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## Research Article

### The SIM Registration Legislation in Enhancing Mobile Security against Cyber Threats

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#### ABSTRACT

The SIM Card Registration Act has been actively advocated by the Department of Information and Communications Technology (DICT), aiming to raise awareness and encourage individuals to register their SIM cards. In addition, the DICT has been working closely with telecommunications companies to enhance the efficiency and simplicity of the registration procedure. Undoubtedly, the implementation of the SIM Card Registration Act plays a pivotal role in establishing a safer and more secure environment in the Philippines. The research aims to investigate and analyze the impact of SIM registration legislation as a regulatory mechanism in enhancing mobile security against cyber threats. More specifically, the study will seek Strengths and weaknesses of SIM registration legislation in addressing challenges in mobile security.

The study will be conducted in the District 2 Manila, Philippines with an estimated population of 212,938 ([manila.gov.ph](http://manila.gov.ph)). The respondents will be interview and answering a survey questionnaire in their houses or any comfortable place that the respondent will choose or the respondents may answer the survey questionnaire via Google form. The study employed a purposive sampling scheme in which respondents were purposefully chosen by the researcher that targets a group of people that have been affected by mobile phone-related crimes, law enforcement officials, legal experts, policymakers, or other stakeholders directly involved in the enforcement of RA 11934.

The main instrument will be use of the researchers in gathering the data for this study was self- made questionnaire which is constructed after analyzing literatures and studies related to the present study.

The results revealed the implementation of the SIM Registration Act has had significant implications for various cyber threats, including swindling / estafa, identity theft, and terrorism. By mandating the registration of SIM cards, authorities aim to enhance accountability and traceability in communication networks. The flaws within SIM registra-

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tion systems contribute to the emergence of a black market for registered SIM cards. This illicit market enables their utilization in criminal activities, thereby undermining the intended security benefits that the registration process aims to provide.

**Keywords:** SIM Registration, Mobile Security, Cyber Threats, RA 11934

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## Introduction

In the contemporary digital era, the extensive utilization of mobile devices has seamlessly integrated into our everyday routines, fundamentally transforming the way we communicate, conduct business, and retrieve information. Nevertheless, this swift technological progress has also presented unparalleled obstacles, particularly in the domain of cybersecurity. Mobile devices, often containing confidential personal and financial data, highly profitable objectives for malicious individuals aiming to gain unauthorized entry, reap financial benefits, or even engage in espionage activities. (Nelson M.) 2022

In response to the escalating risk environment, governments and regulatory entities across the globe have been confronting the challenge of implementing effective strategies to enhance mobile security. One significant initiative in this area involves the introduction of SIM registration legislation, which aims to strengthen the security framework of mobile communication networks. These regulations mandate that users provide accurate and verifiable personal information before activating their mobile devices, creating a link between the device and its rightful owner. (FinScore) 2023

This research explores the pivotal role of SIM registration legislation in enhancing mobile security against the devices against the constantly evolving landscape of cyber threats. By conducting a thorough analysis of the legal frameworks and regulatory mechanisms pertaining to SIM registration, this study seeks to investigate and analyze the impact of SIM registration legislation as a regulatory mechanism in enhancing mobile security against cyber threats. Additionally, the research will analyze case studies and real world scenarios to provide a nuanced understanding of the practical

implications and challenges associated with enforcing SIM registration legislation.

Furthermore, the research will investigate the impact of SIM registration on user privacy, evaluating the delicate balance between security measures and individual rights. The examination of potential loopholes and vulnerabilities within SIM registration systems will also be a focal point, ensuring a holistic assessment of the legislation's overall effectiveness.

In conclusion, the primary objective of this research is to offer valuable insights into the complex interplay between SIM registration legislation in enhancing mobile security against cyber threats. By critically evaluating the regulatory landscape, practical implications, and potential areas for improvement, this research aims to inform policymakers, industry stakeholders, and the broader community about the role of legislative measures in safeguarding mobile communication networks against the ever growing menace of cyber threats.

## Statement of the Problem

This research aims to investigate and analyze the impact of SIM registration legislation as a regulatory mechanism in enhancing mobile security against cyber threats. More specifically, the study will seek Strengths and weaknesses of SIM registration legislation in addressing challenges in mobile security:

1. What are the various kinds of cyber threats affected by the SIM Registration Act?
2. How does the implementation of SIM registration laws affect the mobile security against cyber threats?
3. What are the strengths and weaknesses in addressing the above cited impact in mobile security?
4. Based on the findings of the study, what policy recommendation to enhance / augment implementation in the LGU may be proposed?

## Methods Research Design

The researchers will be using the Descriptive method of research. Shona McCombes (2020) stated that Descriptive research aims to accurately and systematically describe a population, situation or phenomenon. It can answer what, where, when and how questions, but not why questions. A descriptive research design can use a wide variety of research methods to investigate one or more variables. Unlike in experimental research, the researcher does not control or manipulate any of the variables, but only observes and measures them.

Descriptive research is usually defined as a type of quantitative research, though qualitative research can also be used for descriptive purposes. The research design should be carefully developed to ensure that the results are valid and reliable. Thus, this type of research design is applicable to the present study on the dynamics of digital photography in crime investigation. More specifically, the study will seek to identify the impact of implementation of SIM Registration against cyber threats and addressing the strength and weaknesses of SIM Registration Legislation.

## Research Locale and Population

The study will be conducted in the District 2 Manila, Philippines with an estimated population of 212,938 (manila.gov.ph). The respondents will be interviewed and answering a survey questionnaire in their houses or any comfortable place that the respondent will choose or the respondents may answer the survey questionnaire via Google form. The researcher will choose the place of implementation because it will give the researchers the needed information for the study. The study will be conducted in the third semester of the academic year 2023-2024.

## Research Instrument

The main instrument will be the use of the researchers in gathering the data for this study was self-made questionnaire which is constructed after analyzing literatures and studies related to the present study.

The questionnaires have four (4) parts. The first part is designed to obtain the information about the respondents. The second part will

contain the questions about the “various kinds of cyber threats affected by the SIM Registration Act”. The third will contain the questions about the “Implementation of SIM registration laws impact to mobile security against cyber threats”. Lastly is “Strengths and Weaknesses of SIM registration legislation in addressing challenges in mobile security”.

The secondary source of data is Interview. The unstructured interview is conducted personally, yet informally by the researcher to supplement the questionnaire. Some unclear, confusing and doubtful answers in the questionnaire were ironed out or cleared during the unstructured interview.

The researcher-made questionnaires on reliability, efficiency, and applicability will be shown to the thesis Adviser and panel for approval. All comments and suggestions will be incorporated in the final copy of the questionnaires before its reproduction and distribution.

## Statistical Data Analysis Procedure

The following procedures will be followed by the researchers to gather necessary data and information for the study; first the researchers will formulate a survey questionnaire and submit such for validation, second, upon the validation of the said questionnaire, the researchers will present the survey questionnaires to the respondents for accomplishment. Then survey questionnaires from the respondents will be collected after the accomplishment and lastly gathered data will be tallied and will subject to statistical analysis and interpretation.

1. Percentage Method will be used to answer if the various kinds of cyber threats affected by the SIM Registration Act and if the public is in favor of RA 11934
2. The Average Weighted Means (AWM) will be utilized to measure the central tendency in relation on the issues being discussed in the study that will assess by the respondents. The average weighted mean refers to the accumulated responses which determine the corresponding weight using the formula.
3. To assess the impact of SIM registration laws implementation against mobile cyber threats a 4-point Likert scale will utilize in describing the data that will obtain from

the survey. Since all levels of measurement will make use of 4-point Likert scale, the data will be computed through average weighted mean.

4. To assess the strengths and weaknesses of SIM registration legislation in addressing challenges in mobile security a 4-point Likert scale will utilize in describing the data that will obtain from the survey. Since all levels of measurement will make use of 4-point Likert scale, the data will be computed through average weighted mean.

### ***Ethical Considerations in research***

According to Smith (2021), ethical considerations in research involve a thorough assessment of moral principles and standards that dictate how research is conducted. This assessment ensures the safeguarding of participants' rights, privacy, and overall welfare. It encompasses the identification of potential risks, obtaining informed consent, upholding confidentiality, and maintaining adherence to ethical norms throughout the research journey.

In the data gathering process, the researcher presented himself to the respondents and elaborated on the purpose of the study. The researcher emphasized the significance of maintaining confidentiality and encouraged the participants to provide honest responses. Subsequently, the letter intended for the respondents was distributed, and each participant was provided with a copy of the informed consent form. After that, the researcher made it clear to the respondents that signing the informed consent form was voluntary, and whoever did not sign the consent form would not be allowed to join the process of data collection.

As the researcher, it is incumbent to prioritize the well-being and protection of the participants above all else. Following the completion of data collection takes meticulous care to maintain the utmost level of confidentiality and respect for the participants responses, ensuring that their experiences and opinions are treated with the highest regard. Subsequently, the researcher explicitly communicates that this study will be beneficial for the respondents, law enforcement, legal experts, policy-makers, and the community. Following this, the

survey questionnaires will be securely disposed of.

## **Results and Discussion**

### **1. Various kinds of cyber threats affected by the SIM Registration Act**

The results present the percentage of various kinds of cyber threats affected by the SIM Registration Act answered by the respondents. The interpretation says that Swindling / Estafa are affected by the SIM Registration Act with a 74% response. It also says that Identity Theft affect the most by the SIM Registration Act with a 77% response. Last is Terrorism with a interpretation of 64% affected by the SIM Registration Act.

It appears that the data from the survey match with the Quarterly Report of Operations from the prosecution office of the Department of Justice from year 2021 to 2023 whereas the Prosecution Success Rate decrease to around 4.01% up to 5.57% within the span of 2 years. (Department of Justice National Prosecution Service Statistics on Cybercrime CY 2021- 2023)

### **2. Implementation of SIM registration laws affect the mobile security against cyber threats**

Presents the implementation of SIM registration laws affect the mobile security against cyber threats in terms of Fraud. The overall weighted mean was 3.17 translate to an interpretation of "Agree". Within the table, the item highest was "SIM card registration makes it easier for law enforcement agencies to trace and identify individuals involved in fraudulent communications" with a weighted mean of 3.26 and interpreted as Agree. The lowest was "Mandatory SIM card registration is an effective 34 way to significantly reduce fraud involving mobile phone numbers" with a weighted mean of 3.13 and interpreted as Agree.

Shows the implementation of SIM registration laws impact the mobile security against cyber threats in terms of Identity Theft. The overall weighted mean was 3.12 translate to an interpretation of "Agree". Within the table, the item highest was

“Mandatory SIM card registration can help prevent criminals from obtaining phone numbers for identity theft purposes” with a weighted mean of 3.14 and interpreted as Agree. The lowest was “Registering SIM cards with personal information increases my confidence in the protection of my identity against theft” with a weighted mean of 3.08 and interpreted as Agree.

Presents the implementation of SIM registration laws impact the mobile security against cyber threats in terms of Terrorism. The overall weighted mean was 3.08 translate to an interpretation of “Agree”. Within the table, the item highest was “Linking SIM cards to verified identities would enable authorities to track and identify individuals involved in terrorist activities through their phone usage” with a weighted mean of 3.12 and interpreted as Agree. The lowest was “SIM card registration has proven to be effective in reducing terrorist activities by enabling authorities to track and monitor communications” with a weighted mean of 3.03 and interpreted as Agree.

### 3. Strengths and Weaknesses of SIM registration legislation in addressing challenges in mobile security

The Strengths of SIM registration legislation in addressing challenges in mobile security. The overall weighted mean was 3.13 translate to an interpretation of “Agree”. Within the table, the item highest was “SIM registration legislation improves 37 traceability of mobile communications, enabling authorities to more effectively track and monitor suspicious activities for enhanced security measures.” with a weighted mean of 3.20 and interpreted as Agree. The lowest was “SIM registration legislation strengthens mobile security by providing enhanced authentication measures, making it more difficult for unauthorized users to access mobile services” with a weighted mean of 3.08 and interpreted as Agree.

Presents the Weaknesses of SIM registration legislation in addressing challenges in mobile security. The overall weighted

mean was 2.75 translate to an interpretation of “Disagree”.

Within the table, the item highest was “SIM registration legislation may inadvertently drive the proliferation of black market SIM cards, as individuals seek to circumvent registration requirements, thereby undermining the intended security 38 benefits” with a weighted mean of 2.78 and interpreted as Disagree. The lowest was “SIM registration legislation may pose accessibility challenges for certain populations, such as individuals in remote areas or those without proper identification documents, potentially leaving them vulnerable to mobile security risks” with a weighted mean of 2.73 and interpreted as Disagree.

### Conclusion

1. The implementation of the SIM Registration Act has had significant implications for various cyber threats, including swindling / estafa, identity theft, and terrorism. By mandating the registration of SIM cards, authorities aim to enhance accountability and traceability in communication networks.
2. The enforcement of SIM registration laws has significantly enhanced mobile security by combatting various cyber threats like fraud, identity theft, and terrorism.
3. Through mandatory SIM card registration, authorities have strengthened transparency in communication networks, hindering malicious entities from operating covertly. This heightened accountability has empowered law enforcement to swiftly address criminal activities, ensuring the safety of individuals and communities. Additionally, the introduction of registration procedures has raised consumer awareness on the significance of safeguarding personal information and devices. Despite existing challenges such as data privacy concerns and loopholes, the overall impact of SIM registration laws on mobile security remains unequivocally positive, paving the way for a more secure digital environment.
4. The flaws within SIM registration systems contribute to the emergence of a black market for registered SIM cards. This illicit

market enables their utilization in criminal 42 activities, thereby undermining the intended security benefits that the registration process aims to provide.

### **Recommendations**

1. Authorities need to consistently revise and enhance SIM registration laws to tackle new cyber threats. This involves keeping up with changing fraud tactics, identity theft methods, and terrorist activities to guarantee that registration procedures stay efficient.
2. Ensure strong data protection measures are in place to protect personal information gathered during SIM registration. Use encryption, access controls, and strict data handling protocols to avoid unauthorized access and misuse of sensitive data.
3. LGU should work with Telco providers to launch widespread campaigns to educate people about the importance of SIM registration in protecting their mobile devices. Users should be empowered to recognize and report suspicious activities such as identity theft or SIM card fraud.
4. LGUs and SIM card providers must work together to develop an educational initiative aimed at educating users on the necessary steps to take in case of a lost SIM card. This initiative may involve distributing informative materials, organizing workshops, and utilizing social media to reach a wider audience. It is crucial to emphasize the importance of reporting the loss immediately to the provider, the procedure for obtaining a new SIM card, and the significance of safeguarding personal data associated with the SIM. Furthermore, offering a dedicated helpline and online resources can guarantee that users receive the necessary assistance promptly.

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