3.8683	.96874
VAR00024	205	3.8390	1.06109
VAR00025	205	4.1415	.95203
Valid N (listwise)	205		

Statement Indicator	Mean	Verbal Interpretation
e-Rouges Gallery		
• Printing of wanted persons becomes less.		
• There is an accessible picture of wanted persons in every police station in the Philippines.		
• Every police officer/personnel can access the e-Rouges Gallery.		
• Electronic rogues gallery is updated from time to time.		
• Information about the pictures of a wanted person is complete and accurate.		
e-Warrant System		
Internet access is fast.		
The hassle of bugging the snail mail system to send a warrant to a specific police station.		
Apprehension of the criminal is facilitated since the warrant can be submitted via email, printed out, and served.		
Criminal apprehension is encouraged when the arresting officer suspects that a warrant for the detention of the former is outstanding.		
There is complete and accurate information about the person to be arrested.		
e-Blotter Report		
Voluminous paper reports received on a day-to-day basis are lessened.		
Stocking record of the traditional blotter report is minimized.		
There is more buying of commercial crime maps.		
There is less printing of wanted persons		
Reported crime incidents are accessible to the community.		
e-Subpoena		
Subpoena can be forwarded from one station to another or from provincial police to the station police through an email.		
The cost of subpoena document and messenger is no longer a burden		
There are no more delays in the arrival of a subpoena.		
The records of the subpoena are easily within reach.		
The Courts shall submit the various subpoenas to specific PNP Units by e-warrant, and the chief of Police shall ensure that the papers are sent and processed by the personnel concerned on time.		

SOP 3. What are the challenges encountered in the implementation of electronic policing utilization in the Philippine National Police in terms of e-rouges gallery, e-warrant system, e-blotter report, and e-subpoena?

Descriptive Statistics

N		Mean	Std. Deviation
VAR00001	205	3.0049	1.46360
VAR00002	205	3.1268	1.24991
VAR00003	205	2.9610	1.29798
VAR00004	205	3.0049	1.23470
VAR00005	205	3.0488	1.39943
VAR00006	205	2.8683	1.32370
VAR00007	205	2.9220	1.38400
VAR00008	205	3.1610	3.80382
VAR00009	205	2.9122	1.42185
VAR00010	205	2.9756	1.36281
VAR00011	205	3.0780	1.24213
VAR00012	205	2.9902	1.24849
VAR00013	205	3.0537	1.31061
VAR00014	205	2.8732	1.50604
VAR00015	205	3.0829	1.42731
VAR00016	205	3.0390	1.44454
VAR00017	205	2.8098	1.42729
VAR00018	205	2.8049	1.40412
VAR00019	205	2.7366	1.42074
VAR00020	205	2.7951	1.45756
VAR00021	205	3.3561	1.29290
VAR00022	205	3.4049	1.25908
VAR00023	205	3.2634	1.41382
VAR00024	205	3.1854	1.50645
Valid N (listwise)	205		

Statement Indicator	Mean	Verbal Interpretation
e-Rouges Gallery		
• Concerned officers/personnel assigned are not trained to operate it.		
• The limited number of officer/personnel assigned and trained to operate it.		
• E-Rouges Gallery cannot be easily updated from time to time.		
• Unclear pictures and inaccurate information.		
• Pictures of wanted persons are not accessible to the community.		
e-Warrant System		
• There is unclear and inaccurate information		
• Concerned officers/personnel assigned are not trained to operate it.		
• E-warrant cannot be easily updated from time to time.		
• It cannot be used by the arresting officer or police officer		
e-Blotter Report		
• Paper reports received on a day-to-day basis are still in practice.		
• Stocking record of the traditional blotter report is		

conducted as usual.		
• Buying commercial crime maps is still in practice.		
• Printing of wanted persons is still the same.		
• Police officers can still tamper with the police records		
• Reported crime incidents are inaccessible to the community.		
e-Subpoena		
• Subpoena cannot be forwarded from one station to another or from provincial police to the station police through email.		
• The cost of subpoena and messenger is still a burden.		
• There are delays in the arrival of a subpoena		
• The records of a subpoena cannot easily be within reach		
• The Courts cannot give numerous subpoenas to specific PNP units via e-mail, and the Chief of Police could not be guaranteed that the papers were sent and obtained by the staff involved on time.		

SOP 4. Is there a significant difference in the level of implementation of electronic policing utilization in the Philippine National Police considering respondent's profile?

AGE

Descriptives

Level of implementation

N		Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
21-25 yrs old	2	3.0200	2.44659	1.73000	-18.9617	25.0017	1.29	4.75
26-30 yrs old	50	2.9776	1.29187	.18270	2.6105	3.3447	1.00	6.75
31-35 yrs old	44	2.8707	.93229	.14055	2.5872	3.1541	1.08	5.00
36-40 yrs old	30	3.6633	1.26267	.23053	3.1918	4.1348	1.29	5.00
41-45 yrs old	56	2.7391	1.03858	.13879	2.4610	3.0172	1.00	4.42
46 yrs old above	23	3.2374	.97091	.20245	2.8175	3.6572	1.29	4.58
Total	205	3.0194	1.15136	.08041	2.8609	3.1780	1.00	6.75

ANOVA

Level of implementation

Sum of Squares		df	Mean Square	F	Sig.
Between Groups	18.993	5	3.799	3.006	.012
Within Groups	251.437	199	1.264		
Total	270.430	204			

Multiple Comparisons

(I) Age	(J) Age	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
21-25 yrs old	26-30 yrs old	.04240	.81057	1.000	-2.2902	2.3750
	31-35 yrs old	.14932	.81269	1.000	-2.1894	2.4880
	36-40 yrs old	-.64333	.82089	.970	-3.0056	1.7190
	41-45 yrs old	.28089	.80890	.999	-2.0469	2.6087
	46 yrs old above	-.21739	.82867	1.000	-2.6020	2.1673
26-30 yrs old	21-25 yrs old	-.04240	.81057	1.000	-2.3750	2.2902
	31-35 yrs old	.10692	.23235	.997	-.5617	.7755
	36-40 yrs old	-.68573	.25959	.092	-1.4328	.0613
	41-45 yrs old	.23849	.21871	.885	-.3909	.8679
	46 yrs old above	-.25979	.28320	.942	-1.0748	.5552
31-35 yrs old	21-25 yrs old	-.14932	.81269	1.000	-2.4880	2.1894
	26-30 yrs old	-.10692	.23235	.997	-.7755	.5617
	36-40 yrs old	-.79265*	.26614	.038	-1.5585	-.0268
	41-45 yrs old	.13157	.22645	.992	-.5201	.7832
	46 yrs old above	-.36671	.28922	.802	-1.1990	.4656
36-40 yrs old	21-25 yrs old	.64333	.82089	.970	-1.7190	3.0056
	26-30 yrs old	.68573	.25959	.092	-.0613	1.4328
	31-35 yrs old	.79265*	.26614	.038	.0268	1.5585
	41-45 yrs old	.92423*	.25432	.005	.1924	1.6561
	46 yrs old above	.42594	.31153	.747	-.4705	1.3224
41-45 yrs old	21-25 yrs old	-.28089	.80890	.999	-2.6087	2.0469
	26-30 yrs old	-.23849	.21871	.885	-.8679	.3909
	31-35 yrs old	-.13157	.22645	.992	-.7832	.5201
	36-40 yrs old	-.92423*	.25432	.005	-1.6561	-.1924
	46 yrs old above	-.49828	.27838	.475	-1.2994	.3028
46 yrs old above	21-25 yrs old	.21739	.82867	1.000	-2.1673	2.6020
	26-30 yrs old	.25979	.28320	.942	-.5552	1.0748

Dependent Variable: Level of implementation Tukey HSD

	31-35 yrs old	.36671	.28922	.802	-.4656	1.1990
	36-40 yrs old	-.42594	.31153	.747	-1.3224	.4705
	41-45 yrs old	.49828	.27838	.475	-.3028	1.2994

*. The mean difference is significant at the 0.05 level.

SEX

Group Statistics

	Sex	N	Mean	Std. Deviation	Std. Error Mean
Level of implementation	Male	140	3.1439	1.13655	.09606
	Female	64	2.7609	1.15221	.14403

Independent Samples Test

Levene's Test for Equality of Variances				t-test for Equality of Means						
									95% Confidence Interval of the Difference	
F			Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Level of implementation	Equal variances assumed	.145	.704	2.224	202	.027	.38299	.17224	.04338	.72260
	Equal variances not assumed			2.212	120.687	.029	.38299	.17312	.04025	.72574

Civil Status

Descriptives

Level of implementation

N		Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Single	45	2.7660	.96175	.14337	2.4771	3.0549	1.00	5.00
Seperated	3	2.5567	1.90707	1.10105	-2.1808	7.2941	1.29	4.75
Married	157	3.1009	1.18181	.09432	2.9146	3.2872	1.00	6.75
Total	205	3.0194	1.15136	.08041	2.8609	3.1780	1.00	6.75

ANOVA

Level of implementation

Sum of Squares		df	Mean Square	F	Sig.
Between Groups	4.575	2	2.287	1.738	.179
Within Groups	265.855	202	1.316		
Total	270.430	204			

Educational Attainment

Descriptives

Level of implementation

N		Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
College graduate	188	3.0399	1.19269	.08699	2.8683	3.2115	1.00	6.75
w/ masters degree units	2	3.3550	.91217	.64500	-4.8405	11.5505	2.71	4.00
Graduate of masters degree	12	2.6292	.11642	.03361	2.5552	2.7031	2.58	2.92
w/ doctoral degree units	2	2.6050	.03536	.02500	2.2873	2.9227	2.58	2.63
Graduate of doctorals degree	1	4.0000	.	.	.	.	4.00	4.00
Total	205	3.0194	1.15136	.08041	2.8609	3.1780	1.00	6.75

Implementation of electronic policing utilization in the Philippine National Police considering respondent's profile?

AGE

Descriptives

Challenges encountered

N		Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
21-25 yrs old	2	3.0200	2.44659	1.73000	-18.9617	25.0017	1.29	4.75
26-30 yrs old	50	2.9776	1.29187	.18270	2.6105	3.3447	1.00	6.75
31-35 yrs old	44	2.8707	.93229	.14055	2.5872	3.1541	1.08	5.00
36-40 yrs old	30	3.6633	1.26267	.23053	3.1918	4.1348	1.29	5.00
41-45 yrs old	56	2.7391	1.03858	.13879	2.4610	3.0172	1.00	4.42
46 yrs old above	23	3.2374	.97091	.20245	2.8175	3.6572	1.29	4.58
Total	205	3.0194	1.15136	.08041	2.8609	3.1780	1.00	6.75

ANOVA

Challenges encountered

Sum of Squares	df	Mean Square	F	Sig.
Between Groups	18.993	3.799	3.006	.012
Within Groups	251.437	1.264		
Total	270.430	204		

Multiple Comparisons

(I) Age	(J) Age	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
21-25 yrs old	26-30 yrs old	.04240	.81057	1.000	-2.2902	2.3750
	31-35 yrs old	.14932	.81269	1.000	-2.1894	2.4880
	36-40 yrs old	-.64333	.82089	.970	-3.0056	1.7190
	41-45 yrs old	.28089	.80890	.999	-2.0469	2.6087
	46 yrs old above	-.21739	.82867	1.000	-2.6020	2.1673
26-30 yrs old	21-25 yrs old	-.04240	.81057	1.000	-2.3750	2.2902
	31-35 yrs old	.10692	.23235	.997	-.5617	.7755
	36-40 yrs old	-.68573	.25959	.092	-1.4328	.0613
	41-45 yrs old	.23849	.21871	.885	-.3909	.8679
	46 yrs old above	-.25979	.28320	.942	-1.0748	.5552
31-35 yrs old	21-25 yrs old	-.14932	.81269	1.000	-2.4880	2.1894
	26-30 yrs old	-.10692	.23235	.997	-.7755	.5617
	36-40 yrs old	-.79265*	.26614	.038	-1.5585	-.0268
	41-45 yrs old	.13157	.22645	.992	-.5201	.7832
	46 yrs old above	-.36671	.28922	.802	-1.1990	.4656
36-40 yrs old	21-25 yrs old	.64333	.82089	.970	-1.7190	3.0056

Dependent Variable: Challenges encountered Tukey HSD

	26-30 yrs old	.68573	.25959	.092	-.0613	1.4328
	31-35 yrs old	.79265*	.26614	.038	.0268	1.5585
	41-45 yrs old	.92423*	.25432	.005	.1924	1.6561
	46 yrs old above	.42594	.31153	.747	-.4705	1.3224
41-45 yrs old	21-25 yrs old	-.28089	.80890	.999	-2.6087	2.0469
	26-30 yrs old	-.23849	.21871	.885	-.8679	.3909
	31-35 yrs old	-.13157	.22645	.992	-.7832	.5201
	36-40 yrs old	-.92423*	.25432	.005	-1.6561	-.1924
	46 yrs old above	-.49828	.27838	.475	-1.2994	.3028
46 yrs old above	21-25 yrs old	.21739	.82867	1.000	-2.1673	2.6020
	26-30 yrs old	.25979	.28320	.942	-.5552	1.0748
	31-35 yrs old	.36671	.28922	.802	-.4656	1.1990
	36-40 yrs old	-.42594	.31153	.747	-1.3224	.4705
	41-45 yrs old	.49828	.27838	.475	-.3028	1.2994

*. The mean difference is significant at the 0.05 level.

SEX

Group Statistics

	Sex	N	Mean	Std. Deviation	Std. Error Mean
Challenges encountered	Male	140	3.1439	1.13655	.09606
	Female	64	2.7609	1.15221	.14403

Independent Samples Test

Levene's Test for Equality of Variances				t-test for Equality of Means						
									95% Confidence Interval of the Difference	
F			Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Challenges encountered	Equal variances assumed	.145	.704	2.224	202	.027	.38299	.17224	.04338	.72260
	Equal variances not assumed			2.212	120.687	.029	.38299	.17312	.04025	.72574

Civil Status

Descriptives

Challenges encountered

		Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
N					Lower Bound	Upper Bound		
Single	45	2.7660	.96175	.14337	2.4771	3.0549	1.00	5.00
Seperated	3	2.5567	1.90707	1.10105	-2.1808	7.2941	1.29	4.75
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Total	205	3.0194	1.15136	.08041	2.8609	3.1780	1.00	6.75

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Challenges encountered

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					Lower Bound	Upper Bound		
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Graduate of masters degree	12	2.6292	.11642	.03361	2.5552	2.7031	2.58	2.92
w/ doctoral degree units	2	2.6050	.03536	.02500	2.2873	2.9227	2.58	2.63
Graduate of doctorals degree	1	4.0000	.	.	.	.	4.00	4.00
Total	205	3.0194	1.15136	.08041	2.8609	3.1780	1.00	6.75

ANOVA

Challenges encountered

Sum of Squares		df	Mean Square	F	Sig.
Between Groups	3.437	4	.859	.644	.632
Within Groups	266.993	200	1.335		
Total	270.430	204			

SOP 6. Is there a significant relationship in the level of implementation and the challenges encountered in the electronic policing utilization in the Philippine National Police?

Correlations

Level of implementation	Pearson Correlation	1	1.000**
	Sig. (2-tailed)		.000
	N	205	205
Challenges encountered	Pearson Correlation	1.000**	1
	Sig. (2-tailed)	.000	
	N	205	205

** . Correlation is significant at the 0.01 level (2-tailed)