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Joven Bagsic Aquino
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SECURITY MEASURES IN SUBIC BAY METROPOLITAN AUTHORITY RESIDENTIAL COMMUNITIES: A FRAMEWORK FOR EFFECTIVE MANAGEMENT

A **Dissertation**

Presented to

The Faculty of the Graduate School

Philippine College of Criminology

In Partial Fulfillment

of the Requirements for the Degree

Doctor of Philosophy in Criminology

By

Joven Bagsic Aquino

September 2025

Approval Sheet

This **DISSERTATION** entitled **SECURITY MEASURES IN SUBIC BAY METROPOLITAN AUTHORITY RESIDENTIAL COMMUNITIES: A FRAMEWORK FOR EFFECTIVE MANAGEMENT** prepared and submitted by **JOVEN BAGSIC AQUINO** in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Criminology has been examined and is recommended for approval.

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ABSTRACT

Community safety and security are great concerns in most urban areas today, including the Subic Bay Metropolitan Authority (SBMA) premises, which are comprised of confined housing neighborhood estates and Homeowners Associations (HOA). It is in this regard that the researcher engaged in a study that aimed to assess the security management in residential villages under the SBMA through stakeholder perceptions, effectiveness of implementation, and challenges to suggest an improved security management framework. Approaching this study through mixed methods, particularly through a sequential explanatory design, the study underwent quantitative survey data collection with homeowners' association (HOA) leaders, residents, and security officers in four gated communities, as well as qualitative interviews with key informants among the stakeholders. Results showed that security controls—physical, personal, and document-oriented—were assessed as "well implemented" by HOA leaders and residents but "very well implemented" by security staff. Perceptual gaps emerged in terms of document security and stakeholder engagement, with residents having low participation in planning, implementation, and evaluation compared to HOA leaders and security personnel. Major challenges that emerged include physical infrastructure deficiencies, repair delays, visitor and vendor vulnerabilities, and staffing and maintenance deficits, among others.

Keywords: *Security measures, residential communities, stakeholder involvement, gated communities, SBMA, security framework*

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To all who have been part of this journey, whether directly or indirectly, your support has been deeply cherished. Thank you for helping me make this milestone a reality.

Joven B. Aquino
Researcher

Dedication

This dissertation is dedicated to my family, whose unwavering support, love, and encouragement have been my foundation throughout this academic journey.

To my parents, who instilled in me the value of education and perseverance, and to my wife, whose belief in my abilities has inspired me to strive for excellence.

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Chapter 1
Introduction

1.1 Background

1.1.1 Introduction. Community safety and security are great concerns in most urban areas today. When urbanization progresses, the question of security management becomes complex, and as such, it needs to be approached strategically with the involvement of various stakeholders. Current discourse on security management in gated communities, however, is linked to applying hi-tech security systems and tactics, ergonomics, and aesthetics—measures that are modeled from Western gated communities (Evans, 2017) and may not necessarily be applicable based on the concrete security needs of Philippine residential communities.

Thus, the need to contextualize security measures through stakeholder consultation is what drove the focus of this study on the case of the Subic Bay Metropolitan Authority (SBMA). SBMA is a premier freeport zone and economic hub located in the Subic Bay Freeport Zone, Philippines. A former United States naval base, the area was transformed into a self-sustaining industrial and commercial facility under Republic Act 9227, otherwise known as the Bases Conversion Development Act of 1992. In this study, the researcher zooms into the residential premises of SBMA, comprised of confined housing neighborhood estates and Homeowners Associations (HOA).

Currently, the SBMA operates using its published document titled *Subic Bay Freeport Residents' Handbook* (2011), developed following the Republic Act 7227 (the Bases Conversion and Development Act) and subsequent regulations.

This document is a "compilation of all the current pertinent rules, regulations, procedures, and guidelines" in the residential spaces of SBMA and was produced "through the efforts of the Office of the Deputy Administrator for Corporate Communications and in consultation with all concerned SBMA departments and offices."

While this set of regulations may have gone through expert consultations from respective SBMA offices, seeking perspectives from stakeholders, particularly from HOA officers, residents, and security personnel, was not explicitly pronounced in the document and thus puts into question the extent to which stakeholders participated in the planning, implementation, and evaluation phases in the development of SBMA's security measures. This practice affirms what Atienza (2019) raised: that stakeholder involvement in security planning, implementation, and evaluation remains understudied, particularly in Philippine gated communities.

It is in this sense that the researcher puts forth the need to come up with an effective security management framework where the stakeholders' perspectives are taken into account at every stage of the way and their specific security needs are well-assessed and considered. By specific security needs, the researcher looks beyond the common understanding of security as simply a gate structure,

the presence of security guards, or the installation of CCTV cameras. As Atienza (2019) points out, this needs further clarification and contextualization, as existing scholarship on residential community security tends to adopt generalized approaches when examining security measures, which overlook particular characteristics in implementation. Hence, this study covers not only physical security but also dimensions of personal and document security.

Hence, amid reports of security threats even among gated communities in the Philippines (Beltran, 2019), this study addresses the gap in literature concerning stakeholder involvement in every phase of security measures, the lack of multi-stakeholder perception study on the implementation of security measures, and the need for specific evaluation of security conditions in terms of physical, personal, and document security. The results of this study will contribute to coming up with a context-specific security management framework attuned to the concrete security needs of SBMA stakeholders.

1.1.2 International Background. Globally, the security of residents has turned out to be valuable since people move to cities and the demand for safe shelter increases. Global research indicates numerous barrier systems and modern technologies effectively deter risks, especially in a gated community. For example, Tseloni et al. (2017), on the number and kinds of security devices in the house, argued that it was effective to integrate physical security measures of different types and a high standard, including locks and monitors against burglary. Likewise, Farrell (2021) blames the modest changes in anti-theft features of homes, such as motion-sensitive lighting and more sophisticated security

cameras, for a general reduction in burglary cases in the United States. These insights point to the need for multiple-layered strategies that can incorporate several security paradigms to tackle emergent threats.

On the one hand, many different technological tendencies have intensified the positive changes in the context of physical security. However, much attention has been accorded to the issue of cooperation and its stakeholders. This analysis shares a similar narrative to that of Franklin (2020), who observed that inhabitants, community leaders, and local governments seek to forge security in tandem. This approach promotes ownership and guarantees that security solutions achieve the desired objectives of the community. However, Adekola et al. (2020) make the following points about dilemmas affecting collaborative working: irrelevance of objectives and irregular communication. These challenges depict how structure ensures compliance with needed collaboration from different entities.

Other residential security strategies have also been developed, including environmental designs like the Crime Prevention Through Environmental Design (CPTED). An insight from papers reviewed in The Handbook of Security (2014) shows how design aspects, including natural surveillance and access control, can help maintain the physical environment to prevent crime. This approach attaches particular importance to the psychological perception of the space, which selects the areas that do not permit possible predators. Nonetheless, papers such as Tocquard (2022) recommend against using these physical structures, and such measures may hinder social interaction amongst people and thereby limit social

integration. This was a lesson in the application of security in counterterrorism, which should always balance erecting barriers and creating a friendly environment.

However, it can be noted that there is still a considerable research gap regarding the adaptation of best practices from the domains of international business and management for different socio-economic and geographical environments. Although there is a wealth of information on global studies, this data must fit better in specific environments, such as homeowners' associations (HOAs) in developing nations. Constraints such as resources, culture, and level of engagement of different stakeholders impede the direct adaptation of global strategies. These gaps asserted the need for localized research to close the gap between the international policies/functions and the local contexts so that the security being developed is both adequate and sustainable.

1.1.3 National Background. Security has now emerged as a major issue in the Philippines as the society becomes more urbanized and comes with more risk factors. According to the Philippine Development Plan for 2017 to 2022, ensuring the safety of people and properties remains a crucial postscript in the country's urban program. Although several works are devoted to the shortcomings of these measures, their studies reveal problems concerning the translation of national plans to the context of residential complexes. For instance, although the Magna Carta for Homeowners and Homeowners' Associations (RA 9904) grants HOAs the powers needed to enforce security provisions, these provisions are difficult to implement because of the need for more resources and better governance systems.

Several works highlight the necessity of technological innovations and community-related solutions to improve residential security. For instance, this article published by Benter et al. (2022) shows how installing CCTV systems in Bagong Barrio, Caloocan City, can greatly decrease crime. However, the author discussed the drawbacks of using technology. Similarly, Miranda et al. (2023) analyzed other measurements taken during the COVID-19 pandemic. They included the call to adhere to other safety measures, such as embracing and following procedures to prevent the virus from spreading. These results suggest that, although technical systems are important, they need the community and help to work.

Another overall impact is related to institutional factors regarding the issue of residential security. According to the Philippine and National Disaster Risk Reduction and Management Plan for 2011 to 2028, several steps have been proposed to increase community preparedness, such as the links between disaster preparedness and security in development processes. Nonetheless, these solutions are only sometimes properly useful because the populations in question may need more capacity or support from institutions to implement these strategies. Analyses of cases, such as those of the Housing and Land Use Regulatory Board (HLURB) and the National Housing Authority (NHA), show how the governance structure may assist HOAs with offering security but highlight defects of enforcement and cooperation among key stakeholders.

However, more literature is still needed on the specific issues affecting HOAs on a localized basis in the Philippines. Some still prevalent problems include

security violations, low stakeholder engagement, and the failure to address safety concerns specific to residents. These challenges justify the need for the occasional measurement of current practices, the examination of perceptions among various stakeholders, and the revelation of new areas that need change to enhance safer communities.

1.1.4 Local Background. SBMA presents a unique case for examining residential security, with its diverse residential communities and distinct socio-economic dynamics. Whether HOAs are directly involved in providing physical security or simply overseeing it, initial findings identified gaps in applying and sustaining best practices of physical security, including but not limited to access control, video surveillance, and emergency drills.

The involvement of the stakeholders also makes it more challenging, with or without the participation of the HOA leaders, the residents, or local authorities. Failure to participate with other stakeholders is among the challenges to implementing effective security measures. In the same way, conditions specific to the setting, such as the geographic location of SBMA near industrial areas and population turnover ratio, make otherwise general problems distinct and call for specific treatments. Therefore, this study aims to fill these gaps by establishing the effectiveness of the current installed security systems, assessing the key players' role in security management, and examining the ward-specific problems towards making recommendations that may improve the security of residential areas in SBMA.

1.2 Related Literature

In this section, the researcher puts forward various literature sourced from books, journals, systematic reviews, published theses, and other credible sources that ground the conceptualization of security management in gated communities. Both foreign and local literature are structured based on the themes aligned with the variables of the study, including physical security, personal security, document security, and stakeholder participation.

1.2.1 Foreign Literature

Physical Security. The physical structure of gated communities (GCs) plays a foundational role in how security is both conceptualized and implemented. In a book chapter titled *Separate Places: Crime and Security in Gated Communities* by Blakely and Snyder (1998), GCs are categorized into three major types—lifestyle, prestige, and security enclaves—each employing varying degrees of architectural fortification such as fences, guarded checkpoints, and walls. These design elements serve as more than just deterrents to crime; they also symbolize exclusivity, order, and control. However, the efficiency of these physical infrastructures does not always equate to real reductions in criminal activity. For example, while residents may feel secure, these spaces can ironically foster complacency or even increase vulnerability when overreliance on physical boundaries diminishes community vigilance—something that can be applied in the case of SBMA residential communities, where other safety vulnerabilities may also rise, thus warranting the need for a contextualized security management framework.

It is important to note, however, that the prevailing discourse on gated communities remains predominantly Western in orientation, shaped largely by urban planning paradigms, socio-political anxieties, and middle-class sensibilities in North America, Europe, and Australia. Much of the foundational literature—including Blakely and Snyder's (1998) seminal typology of lifestyle, prestige, and security enclaves—emerged from U.S.-based contexts where suburbanization, fear of crime, and privatization of public space drove the gated community boom. In a critique by Qureshi (2023) titled *Gated Communities as A Living Choice in the Global South: A Qualitative Review of the Physical and Socio-Economic Features,* it was argued that this Western framing often assumes an urban model characterized by individual property rights, market-driven security solutions, and spatial exclusion, which may not fully capture the cultural, historical, and socio-political complexities of gated living in the Global South (Qureshi, 2023).

Hence, while physical security and infrastructure are emphasized in the literature when it comes to security management, several recent conceptualizations have also challenged the assumption that physical barriers inherently equate to greater safety. Bint-e-Waheed and Nadeem (2020) affirmed that gated communities recorded fewer crimes compared to open layouts, suggesting a level of effectiveness. However, other contexts present contradictions. Sun and Webster's (2019) review in China revealed that many residents distrusted collective security infrastructures like community gates, choosing instead to install private grills and barriers inside their homes. This behavior fragmented the aesthetic and functionality of collective security and

reflected a deeper lack of trust in shared systems. Such fragmentation points to a crucial flaw: the effectiveness of physical security is often undermined by a failure to foster communal responsibility and trust.

As for Makinde (2020), environmental design, rooted in the principles of Crime Prevention Through Environmental Design (CPTED), can shape safety perceptions more sustainably than walls alone. Factors such as territorial reinforcement, visibility, and natural surveillance proved more instrumental than sheer physical barriers. Yet, these benefits were unevenly distributed, often reflecting socio-economic divides—wealthier residents enjoyed better infrastructure while poorer neighbors remained exposed. In effect, while physical security infrastructures form the backbone of many gated communities, their success depends greatly on their integration with participatory design, community culture, and socio-spatial equity.

Personal Security. Personal security, as a concept in security management literature, refers to the individual's sense of safety and protection from physical harm, emotional distress, and threats to personal autonomy within their immediate environment (Bowers & Manzi, 2006). This is where the conceptualization of Bowers and Manzi (2006) in their article titled *Private Security and Public Space: New Approaches to the Theory and Practice of Gated Communities* comes into play, where personal security is not limited to protection against external crime but extends to the perceived control over one’s living space, privacy, and psychosocial comfort. This is an important conceptualization in the research at hand, especially that in this paper, security management is not only

conceived in terms of physical security measures but even with personal and document security measures.

In the book *Behind the Gates: Life, Security, and the Pursuit of Happiness in Fortress America*, Low (2003) said residents of gated developments often equate personal security with lifestyle enhancement and psychological well-being, emphasizing feelings of safety even when actual crime rates are not significantly different from surrounding areas. This reveals that personal security operates not only through tangible mechanisms—like guards or CCTV—but also through symbolic boundaries and social signaling. In the broader field of security management, personal security has evolved from a reactive model (focused on crime prevention) to a proactive and subjective framework that includes fear reduction, resident empowerment, and environmental design. As such, the literature increasingly recognizes personal security as a socio-spatial construct shaped by both material infrastructure and the emotional experiences of residents (Bowers & Manzi, 2006).

Indeed, the idea of personal safety within gated communities is often a major selling point, yet this promise is riddled with contradictions. While such spaces may show statistical reductions in crimes like theft or burglary, they do not shield residents from all threats. Smith and Charles (2020) found that although external crime risks decreased in GCs, internal issues such as domestic abuse and fraud persisted—challenges that physical walls cannot mitigate. These findings brought to light a sobering truth: personal security is not just about

preventing external threats but also involves managing risks within the household and social environment, which GCs do not necessarily address.

The COVID-19 pandemic further complicated these dynamics, bringing health and psychological dimensions of security into focus. Li et al. (2021) documented how GCs in China transformed into quasi-health zones, with temperature checks, restricted visitor access, and stringent mobility controls. These measures were less about medical efficacy and more about offering residents a sense of containment and psychological comfort. However, such protocols often reinforced existing social divides, particularly affecting service workers and domestic helpers who faced exclusion or heightened surveillance. This demonstrated how crises can reconfigure the boundaries of personal security, intensifying the exclusionary nature of gated living.

African literature on security management provides deeper insight into how personal safety in GCs intersects with historical injustices and social inequalities. Bandauko et al. (2022) emphasized that while GCs may reduce urban crime, they also propagate spatial injustice by deepening segregation and privatizing public safety. Landman (2020) echoed this in the South African context, noting that GCs inadvertently reproduce apartheid-era spatial patterns by creating zones of privilege surrounded by under-resourced communities. These examples illustrate that the sense of personal safety in GCs often comes at the cost of broader societal cohesion, raising ethical and policy challenges about who gets to feel safe and why.

Document Security. Document security in the context of gated communities remains an understudied but increasingly relevant concern. It refers to the mechanisms by which identity, residency, and access are authenticated—usually through IDs, visitor logs, or digital platforms (Kurwa, 2019). While often assumed to be procedural or bureaucratic, these systems play a key role in maintaining the exclusivity and integrity of GC spaces. Kurwa's (2019) study on "digitally gated communities" brings this issue to light, examining platforms like Nextdoor that mediate access and neighborhood interaction through often racialized and classist digital surveillance. These systems, while not physically visible, become new gatekeepers in their own right.

The economic value of secure documentation is evident in Soyeh et al.'s (2020) work titled *Price and rental differentials in gated versus non-gated communities*, where homes in gated communities commanded 42–48% higher rents than similar properties in non-gated areas. This price differential was partly driven by the perceived legitimacy and orderliness of GCs, which were reinforced through documentation processes like registration of residents, use of biometric access, or digital check-ins. These systems not only ensured a sense of order but also constructed a narrative of safety through bureaucratic visibility—residents were known, movements were tracked, and access was monitored. However, such practices can also raise privacy concerns and exclude individuals who do not fit the administrative criteria.

Despite its growing importance, document security remains underdeveloped in the academic literature on GCs. Most studies focus on physical

design and subjective perceptions while ignoring how visitor logs, ID systems, and digital access control shape residents' experiences of security. There is a pressing need for research into how these systems are managed, who has control over them, and how they impact privacy, equity, and transparency. As digital technologies become more integrated into residential life, future research must explore how document-based security interacts with power dynamics, surveillance cultures, and the right to privacy.

Stakeholder Participation. Security governance in gated communities often reflects deeper power imbalances between stakeholders. Typically, community leaders, homeowners' associations (HOAs), and security personnel rate the effectiveness of security systems more positively than residents do. This discrepancy is evident in studies by Li et al. (2021) and Bint-e-Waheed and Nadeem (2020), where decision-making was top-down, and resident feedback was rarely integrated into planning. Such dynamics echo Arnstein's (1969) theory of "tokenism," where participation is symbolic rather than substantive—residents may be consulted but have little actual influence over policies or practices. This is an important insight, especially in the context of SBMA residences, where various stakeholders like residents, HOA leaders, and security personnel are being investigated in terms of their level of participation in the security management processes.

The spatial and social design of GCs also affects the possibility of meaningful participation. Ergun and Kulkul (2018) challenge the idea that gated communities are entirely private spaces. Instead, they conceptualized them as

"semi-public" domains, especially given the presence of staff, service workers, and transient guests. This opens the door for more inclusive governance models that consider the perspectives of all community members, not just property owners. In the research at hand, SBMA is also considered public-private. It is public in the sense that it is governed by Republic Act No. 7227 (Bases Conversion and Development Act of 1992), making it under the administrative supervision of the Office of the President of the Philippines. Nevertheless, the Subic Bay Freeport Zone (SBFZ) also hosts a mix of public and private entities, which makes it an interplay of both public and private partnerships.

Boonjubun's (2019) case studies in Bangkok showed that when GCs are mixed-class and designed with shared spaces, they can foster unexpected moments of cooperation and dialogue across social lines. These findings suggest that inclusive design and governance are not only possible but also beneficial for sustainable community relations.

Still, without deliberate efforts to institutionalize equity, GCs risk becoming neoliberal enclaves, as warned by Bandauko et al. (2022). In such settings, the prioritization of market logic—security as a product—leads to the marginalization of less affluent or less powerful groups. Participation must therefore go beyond surface-level consultations and include formal mechanisms for co-decision-making, regular feedback loops, and transparent accountability structures. Creating equitable governance in GCs requires not only listening to residents but also recognizing the diverse constituencies that form these communities, including tenants, staff, and surrounding neighbors.

1.2.2 Local Literature

Physical Security. In the Philippine context, physical security within gated communities had been implemented through a mix of imported models and localized adaptations. Porio (2011), in his work titled *Urban Governance and Poverty Alleviation in Southeast Asia*, traced the evolution of gated communities in Metro Manila to three major waves: elite suburban enclaves like Forbes Park in the 1970s, middle-class subdivisions during the property boom of the 1980s and 1990s, and the rise of mixed-use "mega-communities" such as Bonifacio Global City in more recent years. Each wave responded to growing urban density and crime perception by reinforcing the use of physical boundaries such as perimeter walls, security gates, and guarded entrances. These structural interventions offered a sense of containment and order amidst Metro Manila's unregulated sprawl, although their effectiveness in preventing intrusion was not always proportionate to their visibility. SBMA, for its part, is included in the second wave in the 90s upon the closure of the US military bases in Subic.

Property management companies in the Philippines had adopted a set of best practices to enhance physical security in gated developments. The Community Property Managers Group, Inc. (CPMGI, 2022) outlined a layered approach, which included smart surveillance systems (e.g., CCTV, biometrics), professional security staff, and regulated access points. These measures were designed to prevent unauthorized entry and increase residents' sense of safety. However, a 2020 De La Salle University (DLSU) study pointed out that despite increasing investment in physical infrastructure, high-tech systems did not always

translate into significantly higher property value or actual crime prevention. Communities with basic perimeter fencing and a single guard post exhibited comparable property premiums to those with more advanced security setups, suggesting that the visual presence of security infrastructure often served a symbolic rather than functional role in many gated developments.

In the work of Santos (2015) titled *The Lived Experience of Gated Community Residents in Metro Manila*, it was found that security concerns ranked only third among residents' motivations for choosing gated living, behind proximity to workplaces and access to amenities. His findings introduced the concept of "security theater," where highly visible elements like guards and gates provided psychological comfort more than actual deterrence. These insights echoed international critiques of physical security infrastructure but were deeply contextualized in the Philippine setting, where such measures also served to reinforce social boundaries and affirm middle-class identity.

Meanwhile, in cities like Cebu and Davao, recent work by Cabardo et al. (2022) documented the emergence of "semi-gated" communities formed through collective homeowner initiatives, showing that physical security was not only a top-down imposition but also a grassroots response to rising crime and urban disorder. This setup documented by Cabardo et al. (2022) appears to be the closest setup in the literature with respect to SBMA.

Personal Security. Personal security in Philippine gated communities extended beyond the prevention of external crime and included residents' sense of safety, psychological comfort, and social cohesion. The DLSU study (2020) and

Santos' (2015) research revealed that while physical security systems were prevalent, their role in ensuring personal safety was often overstated. Instead, these mechanisms contributed more to the symbolic assurance of order and exclusivity than to actual reductions in crime. Residents reportedly felt safe due to the presence of guards and cameras, but these measures often did little to prevent internal threats such as domestic violence or theft by trusted insiders—issues that remained under-addressed in dominant security narratives.

Racelis (2018) provided an ethnographic lens on personal security by examining how class and spatial inequalities shaped residents' lived experiences in Quezon City. Her study highlighted the uneasy co-existence between affluent subdivision residents and the informal settlers who lived just beyond the gates.

While residents expressed feeling secure inside, their perceptions of threat were often linked to the proximity of poverty and social difference. Interactions with drivers, maids, and security staff—who had to pass through multiple layers of screening—were tightly regulated, further intensifying the social boundaries between insiders and outsiders. These dynamics suggested that personal security in gated communities was not only about physical safety but also about managing social distance and perceived risk.

The government addressed personal security through broader public safety initiatives. The Philippine Development Plan (NEDA, 2017) and the National Disaster Risk Reduction and Management Plan (NDRRMP, 2011–2028) emphasized enhancing personal safety in residential areas by mainstreaming disaster risk reduction and building community resilience. These policies

positioned safety not just in terms of crime prevention but also in the context of disaster preparedness, signaling a more holistic approach to personal security. However, the implementation of such strategies within gated settings remained uneven, especially in communities where homeowners' associations appeared to prioritize exclusivity and aesthetics over inclusive community resilience planning.

Document Security. While document security had not been widely examined in local Philippine literature, it was implicitly embedded in the operational frameworks of property management and access control systems in gated communities. The Community Property Managers Group, Inc. (CPMGI, 2022) described the use of strict checkpoint protocols as part of standard operating procedures. These protocols typically involved logbooks, identification cards, visitor passes, and, in some cases, digital access systems to monitor movement within residential areas. Although generally framed as physical security measures, these tools also contributed to document-based security by verifying and recording who entered and exited the community.

Document security became even more formalized through legal instruments such as Republic Act 9904, or the Magna Carta for Homeowners and Homeowners’ Associations. This law granted HOAs the authority to regulate community safety measures, which included maintaining security records and implementing resident verification procedures. Through this legal structure,
Document security was institutionalized as part of community governance, with the HOA functioning as a gatekeeper for both physical and informational access. This

was particularly important in large-scale developments where resident identities needed to be consistently verified to maintain order and safety.

Despite these developments, there remained a noticeable gap in empirical studies focused explicitly on the use, storage, and privacy implications of document-based security systems in Philippine gated communities. As more communities began adopting digital visitor management systems and biometric technologies, concerns about data protection, transparency, and misuse of information became more pressing. The lack of scholarly engagement with this topic suggested the need for further investigation, particularly as property developers and HOAs increasingly relied on digital infrastructure to enforce access control and resident accountability.

Stakeholder Participation. Stakeholder participation in the security management of gated communities in the Philippines was often portrayed as a shared responsibility among homeowners, HOAs, property managers, and local government units (LGUs). The National Urban Development and Housing Framework (NUDHF) by UN-Habitat Philippines (2017) emphasized the importance of collaborative governance in urban development, particularly in efforts to secure residential areas. It called for joint planning and cooperation between civil society and government institutions to ensure inclusive, safe, and sustainable communities. Despite this policy guidance, actual stakeholder engagement in security planning within many gated communities appeared uneven, with developers and HOA officials maintaining the bulk of decision-making power.

The Magna Carta for Homeowners and Homeowners' Associations (RA 9904) offered a legal foundation for participatory governance by empowering HOAs to manage and enforce community-based security protocols. However, this formal empowerment did not always translate into genuine inclusivity. In practice, HOA boards were often composed of a small group of affluent residents whose priorities may not have reflected the broader concerns of renters, service workers, or lower-income households within the community. This resulted in a participation gap where decisions about security infrastructure and policy were made with limited input from the full spectrum of stakeholders, echoing Arnstein's (1969) notion of "token participation."

Alternative models of community engagement were observed in emerging "semi-gated" communities, particularly in provincial cities such as Cebu and Davao. Cabardo et al. (2022) documented how residents of originally open neighborhoods began collectively organizing and funding their own security systems—hiring guards, installing barriers, and coordinating with barangay officials—without direct involvement from developers. These grassroots efforts demonstrated a bottom-up approach to security that reflected strong traditions of community organizing at the barangay level. Such models suggested that when empowered, local communities were capable of creating security frameworks that were not only responsive to their needs but also more participatory and culturally grounded than top-down management systems.

1.2.3 Synthesis of the Related Literature

The literature reviewed—both foreign and local—supports this paper's understanding of security management in gated communities like that of SBMA. In fact, the studies reviewed cover several aspects of security management that also serve as variables of the study, such as physical security, personal security, document security, and stakeholder participation in security management.

With respect to physical security measures, Blakely and Snyder (1998) established that walls, fences, and guarded entrances formed the basic physical security framework of gated communities globally. Their typology of lifestyle, prestige, and security-zone communities demonstrated how physical barriers served different purposes across community types.

In the Philippine context, Santos (2015) found that while physical security features like perimeter walls and guard posts were standard in Metro Manila's gated communities, residents acknowledged their limited effectiveness against determined intruders. The study documented how physical security measures primarily functioned as psychological deterrents rather than impenetrable barriers. Porio (2011) traced the evolution of physical security standards in Philippine gated communities from simple perimeter walls in 1970s developments to integrated biometric systems in contemporary mixed-use mega-communities. The Community Property Managers Group, Inc. (CPMGI, 2022) reported that smart surveillance systems and strict checkpoint measures became industry standards among professionally managed Philippine gated communities.

In terms of personal security, studies consistently demonstrated a gap between perceived and actual personal security in gated communities. Smith and

Charles (2020) found that while residents of gated communities reported feeling safer, empirical evidence of reduced personal crime risks remained inconclusive. This aligned with Santos' (2015) Philippine findings, where security ranked third among resident priorities, suggesting personal safety concerns might be overstated. However, Bint-e-Waheed and Nadeem (2020) showed that in Lahore, high-income residents in gated communities did experience fewer personal security incidents than their non-gated counterparts.

The Philippine Development Plan 2017-2022 (NEDA, 2017) emphasized community-based approaches to personal security, advocating for resident participation in safety initiatives. Wu and Tan's (2022) "dual security scenario" framework proved particularly relevant, demonstrating how personal security depended on both physical barriers and resident vigilance—a finding that supported the need for stakeholder participation emphasized in this study.

Regarding document security protocols, Kurwa (2019) examined how digital platforms created new document security challenges through neighborhood surveillance networks. In the Philippine context, the National Disaster Risk Reduction and Management Plan (NDRRMP 2011-2028) included provisions for securing critical documents during emergencies, though implementation in residential settings remained undocumented. The emergence of mixed-use gated communities with commercial components (Porio, 2011) suggested growing needs for document security protocols that bridge residential and business requirements.

The literature consistently identified stakeholder involvement as a critical factor in effective security management. Bandauko et al. (2022) emphasized the

need for inclusive governance models in African gated communities, while Landman (2020) documented the contradictions that emerged when security management excluded certain stakeholder groups in South Africa.

The Philippine framework under RA 9904 (Magna Carta for Homeowners and Homeowners' Associations) legally mandated homeowner participation in security planning, though actual implementation varied widely (NEDA, 2017). Cabardo et al. (2022) found that bottom-up security initiatives in Philippine provincial cities demonstrated higher effectiveness when they incorporated multi-stakeholder participation, including residents, local government units (LGUs), and security professionals. The UN-Habitat Philippines (2017) guidelines explicitly called for collaborative partnerships between civil society and government in urban security planning, though specific case studies of such collaborations in Philippine gated communities remained scarce in the literature.

1.3 Related Studies

In this section, the researcher puts forward and analyzes empirical studies—both foreign and local—concerning security management in gated communities. The sections are also organized consistent with the variables of the study, including physical security, personal security, document security, and stakeholder participation in security management.

1.3.1 Foreign Studies

Physical Security. Foreign studies on physical security provide important insights as to the importance of improving security infrastructures in gated communities like SBMA.

For instance, Tseloni et al. (2017) showed that using a combination of physical security tools such as external lighting, secure locks, and alarms resulted in significantly lower burglary rates than relying on a single system. Their study indicated that alarms alone were insufficient; it was the integration of multiple systems that produced effective results. This finding provided valuable insight into how gated communities and homeowners' associations (HOAs) could apply layered strategies to optimize residential safety.

In a similar vein, Seifi et al. (2022) examined how natural and mechanical surveillance, including street lighting and CCTV systems, effectively reduced crime in Malaysian housing developments, provided that these were well-placed and properly maintained.

The importance of these physical measures in communities like SBMA is further analyzed in terms of long-term effectiveness. Farrell (2021), for instance, documented a steady decline in residential burglary rates in the United States over four decades. He attributed this trend to technological advancements and the diffusion of security benefits across neighborhoods—where improvements in one household indirectly discouraged crime in nearby properties. This highlighted a crucial consideration for community-wide security investments: physical upgrades initiated by one group (such as an HOA) could create positive

externalities that benefited an entire neighborhood. Similarly, "The Handbook of Security" (2014) stressed the role of Crime Prevention Through Environmental Design (CPTED), which involves structuring the environment in a way that

naturally deters crime—such as through territorial reinforcement and visibility. CPTED principles, especially when applied to designing lighting, walkways, and fencing, demonstrated how environmental architecture could complement security technology.

Tocquard's (2022) work on gated communities in Istanbul introduced a more nuanced perspective by questioning the social implications of physical security. His study noted that while perimeter walls, gates, and guards improved safety, they also fostered social disconnection and isolated communities from their broader urban surroundings. The challenge, therefore, was not only to build physically secure environments but also to balance these with openness, accessibility, and interaction. This perspective aligned with broader international critiques about the unintended consequences of security-driven design, particularly when it interfered with community cohesion. These findings collectively underscored that physical security in residential settings is most effective when it integrates design, technology, and human-centric planning.

Personal Security. Foreign studies also lay emphasis on the fact that the sense of personal security in residential communities was shaped not only by physical infrastructure but also by residents' psychological perceptions and lived experiences. Störm and Minnaar (2020), in their study of South African gated communities, found that despite the presence of standard security equipment like CCTV, fences, and access controls, many residents still felt unsafe. The research suggested that gaps in maintenance, poor oversight, and inconsistent system evaluations contributed to this disconnect between infrastructure and perception.

The findings emphasized that psychological safety was as important as actual crime reduction and that perceived insecurity could persist even in environments with strong physical protections.

Franklin (2020) deepened this discussion by arguing that sustainable residential security depends on participatory approaches that actively involve residents in decision-making. His study showed that top-down security decisions by HOA leaders often resulted in poorly targeted or ineffective outcomes. In contrast, when residents were consulted and involved in shaping security priorities, the community's overall sense of safety and satisfaction improved. This approach validated the idea that personal security is not merely a result of protection from crime but also of empowerment, dialogue, and trust among residents. Franklin's work bridged the gap between hard infrastructure and soft community dynamics, offering a more people-centered view of what constitutes residential safety.

Further, Tocquard's (2022) study in Istanbul echoed Franklin's observations, pointing out that excessive isolation from surrounding communities, while initially seen as protective, could eventually lead to feelings of confinement and reduced quality of life. He noted that physical safety measures should not be pursued at the expense of human connection, freedom of movement, and neighborhood interaction. His conclusions offered a more holistic vision of personal security—one that recognizes that residents need to feel both protected and socially connected. Altogether, these studies shifted the focus of personal security from solely preventing harm to fostering psychological comfort, inclusion, and well-being.

Document Security. While relatively fewer foreign studies focused explicitly on document security in residential communities, several indirectly addressed its importance in the implementation of broader security systems. Seifi et al. (2022), while studying surveillance and crime reduction strategies in Malaysia, noted that the effectiveness of mechanical controls like CCTV was dependent on proper monitoring, data storage, and access management.

Though not the central theme of their study, this pointed to the critical role of secure documentation and data handling as part of the surveillance ecosystem. The implication was that poorly maintained records or unchecked data access could compromise the overall security framework, making document security an underlying, though often overlooked, component of physical and personal protection.

In line with this, Adekola et al. (2020) emphasized the value of transparency and information flow in community resilience planning. Their research in Scotland showed that breakdowns in communication and documentation processes often led to mistrust among stakeholders and confusion over roles. Proper documentation—whether in the form of written agreements, access logs, or recorded meeting minutes—was essential for establishing accountability and shared understanding. When stakeholders were informed through reliable documentation, their engagement in security planning became more constructive and aligned. While their study focused more on stakeholder dynamics, it also made a case for improving documentation systems as a means of supporting structured collaboration.

Although few foreign studies directly investigated technologies such as visitor logbooks, digital registries, or biometric ID systems, their findings suggested a growing need to incorporate digital documentation into residential security management. The increasing reliance on electronic access control, surveillance data storage, and stakeholder communication tools hinted at the future relevance of document security, particularly in urban and technology-forward residential environments. The insights from these studies serve as an invitation for further research on how documentation—both digital and manual—functions as a safeguard, ensures proper record-keeping, and supports the enforcement of residential security policies.

Stakeholder Participation. A significant theme in the foreign literature was the vital role of stakeholder participation in achieving sustainable and inclusive security management. Franklin (2020) argued that participatory methods in residential communities led to better-targeted and more effective security solutions. He demonstrated that when residents, security personnel, and community leaders engaged in meaningful dialogue, the outcomes were more satisfactory and the security systems better tailored to actual needs. This contrasted sharply with the outcomes of top-down management approaches, which often failed to consider the diversity of stakeholder perspectives. Franklin's work reaffirmed that collaboration built trust, enhanced transparency, and led to a shared commitment to security objectives.

Adekola et al. (2020), studying community resilience in Scotland, also highlighted the importance of multi-stakeholder collaboration. They observed that

misunderstandings regarding key concepts such as "resilience" often resulted in conflicts among stakeholders, especially when communication was poor or when roles were unclear. However, when accountability tools were introduced—such as structured reporting, regular meetings, and agreed-upon goals—participation became more coordinated and productive. This study offered practical insights for HOAs, emphasizing that managing stakeholder relationships requires ongoing effort and clarity, not just consensus on paper. It supported the argument that governance is as critical as infrastructure in securing residential communities.

A related study from Kenya, published in the International Journal of Innovation and Scientific Research (2020), examined cooperative housing governance and found that inclusive structures led to better housing management and improved security. The study noted that when residents, management teams, and local authorities were all involved in decision-making, collective responsibility increased. Transparent communication mechanisms helped prevent disputes and fostered a sense of shared ownership over community safety. These findings built upon Franklin and Adekola's work, illustrating that participatory security governance was not merely idealistic but pragmatically effective. Across these studies, the consensus was clear: stakeholder participation was a cornerstone of resilient, trusted, and sustainable residential security systems.

1.3.2 Local Studies

Physical Security. Physical security in Philippine residential communities, particularly gated areas, has drawn scholarly attention due to increasing concerns over urban crime and perceived threats. In Caloocan City, Benter et al. (2022)

conducted a case study where the implementation of closed-circuit television (CCTV) surveillance systems led to a measurable decrease in crimes such as theft, robbery, and assault. Residents expressed improved perceptions of safety due to the visibility and presence of these devices. However, the study also highlighted weaknesses, particularly the lack of complementary measures like access control systems or well-trained security personnel. This aligns with the present study on SBMA's security management system by emphasizing that surveillance technology is only effective when part of a holistic and well-integrated physical security infrastructure.

Similarly, Miranda et al. (2023) observed enhanced physical security measures implemented during the COVID-19 pandemic in Barangay Sta. Monica, Novaliches. These included the use of personal protective equipment (PPE), social distancing, and restricted mobility at checkpoints. While not typical security measures, these interventions reflected a broader understanding of security as protecting community health and safety. Their effectiveness, however, was compromised by community non-compliance. Insight from this study is particularly useful for SBMA residential communities in that it stresses importance of not only designing physical security measures but also embedding compliance mechanisms and community education to ensure that policies are followed during emergency situations.

Additionally, Patoza (2018) emphasized the role of community-led patrols and neighborhood watch initiatives in Barangay 178, Caloocan City. These informal physical security strategies complemented formal police presence and

helped deter petty crime. This could also be looked into in the research at hand, such that SBMA may benefit from integrating community-based patrols or volunteer surveillance to supplement institutional efforts, especially in areas that are not heavily guarded.

The HLURB Resolution No. R-770 and the NHA Memorandum Circular No. 2018-010 mandated access controls in subdivisions and government housing, including billboard installations at entry points explaining security rules. These directives reflect how physical security management is formalized through documentation and public visito which manages a range of stakeholders including residents, locators, and tourists, this implies that physical security must also be codified in visual and procedural formats to enhance compliance and awareness.

Personal Security. Personal security literature in the Philippine setting reveals that feelings of safety are not always congruent with the presence of physical security systems.

Miranda et al. (2023) noted that while protective measures during the pandemic were visible, residents still reported anxiety due to uneven enforcement and lack of community cooperation. This suggests that personal security is influenced not only by infrastructure but also by behavioral and social dynamics. In SBMA, where security protocols often intersect with economic activities (e.g., shipping, retail, tourism), ensuring personal security will require attention to how individuals perceive and respond to these measures.

Racelis (2022) explored the role of social impact assessments in enhancing personal security, particularly among marginalized communities. Her work

emphasized that when individuals are involved in identifying their own safety concerns and development needs, they feel more secure and empowered. This insight is directly applicable to SBMA's residential communities, where stakeholders include not just elite residents but also service workers and informal settlers. Creating platforms for all community sectors to voice concerns can improve overall perceptions of safety and foster a shared commitment to security policies.

Cimene et al. (2022) conducted a satisfaction survey on police-citizen relations in Region X and found that trust and collaboration significantly improved the public's sense of security. This highlights the emotional and relational dimensions of personal safety. In SBMA, where security forces may include both private guards and public agencies, fostering positive interpersonal relationships between residents and enforcement personnel becomes critical. Training programs, public engagement activities, and responsive policing can strengthen these relationships.

Furthermore, Cuntapay (2018) identified that the responsiveness of the Philippine National Police (PNP) to community feedback helped reduce fear and build confidence among citizens. This responsiveness signals that personal security is as much about communication and respect as it is about control and authority. For SBMA, ensuring mechanisms for complaint resolution and transparent feedback loops can enhance residents' and workers' personal sense of being protected.

The recurring message from these local studies is that personal security is deeply social—it thrives when people feel seen, heard, and protected by both structures and people. For SBMA's complex demographic composition, embedding personal security within both policy frameworks and daily interactions will be essential.

Document Security. While underexplored, document security has emerged in local policy and administrative practices as a crucial dimension of residential and community security. HLURB's Resolution No. R-770 emphasized the need for regulating access points and maintaining records of subdivision road use and visitor control. The mandate reflected an awareness of how document-based protocols—e.g., gate passes, visitor logs, homeowner IDs—are instrumental in ensuring accountability. In the case of SBMA, which balances residential access with commercial operations, maintaining secure and efficient documentation systems can help regulate movement while protecting residents' privacy and rights.

The NHA's Memorandum Circular No. 2018-010 went a step further by institutionalizing the use of signage and documentation at all entry and exit points to government housing projects. This move toward visible, codified documentation aimed to enhance transparency and inform residents and guests about security guidelines. Such formal communication tools also act as preventive mechanisms, reducing ambiguity in enforcement. In SBMA, where multiple entry points exist, similar strategies can reinforce order and provide legal backing for access protocols.

Benter et al. (2022) indirectly supported the value of documentation in their study on CCTVs by highlighting the importance of reviewing surveillance data to investigate crimes. Properly documenting incidents, storing footage securely, and ensuring that only authorized personnel have access are central concerns for document security. SBMA's management could enhance its security protocols by investing in data protection policies that include audit trails, encryption, and staff training on handling sensitive security footage.

Cuntapay (2018) further established that recording community complaints and follow-up actions contributed to improved public trust. These documented interactions, while seemingly administrative, formed part of a feedback loop that supports overall security governance. In the SBMA context, maintaining proper records of incidents, response times, and community complaints can guide future improvements and create a culture of accountability.

Thus, the local context lays emphasis on the fact that document security is not merely clerical—it is strategic. It supports transparency, reinforces access control, and provides the data infrastructure for responsive and adaptive security management. Reflecting on the case of SBMA, a comprehensive security system must include robust document security practices across both digital and analog platforms.

Stakeholder Participation. Ravina et al. (2018) presented one of the most compelling cases for participatory security management in their study of the Donnaville Homeowners Association. Through collaborative design and implementation, residents were more engaged in maintaining security protocols.

Their involvement generated a sense of ownership, which translated into better adherence and less resistance to community rules. For SBMA, whose population includes permanent residents, renters, and business tenants, stakeholder participation could ensure that security systems reflect the needs and priorities of diverse groups.

Racelis (2022) also emphasized that community participation, particularly of marginalized groups, transformed security and development into inclusive processes. Her work pointed out that empowering residents to contribute to social impact assessments improved not just project outcomes but also residents' willingness to participate in governance. In SBMA, integrating stakeholder feedback—especially from service workers and transient populations—can democratize security efforts and reduce friction between enforcement bodies and the public.

The DHSUD (2021) conducted a national study that focused on the leadership roles of HOA officers and how they mediate between state policies and community-level implementation. Strong, responsive leadership was found to foster trust and encourage wider community engagement. In SBMA, where multiple governing bodies operate (e.g., SBMA management, HOAs, barangays), identifying and empowering key leaders can bridge policy and practice effectively. Patoza (2018) argued for citizen-led security practices, encouraging residents to act as the "eyes and ears" of the police. This model of distributed vigilance not only enhances surveillance capacity but also empowers residents to take active roles

in maintaining order. SBMA can adopt this model by institutionalizing community watch programs and regular training sessions for interested stakeholders.

Lastly, Cimene et al. (2022) and Cuntapay (2018) both highlighted the need for responsive institutions and meaningful citizen engagement. They found that when communities observed that their concerns led to tangible action, confidence in security management increased. In SBMA, establishing participatory structures like community consultations, surveys, and open forums can close the gap between institutional decision-making and lived community experience.

Altogether, these studies suggest that stakeholder participation is not merely a procedural requirement—it is a foundation for effective, adaptive, and trusted security management. For SBMA, embedding participation into every level of security planning and execution will be key to creating a secure, inclusive, and resilient community.

1.3.3 Synthesis of the Related Studies

This paper has, therefore, concluded that residential security is best managed as a system that employs several critical approaches of advanced technology, stakeholders, and governance. The synthesis of international and national research suggests the emerging knowledge of security measures, the significance of community engagement, and institutional support as the framework for formulating the research objectives of this study.

In this case, foreign studies offer a rich insight into the international benchmarks on residential security. As underlined by Tseloni et al. (2017) and Farrell (2021), layered protective measures should be applied, using barriers,

security alarms, facial recognition systems, video analytics, security cameras, and motion-sensitive lights. These studies show that combining various strategies drastically decreases crime rates and guarantees security, especially in enclosed complexes.

Similarly, Seifi et al. (2022) also contradict the necessity to incorporate natural and mechanical supervision systems in tackling crimes and the necessity of frequent maintenance for the efficiency of the formed systems. These studies afford a benchmark for comparing physical security standards and the appropriateness of physical security in local contexts, especially in HOAs.

Another important finding of foreign studies is the importance of collaboration. Franklin (2020) and Adekola et al. (2020) also noted that all residents and local authorities play crucial roles in determining sustainable security solutions. These papers prove that the inclusive governance model, thus facilitating employees' decision-making involvement and overseeing open communication, leads to more efficiency in implementing protective measures and builds improved perceptions of stakeholders. The emphasis on integration is in tune with Tocquard's (2022) study of the social aspects of security approaches, where attaining harmonization between security and social interaction is seen as a sine qua non for the effective realization of security. Such realization indicates that assessing stakeholder perception and involvement is important to consider in achieving security strategy goals.

To these internationally derived understandings, local research offers more nuanced information concerning the barriers and possibilities inherent in

residential security in the Philippines. Recent studies by Benter et al. (2022) and Miranda et al. (2023) showed that CCTV systems, social distancing, and community sanitization improve safety. These studies indicate that while technological approaches are important, they cannot be the only approach since there must be Level 3 and 4 prevention that addresses the community level. Furthermore, Ravina et al. (2018) and Racelis (2022) argue that security improvement involves involving the community because it enhances ownership of community plans and actions.

The above conclusions lead to the current study, which seeks to establish stakeholders' participation level directly in HOAs in SBMA (SBMA Residents Handbook, 2011). These local governance structures are also instrumental to residential security, as analyzed in the work of the Housing and Land Use Regulatory Board (HLURB) and the National Housing Authority (NHA). They afford structured templates for HOAs through which they can arrange and control who gets access to their property as well as a key through a safe mode while at the same time promoting accountability and transparency within the community.

Likewise, the Department of Human Settlements and Urban Development (2021) and Cimene et al. (2022) reveal that capital leaders and intergovernmental teams must coordinate governance to address local security issues. Such findings raise awareness of the studies that focused on analyzing the responsibilities and tasks of HOA leaders and residents regarding the enacting and maintaining of security features.

A common feature of both foreign and local studies is the issue of assessing not only the security presence but also its sufficiency and effectiveness from the community's point of view. For more information, Störm and Minnaar (2020) and Racelis (2022) argue that there is a big difference between the application of security measures and the perception of safety. These results should prove that gaining qualitative data is important to determine the stakeholders' perceptions of the issues and the level of satisfaction where security measures were implemented to meet the expectations within the community.

Lastly, foreign and local studies show that to improve the quality and efficiency of tasks and achieve proposed goals, it is necessary to pay attention to the peculiarities of certain contexts, including geographical and social ones. Adekola et al. (2020) and Patoza (2018) have also emphasized the importance of context in considering leadership strategies. Local problems, such as issues in the urban setting and problems associated with every community area, will be important considerations for the recommendation given to SBMA.

1.4 Theoretical Framework

This study assumes several theoretical propositions that provide a basis for analyzing security features in residences and management approaches. These theories explain the dynamics that underlie physical security, the involvement of the stakeholders, and further understanding of the difficulties that HOAs encounter in implementing physical security in their communities. These theoretical frameworks help form the foundation for the study to assess and propose improvements for security measures in SBMA.

Gregory Saville and Mateja Mihinjac (2019) introduced the concept of Third-Generation CPTED, focusing on integrating safety, sustainability, and public health into urban design. Their work emphasizes holistic approaches to urban livability and crime prevention. Paul Cozens (2015), a well-known CPTED theorist, has written extensively on the application and evolution of CPTED principles in urban planning. His work from the past decade often reflects on CPTED's adaptability to modern urban challenges. This theory postulates that the physical environment can be used to shape the design and manage the environment to minimize crime opportunities.

CPTED has several principles: natural surveillance, access control, territorial reinforcement, and maintenance. Some of these principles still apply to HOAs in SBMA today since they dictate measures such as roadway illumination, gated compounds, and accurate demarcation of the HOA properties. Based on the best CPTED practices, the study also assesses the role of environmental design in determining the efficiency of physical security.

Developed by Cohen and Felson in 1979, relative theory centers around the circumstances that make crime possible. The theory identifies three key elements: a motivated offender, a suitable target, and a lack of a capable guardian. In terms of crime prevention within residential entities, this theory specifically emphasizes that capable guarding through tools such as surveillance cameras, security officers, and capable guards in the form of community members will prevent crime. Using this framework, the study can assess the various security measures in place and stakeholders' role in risk management.

Freeman (2022) states that stakeholder theory focuses on the unsuccessful management of organizations without sufficient stakeholder involvement to accomplish its objectives. In addressing the HOAs, this theory informs the residents, the HOA leadership, and local authorities to work together to address security issues. Another by-product of stakeholder theory is that it is a useful starting point for understanding the degree of stakeholder participation in strategic planning, decision-making, and implementation of security measures, which is the aim of this research.

Starting with the Systems Theory of **von Bertalanffy** (Higgins, 1991) in combined effect with the system with Carr-Chellman and Carr-Chellman (2020), organizations are regarded as systems where fluctuations in part affect the entirety of the system. When addressing residential security, it helps to explain that certain components are related, including security hardware, people of the residential complex, and management structures. This affords a broader perspective within which the composite parts of community safety can be evaluated in how they coalesce. Also, to assess current management approaches, the study adopts this theory.

Institutional Theory defines the extent to which institutions regulate and prescribe norms for organizations to adhere to be considered legitimate and to abide by the rules of the game. Specifically, in the Philippines, homeowners benefited from the enactment of Republic Act 9904, or the Magna Carta for Homeowners and Homeowners' Associations, regarding the regulatory basis for HOAs regulation. This theory also grounds the study, as it looks at how HOAs work

to sync up their security measures with national policies and institutional requirements to guarantee that implemented measures meet legal requirements and achieve effectiveness.

According to Social Capital Theory, as espoused by Putnam (2021), social capital is a function of social structure, networks, cooperation, and productivity in societies. In residential communities, social capital mobilizes stakeholders for participation and trust in security measures. This theory confirms that stakeholder perceptions and the extent to which community cohesiveness may have influenced the effectiveness of security strategies are important research questions that could be considered for this study.

These theoretical frameworks are taught directly in the objectives of the study. CPTED and routine activity theory systematically mirror the assessment of the current state of physical security, where environmental and situational factors are affirmed. Stakeholder Theory focuses on cooperation, and Social Capital Theory is focused on trust in society. Systems theory and institutional theory provide tools for analyzing management approaches' efficiency and compliance with institutions' requirements.

All these theories contribute to formulating the study objectives, which include comparing existing practices, determining the existing challenges, analyzing shareholders' engagement, and providing practical recommendations for increasing residential security in SBMA.

1.5 Conceptual Framework

This study incorporates the Input-Process-Output (IPO) model as the conceptual framework for analyzing the residential security measures and management strategies implemented by the HOAs in SBMA. This framework is relevant to the goals and theory of the study as it emphasizes the implementation of physical security, engagement of the stakeholders, and issues involved in community protection.

At the input (I) stage, critical factors allow for the evaluation and analysis of the security of a particular residential building or home. These inputs include current physical security features in HOAs like surveillance systems (cameras, alarms), access control (gates, biometric devices), and physical neighborhood features such as lighting systems, pathways, and fencing. Another critical decision input relates to the extent of stakeholder engagement, where the research investigates the activities of HOA leaders, residents, and security personnel in planning and managing security within the communities. However, there are also shortages and conflicts in security inputs, including noncompliance, underfinancing, understaffing, training deficits, and enforcement problems. These inputs are analyzed using theoretical frameworks such as Crime Prevention Through Environmental Design (CPTED), Routine Activity Theory, Stakeholder Theory, and Institutional Theory, which are the theoretical underpinnings of this research.

The process (P) phase conceptualizes the analytical and evaluative activities carried out in the study to transform the inputs into useful outputs. This involves evaluating the effectiveness and efficiency of the physical security

measures currently in use and compliance with the physical security Standard Operating Procedure and other legal policies provided under the homeowners' charter or Magna Carta for Homeowners—Republic Act No. 9904. It also involves assessing stakeholder engagement to determine participation and areas of cooperation and coordination deficiency. Moreover, the study discovers general and special problems, which are key obstacles to HOAs, including resource constraints, first and foremost, and resistance to change, in particular; it also assesses the efficiency of existing management approaches to minimize concrete risks, including theft and vandalism, unauthorized access, and others.

The other significant method of ensuring that the study considers adequacy and satisfaction concerns of the existing security measures is through assessing the qualitative information from stakeholders. These steps form a rough outline of some of the 'best' practices corresponding to the context of SBMA.

The output depicts what the study seeks to achieve. These are evaluating the current status of physical security measures in HOAs and enabling the identification of the current state of practice. This research seeks to establish the findings on stakeholder function, involvement, and attitude toward the partnership processes related to residential communities. It also reveals the risk factors that cause a gap in security management and assesses the general success of the implemented security management strategies.

Lastly, the study provides a framework of recommended strategies for improving physical security in HOAs and detailed practical guidelines for

implementing recommended changes based on information derived from the study and concepts presented in this paper.

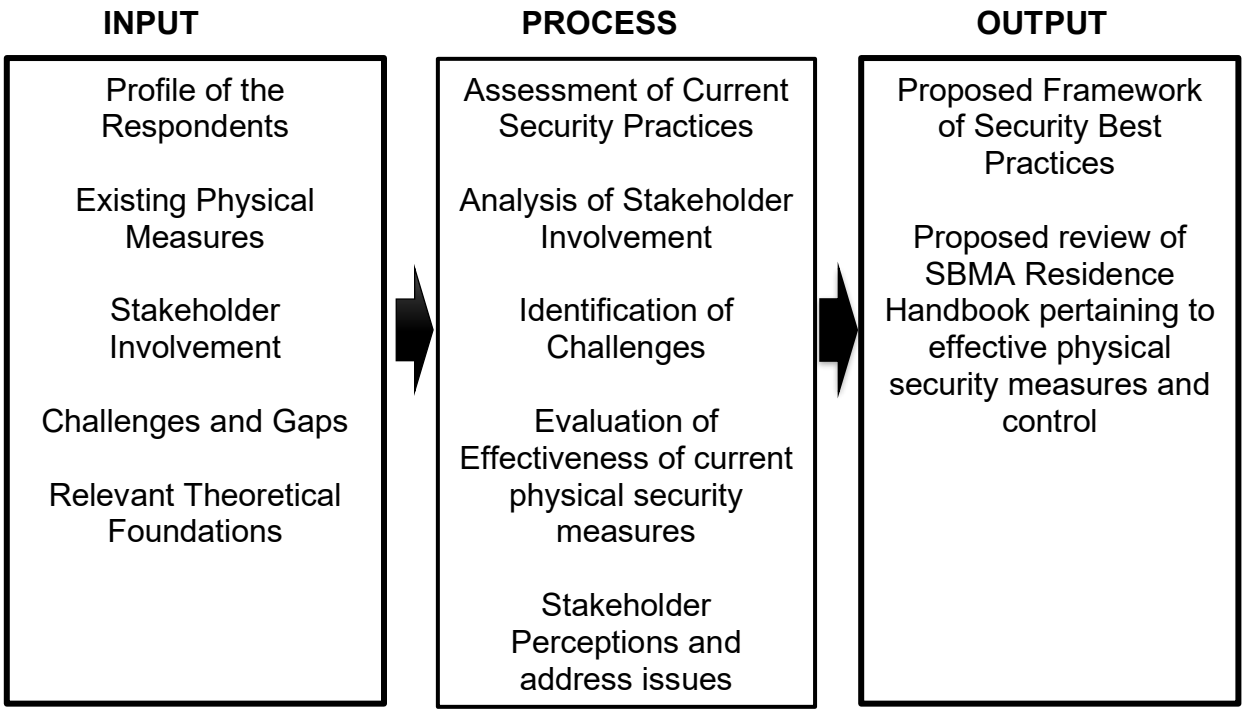

Figure 1. *Conceptual Paradigm of the Study*

This conceptual framework also recognizes that inputs, processes, and outputs are linked in the pursuit of the goals of the study. The study is significant because it examines the current security measures, explores stakeholders' involvement, and presents and reviews challenges in assessing residential security in HOAs. The outputs produced are the basis for effective and context-specific strategy recommendations to enhance community safeguarding and partnership in SBMA. Thus, using the best practices to guide the research, this

study closes the existing literature and professional practice gaps that improve approaches to secure management of residences.

1.6 Significance of the study

This study is important for different actors: homeowners' associations, inhabitants, local government institutions, policymakers, and researchers. They will enable it to help fill most of the gaps regarding residential security management and stakeholder engagement, especially within the context of SBMA. This region has established the safety and security of its residents within residential compounds as a major concern.

For homeowners' associations (HOAs). The study gives human resources directors a wide-ranging assessment of what their HOAs do or could do regarding physical security. It affords HOA leaders best practices to improve their current approaches to deter threats like theft, vandalism, and trespassing. In that respect, the study makes the HOA members and security personnel more sensitive and responsible in addressing challenges, hence improving the security in the community.

For residents of HOAs. The residents will enjoy enhanced security measures and management strategies that will be reviewed and developed from the study. Their worries and attitudes are reflected in the research question, which aims to find their opinions and establish recommendations that will improve their safety. Furthermore, the study enhances the residents' participation in security activities, which goes hand in hand with increasing awareness, cooperation, and trust in acts toward the community's security among the residents.

For Local Government Units (LGUs) and Policymakers. This study benefits LGUs and other policymakers in gaining better insight into the problems that HOAs experience when promoting household security. It appreciates implementing current laws like the Magna Carta for Homeowners and Homeowners' Associations, RA 9904. It discovers new possible areas of improvement for regulatory frameworks. The results of the present study can help policymakers and program implementers elsewhere build policies and programs that are strong enough to support HOAs and make cities safer.

For the academic community. This work also forms part of the existing literature about residential security and management measures, especially from the Philippine perspective. It also narrows the gap between what might be taught in a course or presented in a text and how it plays out in real life in governing resident-driven changes in residential communities using theories like CPTED and stakeholder theory. As a result, the study gives us a framework that looks at localized issues and solutions and provides a foundation for further future research to analyze community safety factors better.

For future researchers. The study provides an understanding of the area where subsequent analyses of residential security and stakeholder engagement can be continued. The detailed synthesis offered in the study is helpful for future researchers who can develop a more complex model for enhancing the security of dwellings.

1.7 Definition of Terms

For better understanding of the study, the following terms are defined operationally:

Best Practices. In this study, best practices are referred to as all the activities, processes, approaches, or models recommended for optimality or effectiveness in an organization. This study conforms to the characterization of Tocquard (2022) where "best practices" pertain to security and management practices that enhance security and cooperation with other stakeholders within the residential communities.

Community Safety. In the context of this study, this pertains to the state of affording and safeguarding against crime, evil, and ill. It includes the adequacy of physical security control and response and the coordination of employees to prevent incidents.

Homeowners' Association (HOA). This study adopts the definition set forth by Republic Act No. 9904 with respect to HOAs as formal groups whose members are property owners of a residential area and which oversee theproperties, enforcement of standards and order, and security in their relevant jurisdiction. This study aims particularly at the HOAs in SBMA and security management with the law mandated by Republic Act No. 9904.

Management Effectiveness. In this study, this pertains to the extent to which current management strategies are effective in addressing the physical security threat to achieve the intended outcome. Adapting the characterization of Schühly (2022), this ranges across the ability to minimize risks, keep operations going, and display flexibility on emergent risks.

Physical Security Measures. The researcher refers to this as the structures, equipment, and measures employed to prevent loss through theft, vandalism, or trespassing on people, property, and structures. Drawn from the description of Fennelly (2016), these measures include surveillance systems, access control systems, perimeter security, and emergency preparedness.

Residential Communities. Dwellings in localities within which people reside are provided with accommodation services and some amenities. This study is particularly relevant to gated subdivisions and comparable communities in SBMA managed by HOAs (Department of Human Settlements and Urban Development, 2021).

Security Measures. This means the plans and techniques organizations or associations use to attain goals, solve problems, and manage resources (Robbins & Coulter, 2018).

In particular, this study describes security measures not only in terms of physical security, such as the presence of gates or CCTVs, but also in terms of personal security and document security.

Stakeholder Involvement. This study generally refers to this as the extent to which people or groups—particularly the HOA leaders, residents, and security personnel—are involved in the planning, implementation, and evaluation of security measures in the SBMA residential communities. Borrowing from the words of Franklin (2020), this could mean the degree of cooperation, integration, and distribution of accountability by the various players in the organization regarding physical security.

Stakeholder Perceptions. It can be defined as the jurisdiction's perception of views, stance, and level of satisfaction by those people involved in or by the measures taken towards security. Community stakeholders were also asked to adequately assess the impact and overall effectiveness of physical security measures within the community (Störm & Minnaar, 2020).

Weaknesses in Physical Security. These are the specific difficulties that limit the successful application and sustaining of security measures in residential communities. Such challenges can range from inadequate funding to non-adherence to laid-down policies, technology disparities, and low stakeholder engagement (Garcia, 2021).

1.8 Statement of the Problem

This study aims to evaluate the society weaknesses for enhancing security in residential communities within SBMA, focusing on the perspectives of stakeholders and identifying best practices.

Specifically, the study seeks to answer the following questions:

1. What is the level of implementation of existing security measures employed by homeowners' associations in SBMA to ensure community safety?

    1.1 Physical Security

    1.2 Personal Security

    1.3 Document Security

2. Is there a significant difference in the perceived level of implementation of security measures among the three groups of respondents?

3. What is the level of effectiveness of existing security measures employed by homeowners' associations in SBMA to ensure community safety?

3.1 Physical Security

3.2 Personal Security

3.3 Document Security

4. Is there a significant difference in the perceived level of effectiveness of security measures among the three groups of respondents?

5. What is the level of stakeholders' involvement in the development of security measures in SBMA homeowners' associations, as assessed through the following phases:

5.1 Planning Phase

5.2 Implementation phase

5.3 Evaluation Phase

6. Is there a significant difference in the perceived level of involvement in the development of security measures across different stakeholder groups?

7. What are the challenges encountered by the respondents in the implementation of security measures?

8. What framework can be produced to enhance the security measures in SBMA?

Chapter 2
Methodology

This chapter presents the research design, research method, Population of the study, locale of the study, scope and limitation of the study, data gathering tools, data gathering procedure, treatment of data, and ethical considerations, dissemination of research outcome.

2.1 Research Design

The researcher approached this study through a mixed-methods approach, particularly through an explanatory sequential design, to comprehensively evaluate security measures in SBMA residential communities. The mixed method using a sequential explanatory approach involved collecting data and analyzing the quantitative data first, followed by qualitative data to provide deeper insights or explanations of the initial quantitative findings (Taherdoost, 2022). It was sequential because this paper had three stages: the quantitative, the qualitative, and the integrative phase, where the quantitative phase was completed first, and its findings shaped the design or focus of the qualitative phase (Dawadi et al., 2021). It was explanatory because the primary purpose of the qualitative phase was to explain, elaborate on, or provide context for the quantitative results (Dawadi et al., 2021). It was considered a mixed-method design precisely because the two phases were connected, with the qualitative data providing richer insights into the quantitative findings, and the integration of which formed the basis for the proposed SBMA security management framework at the end of the study.

The quantitative phase of this study utilized structured surveys responded to by HOA leaders, residents, and security personnel. The quantitative stage rigorously covered Research Questions 1 to 6, developing statistical information regarding the levels of implementation of physical, personal, and document security measures (RQ1), their perceived efficacy (RQ3), and stakeholder engagement in planning, implementation, and evaluation stages (RQ5). It also analyzed differences in perceptions among the three stakeholders using comparative analyses (RQ2, RQ4, RQ6).

After the quantitative phase, the research continued with qualitative data gathering in the form of in-depth interviews tailored to respond to Research Question 7 on implementation difficulties. The interviews with stakeholders explained the quantitative results in detail, indicating contextual reasons for statistical tendencies and identifying operational hurdles that could not be ascertained through surveys alone.

The concluding integrative stage combined both datasets to formulate the suggested security improvement framework (RQ8), with the recommendations being supported by both empirical data and stakeholder practice. The sequential design created a situation whereby every methodological stage could take advantage of the previous one—quantitative findings established areas of focus for qualitative study, with interview results used to explain and interpret the numerical information. The design worked especially well in this study because it married the generalizability of survey data with the richness of qualitative insights,

ultimately yielding a more contextual understanding of security management practices than either methodology could yield on its own.

2.2 Research Method

This study implemented a comprehensive mixed-methods research approach involving both quantitative and qualitative data collection procedures. The quantitative method centered on administering standardized survey questionnaires to three key respondent groups: HOA leaders, community residents, and security personnel. These surveys generated measurable data about current security provisions, including implementation levels, perceived effectiveness, and satisfaction ratings using Likert-scale items and closed-ended questions. The survey instrument was designed to capture both objective facts about security infrastructure and subjective perceptions about management effectiveness.

Simultaneously, the qualitative method employed semi-structured interviews with purposively selected stakeholders to gather rich, detailed accounts of their experiences with security measures. These interviews explored themes such as decision-making processes, implementation challenges, and community dynamics that influenced security outcomes. The qualitative data was collected through face-to-face interviews lasting approximately 45-60 minutes each, with open-ended questions allowing participants to express nuanced perspectives.

This combined methodological approach was particularly suited for the study because it enabled both the identification of broad patterns through quantitative analysis and the exploration of contextual factors through qualitative

inquiry, providing complementary datasets that together offered a more complete picture of residential security management in SBMA.

2.3 Population of the Study

The target population for this investigation comprised homeowner officers, residents, and security personnel residing within gated communities and managed residential housing developments under the jurisdiction of the Subic Bay Metropolitan Authority.

Inclusion criteria mandated that respondents had to be at least 18 years old and could either be HOA officers, primary decision-makers for their household or property owners, or security personnel of the community.

Exclusion criteria removed temporary residents, renters without property ownership stakes, and individuals residing outside the study areas.

2.3.1 Quantitative Phase

The researcher used purposive sampling to deliberately choose respondents who fit within the inclusion criteria (i.e., HOA officer, household head or property owner, or security personnel). In calculating sample size, the researcher used Cochran's sample size formula for infinite or unknown populations due to the unavailability of an official sampling frame owing to strict document security protocols governing SBMA residential communities. The target sample size was calculated at 385 respondents (Z=1.96, p=0.5, e=0.05) to achieve 95% confidence with a 5% margin of error using Cochran’s formula.

However, the final sample consisted of 240 respondents (n=240) due mainly to stringent security measures in the SBMA gated communities, which limited the researcher from accessing other potential participants. Nevertheless, the sample remained methodologically robust insofar as methodologists like Krejcie and Morgan (1970) are concerned. The sample size of 240 is also beyond the minimum sample if computed using G*Power with a large effect size (0.40) for a comparison of perspectives among three or more sets of respondents through ANOVA (see illustration below). More importantly, whatever sampling limitation in the quantitative phase is compensated for with the in-depth qualitative interviews—the concept of data triangulation—as this study is conducted using the mixed methods design.

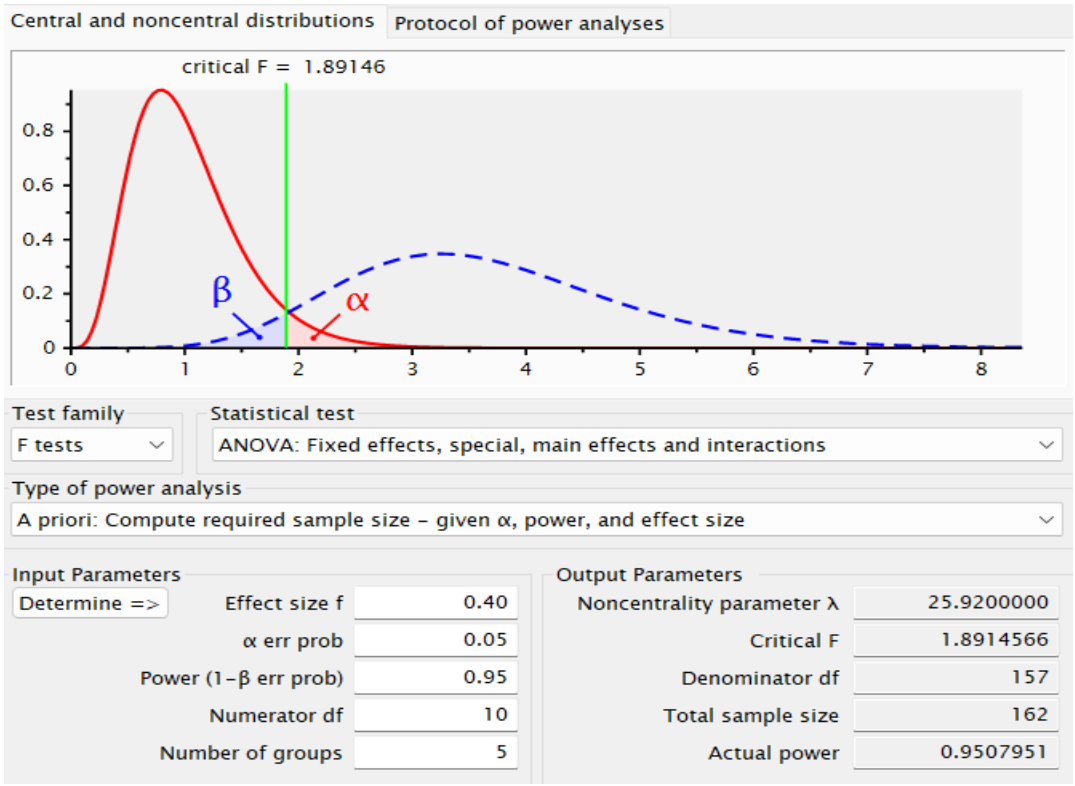

Figure 2. *G*Power Sample Size Calculation*

2.3.2 Qualitative Phase

In the qualitative phase, the researcher interviewed 20 participants, consisting of 6 HOA officers, 10 residents, and 4 security personnel. While the researcher originally intended to conduct focus group discussions (FGD) for each group, the researcher was constrained by strict security access to gated communities. Hence, individual in-depth interviews were conducted.

With respect to sample size, the researcher gleaned insights from respected research methodologists and employed data saturation in qualitative research as the ultimate standard. According to Creswell (2018), a sample size of five (5) to twenty-five (25) is sufficient to illuminate an in-depth description of one's life experience. Hennink et al. (2019), on the other hand, believed that ten (10) participants would suffice. Therefore, the sample size of 20 participants (n=20) in the qualitative phase of this study falls within the recommended range by methodologists. Moreover, the main basis for this sample size is data saturation. Data saturation in qualitative research refers to the point at which no new themes, insights, or information emerge from the data; it indicates that enough data has been collected to comprehensively address the research questions (Creswell, 2018).

2.4 Locale of the Study

The study was carried out in SBMA, which was one of the most urbanized places within the premises of the Subic Bay Freeport Zone in the Philippines. Republic Act 7227, otherwise known as the Bases Conversion Development Act

of 1992, created the Subic Bay Metropolitan Authority to promote and develop the Subic Special Economic Zone into a self-sustaining industrial, commercial, financial, and investment center to generate employment opportunities in and around the zone and to attract and promote productive foreign investments. SBMA boasts a high level of real estate activity, and there are all kinds of residential complexes, including secured villages, condominiums, and townhouses. In this view, it is one of the developed places in Central Luzon that, in recent years, has realized increases in growth approaching industrial/commercial zones, which makes it possible to identify and analyze the current levels of residential security in the HOA.

It also corresponds to the type of industry in SBMA because it has a range of types of residences, such as gated subdivisions and residential condominiums, which involve numerous security complications and various security approaches to manage. The most current data retrieved from the Philippine Statistics Authority (PSA) reveals that SBMA has experienced a significant rise in the establishment of housing, particularly condominiums and house-and-lot packages that are mostly located in gated communities targeted for the middle to high-end market. Also, due to an active commercial market in the place, the number of condominiums has been rising recently, especially in the commercial zone core area.

According to the latest records, there are four gated subdivisions and more than ten active residential condominiums and hotels within the place proper itself, contributing to the population density of the residential population.

The residential areas focused on in this study were the gated subdivisions in SBMA in which the HOAs were mainly responsible for security, facilities, and community maintenance. These associations help in managing security for the residents mainly because most of the physical security measures, like perimeter fencing, surveillance systems, and access controls, are implemented in affordable housing schemes.

In this line, condominium developments are as different in their architectural under structure and security measures as they also have their own regulating bodies charged with the responsibility of protecting residents of the condominiums. These are usually high-rise and call for different approaches to addressing security because people in the neighborhood live close to each other and the communal areas within the complexes.

Demographically and socially, SBMA is home to approximately 250,000 inhabitants. Gated subdivisions and condominiums present a confusing picture of security management in the place, where both the nature of problems and their solutions differ depending on the layout of the development, demographics, and community structure. Residents within these areas consist of working professionals and retirees, families, and each of these groups will have certain expectations and concerns towards their residence security.

Figure 3. *Geographical Map of Subic Bay Metropolitan Authority*

2.5 Scope and Limitation of the Study

This study considered the evaluation of physical security measures and analysis of stakeholder participation in security management by homeowners' associations (HOAs) in SBMA only. This paper also sought to assess the existing management practices on security issues, more so in the gated communities or condominium situations, and HOA leaders, residents, and security guards in maintaining the security of these communities. The research also looked at the current issues that HOAs experienced in organizing and enforcing physical security measures. The study also examined how stakeholders viewed the effectiveness of the measures used in keeping security and enhancing security in the residential areas.

The study was conducted for a given period and a given geographic region, and it took into account the different forms of security measures, such as CCTV

surveillance, access control systems, perimeter fencing, and so on, while doing an evaluation of the management practices of the local HOAs.

Similar to the research limitations faced in previous related studies, this study bore the following limitations: the study sample was confined to the homeowners' associations in SBMA only, which might not reflect the photographic portrayal of security and management style within other regions and nearby cities and provinces. Further, the study was limited to those HOA leaders, residents, and security personnel who were willing to participate in the study and were available during data collection; hence, there was every possibility of a biased sample. By restricting the study's findings to gatekeepers and management bodies of HOAs, the study might not have captured the experiences of the general public within such communities where security measures affected them but they were not directly interviewed.

In addition, despite the primary objective of the study being to pinpoint best practices, it did not plan to put them into practice or assess their results in practice; thus, their efficacy remained unearthed in the context of the study. Finally, data collection was done in line with available resources and time, which could have hampered the sample size and depth of data collected.

2.6 Data Gathering Tools

The study employed two complementary data collection instruments to address its research objectives through mixed methods: a survey questionnaire and a semi-structured interview guide.

2.6.1 Quantitative phase

The data-gathering tool used in this study was a structured questionnaire to solicit quantitative information about physical security measures and the involvement of all stakeholders in HOAs in SBMA. This resulted in a clear distinction in the questionnaire sections, which was one section for every research objective and was developed to allow the respondents to rate the security, satisfaction, and effectiveness of the current security measures in their communities. Hence, the questionnaire was simple, unambiguous, and easy to understand to ensure accurate completion while simultaneously being exhaustive. The questionnaire included several sections. The first part was about the demographic profile of respondents. This section aimed to collect basic demographic data such as age, gender, role within the community/HOA member, resident or security guard, number of years residing/working in the community, and specific type of neighborhood/residential community—such as gated subdivision or condominium.

The second section was about existing physical security measures, where Likert scales were used to assess respondents' satisfaction with different aspects of physical security, including closed-circuit television (CCTV), gated entrances, and perimeter fencing. Respondents also specified if there was a need to add extra measures to improve these communities' security.

Section 3 was about management strategies. This section evaluated numerous aspects of management approaches, such as planning, decision-making, resource deployment, execution, and monitoring and evaluation. Subjects scored statements that corresponded with their perceptions of the appropriateness

of these strategies in their communities according to their experiences in the HOAs, leadership, security, and overall governance.

Section 4 was about stakeholder involvement. This section assessed the level of participation by the residents, security personnel, and the HOA officials in the decisions and the running of the security systems. Participants were requested to provide their opinions on some postures concerning their involvement in discourses, decisions, and enforcement of security features.

Section 5 tackled the challenges in physical security. This section compiled information on the issues in the social groups that needed to be revised to provide adequate physical security. Individuals were required to provide details of the constraints, including the following: inadequate funds, lack of training, refusal by the residents, and poor maintenance of the security systems.

Section 6 was determining stakeholder perceptions. This specific section of the questionnaire was designed to estimate the satisfaction level of respondents concerning the existing security level of their community. With the help of an anonymous self-administered Likert scale questionnaire, respondents provided ratings for several statements regarding security measures, HOA leadership's attentiveness, and security in the community.

The last section was about recommendations and best practices. This section built up quantitative data on the general security suggestions for improving security and security measures that have been proven as success stories and should be standardized as the community security norms among the respondents.

2.6.1.1 Pilot-testing and Validation

The instrument underwent content validation by field experts, pilot testing, and reliability testing or internal consistency.

In terms of content validation, two experts in security management—the dean of the College of Criminology from Lyceum of Subic Bay located within SBMA and the department manager of the SBMA Law Enforcement Department (see Appendix). Their field backgrounds in consultancy, particularly within the scope of the study (SBMA residences), allowed for comprehensive and localized validation of the instrument. Their evaluation assessed the instrument's technical accuracy (e.g., correct use of security terminology like "access control protocols"), theoretical alignment with Crime Prevention Through Environmental Design (CPTED) principles, and practical relevance to Philippine gated communities, especially in the context of SBMA. The validators have confirmed the alignment of the indicators to the study's research objectives, literature support and theoretical grounding, and the overall validity of the instrument in generating relevant research information.

Aside from expert validation, the researcher also carried out pilot testing involving 40 participants (20 residents, 10 HOA leaders, and 10 security personnel) from two SBMA residential communities that were not part of the main study. As Green (2020) described, respondents of the pilot testing are individuals who share similar characteristics with the actual study participants but will not take part in the main research.

In this case, the instrument was pilot tested on SBMA HOA officers, residents, and personnel from other SBMA residential communities. The sample size followed methodological recommendations for pilot studies that evaluate instrument reliability (Hertzog, 2008; Johanson & Brooks, 2010). The pilot had the following purposes: (1) test item clarity based on respondent comments, (2) calculate initial Cronbach's alpha estimates to spot-check for weak subscales, and (3) project the time it takes to answer surveys. Minor rewording was conducted on wording in two physical security items at participant suggestion. The pilot also verified an average of 15–20 minutes for completion, used in informing logistical arrangements for the main study.

Having done with the pilot testing, the researcher also tapped an academic, statistician, and full-time data analyst working in a multinational firm to compute internal consistency using Cronbach’s alpha. Reliability checks validated that all quantitative scales were internally consistent (Table 2.5.1.1). The Security Implementation domain evidenced excellent reliability (Physical Security α=0.87; Personal Security α=0.85), whereas the 3-item Document Security scale (α=0.82) passed acceptability criteria through high inter-item correlations (>0.70). Management Strategies (α=0.83-0.89) and Stakeholder Involvement (α=0.83-0.91) also evidenced high consistency across subscales.

Table 1.

Reliability Analysis of Security Measures Questionnaire

Main Scale	Subscale	# Items	Cronbach's α	Interpretation	Weakest Item-Total Correlation
Security Implementation		15	0.93	Excellent	-
	Physical Security	5	0.87	Excellent	Security Alarms (0.68)
	Personal Security	5	0.85	Good	Other Services (0.66)
	Document Security	3	0.82*	Good	Resident Lists (0.71)
Management Strategies		25	0.95	Excellent	-
	Planning	5	0.89	Excellent	Objective Setting (0.72)
	Decision-Making	5	0.86	Good	Timely Decisions (0.69)
	Resource Allocation	5	0.83	Good	Tech Upgrades (0.67)
	Implementation	5	0.84	Good	Staff Briefings (0.68)
	Monitoring & Evaluation	5	0.88	Excellent	Feedback Collection (0.70)
Stakeholder Involvement		26	0.96	Excellent	-
	Planning Participation	10	0.91	Excellent	Conflict Resolution (0.72)
	Implementation Phase	10	0.89	Excellent	Open Forums (0.71)
	Evaluation Phase	6	0.83	Good	Response Time (0.69)

2.6.2 Qualitative Phase

This study utilized a semi-structured interview guide as the primary qualitative instrument, developed in alignment with the sequential explanatory mixed methods design. Semi-structured interviews are characterized by a flexible yet focused approach, employing predetermined open-ended questions while allowing for dynamic follow-up probes to explore emerging themes in depth (Brinkmann & Kvale, 2018).

Since this followed the sequential explanatory approach, the instrument was intentionally designed after analyzing the quantitative phase results to ensure methodological coherence, with questions specifically crafted to explain, contextualize, and expand upon the survey findings.

The interview guide consisted of three key components: (1) grand tour questions to establish broad understanding (e.g., "Based on the survey results, how would you describe the overall effectiveness of security measures in your community?"); (2) targeted follow-up questions to probe specific quantitative findings (e.g., "The survey showed only 30% of residents feel document security measures are adequate—what challenges have you observed in this area?"); and (3) customized prompts tailored to each stakeholder group (HOA leaders, residents, security personnel) to capture role-specific perspectives. This tiered structure enabled both comprehensive coverage of key topics and adaptive exploration of unanticipated yet relevant themes emerging during interviews.

To ensure instrument validity, the guide underwent rigorous development and validation processes. First, questions were mapped to the quantitative results

to establish content relevance. Two experts in community security evaluated the instrument. The guide was further refined through piloting with five participants representing all stakeholder groups. This process revealed that (1) interviews typically required 35-50 minutes to complete, (2) two technical terms ("access control protocols" and "security audit procedures") needed operational definitions, and (3) certain probes about budget allocation were perceived as sensitive and required rephrasing for comfort. The final instrument incorporated these improvements while maintaining the study's exploratory focus.

2.7 Data Gathering Procedure

The data collection process unfolded in three carefully planned phases, adhering to rigorous research protocols. Phase 1 involved preparatory activities, including securing official approvals from SBMA administration and individual homeowners' associations, developing sampling frames for each target community, and training research assistants on ethical data collection procedures. Phase 2 implemented the quantitative survey component over four weeks, with field researchers systematically visiting selected households based on predetermined sampling intervals. Survey administration occurred through face-to-face interviews using electronic data capture tools where feasible, with paper-based alternatives available for respondents preferring traditional formats. Researchers verified respondent eligibility (primary household decision-makers aged 18+) before obtaining informed consent and administering the questionnaire.

Phase 3 conducted the qualitative interviews over a subsequent three-week period, with participants recruited from survey respondents who indicated

willingness for further participation. Interviews were scheduled at participants' convenience, conducted in private settings (homes or community offices), audio-recorded with permission, and later transcribed verbatim while removing identifying information. Throughout data collection, strict protocols were maintained respondent confidentiality, with coded identifiers replacing personal information in all records. The research team implemented daily quality checks to ensure complete, accurate data capture and maintained detailed field notes documenting contextual observations and methodological adjustments. This meticulous, phased approach ensured systematic data collection while accommodating the practical realities of community-based research in residential settings.

2.8 Treatment of the Data

2.8.1 Quantitative Phase

In this study, the treatment of data was conducted systematically to enhance the validity of the result. The researcher used descriptive and inferential statistics to analyze the results corresponding to the research questions. One of the primary software programs employed in the analysis was SPSS (Statistical Package for the Social Sciences).

Likert scale responses were regarded based on their level of measurement to be ordinal; therefore, each Likert item was quantified, for instance, Strongly Disagree (SD) = 5, Disagree (D) = 4, Undecided (UD) = 3, Agree (A) = 2, and Strongly Agree (SA) = 1.

In assessing the level of implementation of security measures, a five-point Likert scale was employed, where a median score of 5 indicated that respondents strongly agreed with the statement, corresponding to a verbal interpretation of “very well implemented.” A score of 4, or “agree,” was interpreted as “well implemented.” A score of 3, or “undecided/neutral,” reflected a rating of “moderately implemented,” while a score of 2, or “disagree,” was taken to mean “slightly implemented.” Finally, a score of 1, or “strongly disagree,” was interpreted as “poorly implemented.”

Similarly, to evaluate the perceived effectiveness of security measures, the same five-point Likert scale was used. A median score of 5, corresponding to “strongly agree,” was interpreted as “very effective.” A score of 4 (“agree”) was considered “effective,” while a neutral rating of 3 was labeled as “moderately effective.” A score of 2, or “disagree,” suggested that a measure was “slightly effective,” and the lowest score of 1, or “strongly disagree,” was equated with a judgment of “ineffective.”

Descriptive statistics were used first to analyze the results. This helped describe some information on the demographic profile of the respondents and their views on the questions on physical security measures, management strategies, and stakeholders' participation. The researcher used measures of central tendency, particularly mode, given that the values computed were ordinal.

Inferential statistics, particularly the use of Analysis of Variance (ANOVA), were used to determine whether there was a significant difference in the perception

of the stakeholders involved in the study, such as the HOA leaders, HOA members, and security personnel within SBMA.

2.8.2 Qualitative Phase

The qualitative data analysis followed a structured, multi-phase process aligned with the study's sequential explanatory mixed-methods design. After transcribing all interviews verbatim, the researcher immersed themselves in the data through repeated readings to identify patterns and preliminary insights. The analysis employed a hybrid thematic approach, where primary themes were predetermined based on the quantitative variables (physical security, personal security, document security, and stakeholder involvement) to maintain consistency across methods, while sub-themes emerged organically from participant narratives. Coding was conducted iteratively, beginning with deductive categorization into the predetermined themes before allowing inductive codes to surface from the data itself. Through constant comparison across interviews, the researcher refined the sub-themes, such as identifying "maintenance delays" under physical security and "gig economy gaps" under personal security, which provided nuanced explanations for the survey results. Member checking with select participants helped validate the interpretations, while NVivo software facilitated code organization and frequency analysis. The qualitative findings were deliberately mapped to the quantitative data, explaining anomalies like why document security scored poorly (due to both technical and governance failures) and contextualizing stakeholder perception gaps. This approach honored the

mixed-methods framework by using qualitative insights to elaborate on statistical patterns while remaining open to unexpected discoveries that enriched the overall understanding of SBMA's security challenges.

2.9 Ethical Considerations

The issues of ethical conduct formed part of the process during this study. All the individuals participating in the study were treated with courtesy, respect, and fairness. First, they were asked to sign an informed consent agreement that explained the study's purpose, participants' rights, and the anonymity of their responses. This form described the fact that the participation was voluntary, the subject could withdraw at any time without explanation, and how the data would be used. The form also ensured that there would be no negative impact on any of the participants due to their participation. More importantly, their identity was kept secret at any point. When there was any doubt in cases where participants could not read or understand the form, they were assisted, and verbal consent was secured.

If a participant indicated that he or she did not want to proceed with the research any further, the researcher respected their decision. All the participants were given a clear explanation at the beginning of the study that they could quit the study at any time they wanted without any repercussions. This ethical practice also helped to make the participants comfortable and not be forced to proceed with something they did not want. If they opted out, their data was not included, and their decision was honored without any second thought. This approach ensured

that the participants remained independent and that their distress level from participation was minimal.

A structured questionnaire was used to obtain quantitative data, while an interview guide was used in the qualitative interview. Both tools were equally developed to be sensitive and minimally invasive to gather the participants' perceptions on security issues and management strategies within their communities. When conducting the research, some concerns involved explaining the questions to the participants to ensure understanding regarding the questions being posed.

Regarding women, senior people, and disabled people, the study was carried out in such a way that they could participate without embarrassment. For example, arrangements were made to allow senior citizens or a person with a disability to attend the event to the fullest. Such arrangements included large-print questionnaires, extra time for filling out the forms, or physical accessibility during the interviews. These measures partnered with ethical standards that allowed no participant to be excluded from the research due to age, gender, or disability.

2.10 Dissemination of the Research Outcome

Several methods will be used in the dissemination of the research findings in order to ensure that the outcomes will reach the intended stakeholders. One of the major procedures will be submitting the study to a peer-reviewed community safety or management-related journal. Furthermore, the research outcomes will be disseminated through presentations at seminars, workshops, and conferences on urban development, community safety, and governance. This will create a forum

for debate and exchange of ideas with practitioners and researchers in the field. The study findings will also be presented in formal letters to homeowners' associations (HOAs), local government units (LGUs), and security agencies in SBMA to share information on best practices that can be adopted to improve security management. The benefit of this study will be that it will touch on the residents of SBMA, the homeowners' associations, security personnel, and the local government, since the insights collected will abound in improving community safety and efficient security management.

Chapter 3
Results and Discussion

This chapter presents and discusses the results of the survey conducted to HOA leaders, HOA residents, and security personnel within the Subic Bay Metropolitan Authority (SBMA). This chapter is organized consistent with the research questions raised in the earlier part of this paper.

3.1 Level of implementation of existing security measures employed by homeowners' associations in SBMA to ensure community safety in terms of Identified Variables

3.1.1 Physical Security

By and large, stakeholders in SBMA have an overall perception of physical security in their residential area to be “well implemented to very well implemented,” as shown in the overall central tendency across HOA leaders (median = 4), residents (median = 4), and security personnel (median = 5). Three things can be inferred from the table above: (1) visible deterrents such as CCTV surveillance are most appreciated among other measures of physical security; (2) reactive and perimeter security are those with the least level of appreciation in terms of implementation; and (3) while stakeholders view that physical security is “well implemented,” there is a slightly higher perception from security personnel that potentially shows a difference between professional assessments and resident appreciation of these physical security measures.

Table 2 presents the median ratings given by three stakeholder groups—HOA Leaders, Residents, and Security Personnel—on the implementation of various physical security measures in a residential setting.

Table 2.

Implementation of Physical Security Measures by Stakeholder Group

Physical Security Measure	HOA Leaders (Median)	Residents (Median)	Security Personnel (Median)	Verbal Interpretation
CCTV Surveillance Systems	5	4	5	Well Implemented to Very Well Implemented
Gated Entrances and Access Control	4	4	5	Well Implemented to Very Well Implemented
Adequate Lighting	4	4	5	Well Implemented to Very Well Implemented
Perimeter Fencing	4	3	4	Moderately Implemented to Well Implemented
Security Alarms and Motion Detectors	3	3	4	Moderately Implemented to Well Implemented
Overall Central Tendency	4	4	5	Well Implemented to Very Well Implemented

CCTV Surveillance Systems received high median scores (5 from HOA Leaders and Security Personnel, 4 from Residents), indicating strong implementation and possibly high visibility and reliance on technology-based monitoring.

Gated Entrances and Access Control also scored well across all groups, especially among Security Personnel (5), suggesting controlled access and robust gate security practices are in place.

Adequate Lighting is rated consistently (4 by HOA and Residents, 5 by Security), indicating it is generally well maintained, which is crucial for deterrence and visibility during nighttime.

Perimeter Fencing received a slightly lower score (3 from Residents), suggesting possible gaps or dissatisfaction in boundary protection from the residents' perspective.

Security Alarms and Motion Detectors received the lowest scores (3 from both HOA Leaders and Residents, 4 from Security Personnel), indicating room for improvement in installing or maintaining these technologies.

The overall central tendency scores (HOA: 4, Residents: 4, Security: 5) show that Security Personnel consistently rate the implementation higher, possibly due to their familiarity with security operations or a bias from direct involvement in maintaining these systems.

Dominance of Visible Deterrents. Based on the data, the highest median scores among the indicators are on visible deterrents, particularly CCTV surveillance systems (median score of 5 from HOA leaders and security personnel, 4 from residents). What this overwhelming consensus conveys is the centrality of surveillance technology in modern security strategies and the extent to which stakeholders appreciate this measure as a crime deterrent. The high valuation of CCTV aligns with Routine Activity Theory (Cohen & Felson, 1979), which posits that crime occurs when a motivated offender encounters a suitable target in the absence of a capable guardian. CCTV systems serve as a form of "virtual guardianship," increasing perceived risks for offenders while providing forensic

evidence post-incident (Welsh & Farrington, 2009). The psychological deterrent effect of surveillance—often termed the "panopticon effect"—further explains its dominance, as visible cameras create an omnipresent sense of monitoring (Foucault, 1977).

On a similar note, Gated Entrances and Access Control (median = 4-5) and Adequate Lighting (median = 4-5) were also rated highly across all groups in SBMA. This conforms to the discussion in previous chapters that physical structures like gates give a sense of security, especially among residents of gated communities in the Philippines. This appreciation of stakeholders in SBMA is theoretically grounded on the Crime Prevention Through Environmental Design (CPTED) principles in that it emphasizes natural surveillance, territorial reinforcement, and access control as foundational to deterring crime (Jeffery, 1971). Gates act as both physical and symbolic barriers, reinforcing community boundaries and restricting unauthorized entry—a tactic widely employed in gated communities globally (Atkinson & Blandy, 2005). Lighting, meanwhile, directly impacts nighttime safety by eliminating shadows and enhancing visibility, which is critical given that many property crimes occur under the cover of darkness (Farrington & Welsh, 2002). The strong implementation of these measures suggests that stakeholders prioritize preventive, observable security infrastructure over reactive systems.

Reactive and perimeter security are the least implemented. Despite the strong emphasis on surveillance and access control, the data reveals a relative neglect of security alarms and motion detectors (median = 3-4) and perimeter

fencing (median = 3-4). This implies that insofar as the stakeholders are concerned, while SBMA has effectively implemented visible deterrents like CCTV and gates, the community remains vulnerable to security breaches due to underinvestment in reactive systems (alarms/motion detectors) and perimeter hardening, creating potential gaps in its layered defense strategy. Triangulating this with the SBMA Handbook for Residents (2011), there appears to be no mention of security alarms and motion detectors, something that SBMA communities clearly lack. This brings us to the idea of layered security—a concept advocated by scholars, which argues that effective protection requires multiple defensive barriers (Garcia, 2008). While CCTV and gates deter opportunistic criminals, alarms and fencing provide active resistance against determined intruders. The high valuation of surveillance systems and gates over security alarms and perimeter fencing is also something that scholars in security literature have long explained: communities have the tendency to favor symbolic security (measures that convey safety) over substantive security (measures that actively disrupt crime) (Davis et al., 1991).

Divergent Stakeholder Perceptions. A striking finding is the disparity between security personnel (median = 5 overall) and residents/HOA leaders (median = 4). Security professionals' higher ratings likely reflect their operational reliance on these systems; for them, CCTV and access control are daily tools for incident response and patrol efficiency. Conversely, residents may rate systems lower due to limited interaction in that most residents engage with security infrastructure passively (e.g., passing through gates), whereas security personnel

actively monitor feeds and alarms. There could also be unmet expectations on the part of HOA leaders and residents in terms of implementation where, even if cameras exist but blind spots remain, or if alarms are installed but frequently malfunction, resident confidence erodes (Hempel & Töpfer, 2004). Residents may also not fully understand the functionality of systems like motion sensors, leading to undervaluation (Cozens, 2008). The slight difference in perception among stakeholders, if anything, affirms the need for stakeholder consultation and levelling off, alongside demonstrations of system capabilities and community drills, to have a more common understanding of security needs and measures and thus ensure security cooperation in the community.

3. 1.2 Personal Security

Table 3 presents the median ratings from three stakeholder groups—HOA Leaders, Residents, and Security Personnel—on the implementation of personal security measures in a residential community. The overall central tendency of 4 across all stakeholder groups means that, on average, personal security measures are well implemented but with some areas needing improvement, particularly in handling external service providers.

Visitors Access Control and Procedures received the highest score (5 from HOA leaders and security personnel, 4 from residents), indicating that this measure is very well implemented, possibly due to its priority in community security protocols.

Courier Delivery Control and Maintenance Contractor Control were rated equally (median of 4 across all groups), reflecting consistent and satisfactory implementation.

External Vendors/Suppliers Control and Other External Services received slightly lower scores (3 from residents), suggesting that residents may perceive these measures as less consistently managed or enforced, though HOA and Security still rated them as a 4.

Table 3.

Implementation of Personal Security Measures by Stakeholder Group

Personal Security Measure	**HOA Leaders (Median)**	**Residents (Median)**	**Security Personnel (Median)**	**Verbal Interpretation**
Visitors Access Control and Procedures	5	4	5	Very Well Implemented
Courier Delivery Control	4	4	4	Well Implemented
Maintenance Contractor Control	4	4	4	Well Implemented
External Vendors/Suppliers Control	4	3	4	Moderately Implemented
Other External Services	4	3	4	Moderately Implemented
Overall Central Tendency	4	4	4	Well Implemented

As shown in Table 3, personal security measures are perceived by stakeholders to be “well implemented” (median=4 by all groups). What this data implies is that stakeholders generally find the implementation of personal security to be sufficient, but there are still opportunities for improvement. Three key findings

can be drawn from the results: (1) visitor management systems are exceptionally well-implemented across all stakeholder groups; (2) routine service provider controls (couriers and contractors) show consistent but slightly weaker implementation; and (3) irregular external service oversight (vendors and miscellaneous services) demonstrates the most significant implementation gaps, particularly from residents' perspective.

The finding implies that stakeholders express general satisfaction with personal security measures, though residents show cautious concern, especially regarding external vendors and service providers. This reflects a perception gap, likely due to limited awareness, observed enforcement issues, or poor communication.

While visitor access control is a recognized strength, controls over external personnel need improvement. Enhancing procedures, training residents, and using technology (e.g., digital tracking) can address these gaps. Continuous review and strategic updates to protocols are essential to maintain trust and ensure comprehensive, adaptive security for all access points.

Excellence in Visitor Access Management. The perfect median scores (5) from both HOA leaders and security personnel for visitor access control, coupled with residents' strong rating (4), demonstrate appreciation towards the implementation of these personal security measures. This means that SBMA has successfully established rigorous protocols that effectively prevent unauthorized individuals from easily accessing residential properties. These protocols are well-documented in the SBMA Handbook for Residents (2011), proof that these

measures are not only verbally agreed upon but also formalized, and implementing these protocols on visitor access control is appreciated across stakeholders. In security management parlance, this demonstrates what Felson and Cohen's Routine Activity Theory (1979) would identify as effective "capable guardianship." These results align with Newman's Defensible Space principles, showing how controlled entry points serve both practical and psychological deterrent functions.

Consistent but Moderate Control of Routine Services. Courier and maintenance contractor controls show uniform "well implemented" ratings (median=4) across all groups, suggesting adequate but not exceptional protocols for regular service providers. This implies that SBMA has established standardized and reliable systems for managing routine deliveries and maintenance personnel like plumbers and electricians within SBMA residential areas. Routine service providers are often asked to have sign-in logs or temporary passes before entry to residential premises. This finding corroborates Schaefer's (2021) application of Routine Activity Theory, demonstrating that more predictable interactions (like scheduled maintenance) are easier to regulate than variable ones. Nevertheless, the data also shows that there are still areas of improvement before the implementation of these measures can be deemed “very well implemented.” Existing literature has put forth technological upgrades like digital tracking systems or real-time notification protocols to ensure better implementation protocols.

Vulnerabilities in Irregular Service Oversight. The most concerning gaps emerge in vendor and miscellaneous service controls, where residents rate

implementation significantly lower (median=3) than professionals (median=4). This could include food deliveries or parcel deliveries, which, understandably, were not yet captured in the SBMA Residents Handbook (2011), as these apps were not yet prevalent when the handbook was drafted, leaving its protocols outdated for today's on-demand economy. While there have been no recorded crimes yet in the area about the entry of these service providers, residents' skepticism likely stems from observed inconsistencies in credentialing, escort protocols, and activity documentation for these service categories—vulnerabilities that align with what Davis et al. (1991) identified as the "service provider blind spot" in residential security.

3.1.3 Document Security

Based on Table 4, document security measures in SBMA are generally perceived by stakeholders as "well implemented," with a median score of 4 across all groups. The consistent rating across groups shows that SBMA has successfully institutionalized document security measures in strict accordance with the SBMA Handbook for Residents (2011), but certain gaps have to be addressed to elevate practice into "very well implemented."

Looking closely into the data, three critical patterns emerged: (1) Visitor logbooks demonstrate the strongest implementation, receiving top ratings from security personnel (median=5); (2) Resident records show a stakeholder perception gap, with residents (median=3) less confident than leaders/security (median=4); and (3) Maintenance/service documentation has the widest variance, ranging from "moderately" to "very well implemented."

Table 4.

Implementation of Document Security Measures by Stakeholder Group

Document Security Measure	HOA Leaders (Median)	Residents (Median)	Security Personnel (Median)	Verbal Interpretation
Updated List of Residence	4	3	4	Well Implemented
Updated List of Residential Maintenance and Housekeeping Services	3	4	5	Moderately to Very Well Implemented
Logbook Recording of Announced and Unannounced Visitors Procedures	4	4	5	Well to Very Well Implemented
Others (e.g., private service provider records, delivery logs)	3	3	4	Moderately Implemented
Overall Central Tendency	4	4	4	Well Implemented

Strong Performance in Visitor Documentation Systems. The quantitative results uncover especially strong implementation of visitor logbook documentation systems by all stakeholder groups. The security staff, as the frontline practitioners of these measures, provided consistent median scores of 5, classifying them as "very well implemented." This across-the-board professional validation indicates these systems satisfy operational expectations in visitor control. HOA directors and residents alike gave median scores of 4 ("Well Implemented"), suggesting a firm but slightly more conservative belief in these systems. This differentiated rating pattern mirrors the differential levels of direct

contact each group maintains with the documentation processes. The security staff's higher rating can be attributed to their routine operational dependence on these systems for such key functions as access control, incident reporting, and security auditing. The somewhat more moderate but still positive resident and HOA leader ratings imply these systems are not only effective in operation but also conspicuously visible to community stakeholders, thus meeting the tenets of Newman's Defensible Space Theory (Kalfaoglu et al., 2023) concerning the visibility of security measures in residential communities. The robust performance of visitor documentation aligns well with provisions of the SBMA Residents' Handbook (2011) and shows conformity to the ISO/IEC 27001 standards of information security management (Folorunso, 2024), especially in access control and audit trail requirements.

Resident List Maintenance. The data show differences in perception regarding the maintenance of resident lists, with HOA leaders and security personnel assigning median ratings of 4 ("Well Implemented") compared to residents' median score of 3. From an operational perspective, the higher ratings from HOA leaders and security personnel likely reflect their direct involvement in and knowledge of the administrative processes that maintain these critical records. However, residents' notably lower confidence suggests limited visibility into the backend processes that update and verify resident information, creating an information asymmetry between administrators and community members.

Moreover, the update cycles for resident lists may not meet community expectations for real-time accuracy, particularly in dynamic residential environments where tenant turnover can be frequent.

Updating of the resident list, for instance, is not specified in the SBMA Residents Handbook (2011), and as the handbook allows for leases and having tenants in the residential area, such a list may not necessarily be updated on a regular basis. This finding empirically supports Krzyzanowski and Manson's (2022) principle, drawn from HIPAA Administrative Safeguards, that document management systems require both proper technical implementation and comprehensive stakeholder awareness to achieve full effectiveness. The resident-administrator perception gap identified in this study also mirrors similar findings in gated community research by Mahajan et al. (2023), highlighting a common challenge in residential security management.

Graduated Effectiveness of Service Documentation. Maintenance and housekeeping records received the most varied evaluations across stakeholder groups, with security personnel assigning a perfect median score of 5 ("Very Well Implemented"), residents providing a median rating of 4 ("Well Implemented"), and HOA leaders expressing the least confidence with a median of 3.

The high median score of security personnel is understandable, especially as the SBMA Handbook for Residents (2011) provides that maintenance and technical repairs can be provided by the SBMA maintenance office. A provision in the handbook is the presence of same-color hats and uniforms for construction workers that have been authorized by the SBMA. Security personnel’s familiarity

with service providers vouched for by the SBMA maintenance office gives a sense of security.

However, it should be noted that other external records, particularly delivery logs and temporary service provider documentation, consistently received the lowest ratings across all groups (median range of 3-4). This pattern can be explained by Mahajan et al.'s (2023) stakeholder theory, finding that documentation systems function most effectively for regular, predictable interactions while struggling to maintain consistency with irregular service patterns.

Hence, the security personnel's relatively higher ratings likely reflect their professional understanding of existing protocols that may not be visible or apparent to other stakeholder groups. Nonetheless, peripheral service interactions may represent potential security vulnerabilities that require targeted improvements.

Hierarchy of Document System Implementation. Taken altogether, the data reveal important operational priorities and potential security vulnerabilities. At the top of this hierarchy, operational documents—particularly visitor logs—demonstrate the most robust implementation (median range of 4-5 across all stakeholder groups). Resident records occupy the middle tier with moderate strength (median range of 3-4), while service documentation shows the least consistency in implementation quality (median range of 3-4).

This graduated implementation could be traced primarily to their security protocols outlined in the SBMA Handbook for Residents (2011), which explicitly details mechanisms to limit access of visitors entering the residential areas, while

other areas of documentation are not as clearly articulated, like those of service providers.

This phenomenon aligns precisely with Shala et al.'s (2021) contingency theory predictions regarding organizational systems prioritizing high-frequency, mission-critical operations. The visitor log systems, being essential for daily security operations, receive the most resources and attention, resulting in their superior performance.

Resident documentation, while important, has less frequent update cycles and therefore shows moderate implementation. Service documentation, dealing with the most variable and unpredictable interactions, demonstrates the weakest performance. This hierarchy reveals particular vulnerabilities in supply chain security and vendor access control that require immediate attention, as these areas represent potential entry points for security breaches despite being critical to community operations.

3.2 Significant difference in the perceived level of implementation of security measures among the three groups of respondents

Physical Security. Table 5 presents the result of a one-way ANOVA test that was employed to determine if there exist any differences in the degree of perceived implementation of physical security measures among the three respondent groups: HOA leaders, HOA residents, and security officials.

The test revealed an F-value of 2.61 and a p-value of 0.120, which is greater than the alpha level of 0.05. Hence, the null hypothesis (H_0) is not rejected, leading to the conclusion that there is no statistically significant difference in the way the

three groups perceive the operation of physical security controls within the subdivision.

Table 5.

One-way ANOVA Summary of Physical Security Ratings Among HOA Leaders, Residents, and Security Personnel

Source	SS	df	MS	F	p-value	F	Decision	Remark
Between Groups	0.655	2	0.3275	2.61	.120	3.89	Fail to Reject H_0	Not Significant
Within Groups	1.505	12	0.1254					
Total	2.160	14						

This observation implies relatively uniform perception among stakeholder groups—those who manage (HOA leaders), those who live the system on a day-to-day basis (residents), and those who implement it in the field (security guards). Such consistency can be understood as positive; perhaps it indicates physical security initiatives are highly visible, equally enforced, or openly communicated to all members of the community. However, a lack of wide disparity can also suggest moderate rates of implementation failing to strongly please or displease any group—suggesting that although security provisions are in effect, they perhaps are not exceeding expectations or tailor-made to group-specific needs.

From available literature, the above findings agree with research conducted by Eck and Clarke (2019) on situational crime prevention, which raises that effective physical security is not only reliant on physical barriers but stakeholder awareness and general engagement too. Furthermore, community-based crime

prevention models (Gearheart, 2023) depict the need for collective perception and trust among citizenry for security to function optimally. The uniform impression of all roles could be an indicator of effective communication plans or overall familiarity with protocol deployments like CCTV, boundary fencing, and controlled access.

But the findings also suggest potential implications for tuning. If there is no group that performs well at either pole (high concern or satisfaction), this might require a review to ensure that physical security components are sufficient and fine-tuned to evolving threats or expectations. The absence of meaningful difference does not always equate to effectiveness but offers the opportunity to engage residents, leaders, and staff more actively in co-creating security solutions—possibly through the medium of regular feedback mechanisms or participatory planning of security improvements.

Lastly, while the lack of high variance in perceptions may on the surface seem uninteresting, it quietly emphasizes the importance of continuity and responsiveness in physical security management. It forces decision-makers to avoid complacency and instead consider what aspects of physical security could be strengthened to not only meet minimum requirements but also to actively counteract emerging threats and establish stakeholder confidence in the long term.

Personal Security. Table 6 reports the result of a one-way ANOVA examining perceived level of implementation of personal security measures for three respondent groups: HOA leaders, HOA residents, and security officers. The ANOVA returned an F-value of 3.31 with a corresponding p-value of 0.072, greater than the 0.05 significance level.

As a result, the null hypothesis is not rejected, i.e., there is no statistically significant difference in the three groups insofar as their views on the application of personal security devices in SBMA are concerned.

At first glance, the result informs us that opinions about personal security are relatively homogeneous across all groups. This may involve a uniform reaction to the implementation of personal protection mechanisms such as verification of identification, incident or procedure reporting, or resident safety awareness campaigns. While the F-value (3.31) is quite large and the p-value (.072) is close to the critical value, it is not quite statistically significant, meaning that any apparent differences between group means are likely the result of chance and not a true difference of experience or opinion.

Table 6.

One-Way ANOVA Results for Personal Security Measures by Respondent Group

Source of Variation	**SS**	**df**	**MS**	**F**	**p**	**F**	**Decision**	**Remark**
Between Groups	0.977	2	0.489	3.31	.072	3.89	Fail to reject H_0	Not significant
Within Groups	1.772	12	0.148					
Total	**2.749**	14						

This data empirically supports Mihinjack and Seville (2019), which holds that personal safety is generally a collective perception shaped by the overall security culture as well as visible security processes throughout a neighborhood. Where there is a high, outwardly visible security presence and normal community norms, the feeling of personal safety tends to level out across groups—whether

one is assisting in enforcing it or simply benefiting from its presence. Similarly, Gearheart (2023) states that group security training and awareness initiatives can reduce perceptual differences between stakeholder roles.

But while a deficiency of significant variation is reassuring in the suggestion of a cohesive sense of personal safety, it also may suggest a shortage of differentiation or targeted approaches by group. In other words, security personnel may define imminent threats differently from residents or HOA board members, and an absence of statistical significance may reflect that there is an opportunity missed to adapt security response to each group's unique vulnerabilities.

The suggestion here is two-pronged: firstly, the data reflects a relatively homogeneous implementation of individual security measures; secondly, it provokes the need for a more advanced and stakeholder-oriented approach in the future. Security measures could be improved by targeted consultations, continuous risk analyses, and responsive training programs attuned to the everyday experiences of each group so that homogeneity does not conceal unmet needs.

Document Security. Table 7 presents the results of the one-way ANOVA comparing the perceived level of implementation of document security measures among three respondent groups: HOA leaders, HOA residents, and security personnel.

Table 7.

One-Way ANOVA Results for Document Security Measures by Respondent Group

Source of Variation	**SS**	**df**	**MS**	**F**	**p**	**F**	**Decision**	**Remark**
Between Groups	1.238	2	0.619	4.47	.045	4.26	Reject H_0	Significant
Within Groups	1.246	9	0.138					
Total	**2.484**	11						

The analysis reveals a statistically significant difference among the groups, as indicated by an F-value of 4.47, which is slightly above the critical value (F_{crit} = 4.26). The corresponding p-value of 0.045 is less than the 0.05 significance level, leading to the rejection of the null hypothesis. This means that the perceptions of the three groups regarding the implementation of document security measures differ significantly.

This significant result suggests that stakeholders within the residential community do not share a uniform view on how document security is being implemented. Such measures may include the safeguarding of visitor logs, service provider records, and updated resident directories. Security personnel, for instance, may have a more intimate understanding and closer monitoring of document-handling protocols, which could explain their higher ratings compared to residents or HOA leaders, who may be less engaged in daily documentation processes. This perception gap raises concerns about inconsistencies in communication, training, or enforcement practices across different roles within the community.

Linking these to existing literature, the data resonates with information security management principles, such as those discussed by Folorunso (2024), which raise the importance of role-based access, stakeholder awareness, and procedural standardization in document security. The data may also be analyzed through the lens of the Theory of Planned Behavior, which holds that perceived control and familiarity with procedures influence how individuals evaluate the effectiveness of policies (Conner, 2020). Thus, those more involved in the actual execution of document protocols (e.g., security personnel) may perceive them as more effectively implemented, while others who are less exposed to the intricacies may view them with skepticism or uncertainty.

The implications of this result are quite meaningful. First, the presence of perceptual gaps points to the need for clearer documentation policies and inclusive orientation programs for all stakeholders, especially HOA leaders and residents.

While there is already a published SBMA Residents' Handbook (2011), which intends to align security perceptions in the community, more efforts should be exerted. Ensuring that everyone understands how documents are managed, protected, and utilized can reduce misunderstandings and promote trust. Second, the significant difference calls attention to a potential risk in document management: if some groups are unaware or doubtful of the implementation of such measures, they may not comply fully or may even bypass protocols, unintentionally compromising security.

3.3 Level of effectiveness of existing security measures employed by homeowners' associations in SBMA to ensure community safety in terms of Identified Variables

3.3.1 Physical Security

Table 8 presents the perceived effectiveness of various physical security measures in the community, based on the median ratings from three stakeholder groups: HOA Leaders, Residents, and Security Personnel.

Gated Entrances and Access Control received perfect scores (5 from all groups), indicating that it is regarded as very effective in ensuring safety and limiting unauthorized access.

Table 8.

Effectiveness of Physical Security Measures by Stakeholder Group

Physical Security Measure	**HOA Leaders (Median)**	**Residents (Median)**	**Security Personnel (Median)**	**Verbal Interpretation**
CCTV Surveillance Systems	5	4	5	Effective to Very Effective
Gated Entrances and Access Control	5	5	5	Very Effective
Perimeter Fencing	4	3	4	Effective to Moderately Effective
Security Alarms and Motion Detectors	3	3	4	Moderately Effective to Effective
Adequate Lighting	4	4	4	Effective
Others (solar lights, warning signs)	4	3	4	Moderately Effective to Effective
Overall Central Tendency	**4**	**4**	**4**	**Effective**

CCTV Surveillance Systems scored 5 from HOA Leaders and Security Personnel, and 4 from Residents, showing it is considered effective to very effective, likely due to its role in monitoring and deterring criminal behavior.

Adequate Lighting received a consistent rating of 4 from all groups, reflecting its perceived effectiveness in enhancing visibility and discouraging suspicious activity.

Perimeter Fencing, while rated a 4 by HOA and Security, only scored 3 from Residents, suggesting moderate concern or perceived limitations in its deterrent capacity.

Security Alarms and Motion Detectors and Other measures (e.g., solar lights, warning signs) were rated lower overall (3 or 4), showing they are seen as moderately to effectively contributing to security, but not as strongly valued as access control or surveillance systems.

The overall central tendency of 4 from all groups indicates that physical security measures are generally viewed as effective, with variation depending on the type of measure.

The overall finding implies that there is strong stakeholder confidence in core security measures like gated entrances and CCTV systems, reinforcing their role as key deterrents. However, auxiliary measures such as perimeter fencing, alarms, and solar lights are perceived as less effective, particularly by residents, indicating possible gaps in implementation or differing expectations.

In terms of physical security, stakeholders generally perceive the measures to be effective, having an overall central tendency (median) of 4. This means that

physical security measures such as gates, guards, lighting, and surveillance systems are adequately implemented and functioning well in their residential communities.

Affirming the earlier finding on the implementation levels of physical security in the previous section, four key findings can be drawn from the table above: (1) consensus on the effectiveness of gated entrances and CCTV systems, (2) consistent performance of environmental security features, (3) moderate performance of perimeter security, and (4) reactive systems as the weakest link in the physical security.

Access Control and Surveillance: Most Effective. Stakeholders deem gated entrances and CCTV systems as most effective, with all stakeholder groups assigning these measures perfect scores of 5. This means that everyone sees the value of these visible measures in providing a sense of security—a fact that has been consistently repeated in the literature, especially among gated communities in the Philippines.

According to Atienza (2019), while having a gate and CCTV are not the only measures of security, they are the most visible and perceived to be effective deterrents to crimes, especially in the Philippines. This is precisely this sense of security that attracted residents to build their homes in gated communities in the country. On a more theoretical grounding, this perceived effectiveness on these measures also reflects what Eck and Clarke (2019) identify as the dual pillars of modern security—controlled access and continuous monitoring.

Security personnel's perfect ratings (median=5 for both measures) demonstrate professional confidence in these systems' operational effectiveness, while residents' slightly lower CCTV rating (median=4) may indicate occasional blind spots or maintenance issues noticed by observant community members. These findings strongly support Kalfaoglu et al.'s (2023) Defensible Space Theory, showing how physical design elements can effectively deter criminal activity when properly implemented.

Consistent Performance in Environmental Security Features. Adequate lighting emerges as another consistently deemed effective measure, with all groups awarding median scores of 4. This means that SBMA is perceived to have met standards for illumination in common areas—ensuring well-lit pathways, parking zones, and entry points that deter nighttime crimes while providing visible reassurance to residents.

The SBMA Handbook for Residents (2011) also provides that, should there be other concerns regarding streetlights, the SBMA Utilities may be contacted. Hence, the consistent effective perception of stakeholders on this measure suggests successful adherence to Crime Prevention Through Environmental Design (CPTED) principles regarding natural surveillance.

Kalfaoglu et al. (2023) confirm that lighting infrastructure adequately covers shared spaces and pathways, addressing nighttime security concerns.

Moderate Performance of Perimeter Security. Perimeter fencing demonstrates notable stakeholder perception differences, with security personnel and HOA leaders rating it 4 ("Well Implemented") versus residents' median of 3.

This perception gap likely stems from differing evaluation criteria—professionals assess technical specifications while residents judge based on visible maintenance and coverage gaps.

This could also be explained by the fact that the SBMA Handbook for Residents (2011) does not provide any provision concerning perimeter fencing. This echoes Snyder's (2025) observation that perimeter defenses often receive less priority than more visible interior security measures, potentially creating first-line vulnerabilities.

Reactive Systems: The Weakest Link. Similar to the earlier section on implementation, the measures of security alarms and motion detectors show the most concerning implementation gaps, with leaders and residents rating them only 3. Security personnel's slightly higher rating (median=4) likely reflects their technical understanding of system capabilities that may not be visible to others.

At any rate, the data shows just how security alarms and motion detectors are limited in implementation and are thus not perceived to be effective by stakeholders. Maldonado and Simske (2019) call this the "responsive security gap"—communities often prioritize passive deterrents over active alert systems. The data suggests potential under investment in these technologies or insufficient resident education about their functionality and importance.

3.3.2 Personal Security

As shown in the table, all groups (HOA leaders, residents, and security personnel) deem personal security in SBMA residences as effective, with a consistent median score of 4. Looking into the individual areas of personal security,

three key findings can be inferred from the tabular results shown below: (1) effective visitor access control and procedures, (2) consistent (but not excellent) courier delivery systems, and (3) gaps in service provider oversight.

Table 9.

Effectiveness of Personal Security Measures by Stakeholder Group

Personal Security Measure	**HOA Leaders (Median)**	**Residents (Median)**	**Security Personnel (Median)**	**Verbal Interpretation**
Visitors Access Control and Procedures	5	4	5	Effective to Very Effective
Courier Delivery Control	4	4	4	Effective
External Vendors/Suppliers Control	4	3	4	Moderately Effective to Effective
Other External Services (e.g., sanitation)	4	3	4	Moderately Effective to Effective
Maintenance Contractor Control	4	3	4	Moderately Effective to Effective
Overall Central Tendency	**4**	**4**	**4**	**Effective**

Effective Core Access Controls. The data reveal particularly effective implementation of visitor access control systems, with both HOA leaders and security personnel assigning perfect median scores of 5. Complementing this data with the SBMA Handbook for Residents (2011), the document states clearly the intention to limit visitor access and entry of outsiders in the residential communities, and if they do so, there are mechanisms like asking for identification.

It is also easier for security guards to point out if those coming in are outsiders because those living in the area are residents, because every member of the household has a resident identification card issued by the SBMA. Vehicle decals for residents are also available for proper identification and monitoring of vehicles entering the residential areas. Such effective practice aligns with Schaefer's (2021) application of Routine Activity Theory, demonstrating how these systems serve as "capable guardians" against potential security threats. The consistency across stakeholder groups supports Eck and Clarke's (2019) Situational Crime Prevention principles regarding the deterrent value of controlled access points.

Courier Delivery Systems: Consistent but Not Excellent. Courier delivery controls maintain steady "Well Implemented" ratings across all groups (median=4), indicating reliable but not exceptional performance. In the residents' handbook, it is said that personal belongings, such as but not limited to furniture and appliances, may be allowed to be taken in and out subject to proper registration, documentation, and inspection.

However, the rise of courier service delivery, especially during peak delivery periods, may explain why it has not attained a "very well implemented" rating. Nevertheless, the effective rating on courier delivery systems is attuned to what Routine Activity Theory (Schaefer, 2021) posits: that access controls effectively reduce criminal opportunities and thereby provide a sense of security.

Gaps in Service Provider Oversight. The statistics show concerning differences in the management of service providers, especially with respect to

outside vendors and maintenance contract workers. Security staff give these controls 4 ("Well Implemented"), but residents are far less trusting (median=3). This gap in perception upholds Mihinjac & Seville's (2019) CPTED research regarding the difficulty of controlling irregular interactions. The lower ratings presumably indicate several weaknesses: inconsistent credentialing of service staff, poor escort procedures, and limited documentation of service operations—all of which present possible security weaknesses in contrast to apparent perimeter controls. These weaknesses are particularly concerning in light of Almaiah et al.'s (2023) advice that service providers tend to have greater community access than visiting staff.

3.3.3 Document Security

In terms of document security, stakeholders have rated it as “moderately to well-implemented” with an overall central tendency (median) score of 4 from HOA leaders and security personnel, while residents have rated it at 3. This implies that although the systems in place in SBMA residences are viewed as functioning reasonably well by those managing or enforcing them, residents appear less confident in their effectiveness or accessibility.

Three key points can be inferred from the table above: (1) perceived effectiveness of core visitor documentation, (2) moderate performance for resident records, (3) consistent effectiveness ratings for digital registry and backup logs, and (4) maintenance documentation as the weakest performance.

Table 10.

Effectiveness of Document Security Measures by Stakeholder Group

Document Security Measure	HOA Leaders (Median)	Residents (Median)	Security Personnel (Median)	Verbal Interpretation
Logbook for Announced/Unannounced Visitors	4	3	4	Moderately Effective to Effective
Updated List of Residents	4	3	4	Moderately Effective to Effective
Others (digital registry, backup logs)	4	3	4	Moderately Effective to Effective
Updated List of Maintenance/Housekeeping	3	3	4	Moderately Effective to Effective
Overall Central Tendency	**4**	**3**	**4**	**Moderately Effective to Effective**

Effective Visitor Documentation. The data reveals effective implementation of visitor logbook systems, with security personnel and HOA leaders both assigning median scores of 4 ("Well Implemented"). In the context of SBMA residential communities, this finding suggests that the visitor logbook system is functioning as intended, particularly from the perspective of those directly managing or enforcing the process.

This aligns with the SBMA Handbook for Residents (2011), which stipulates that only residents with official resident identification cards can bypass the logbook process, while all other individuals—including guests, vendors, and unregistered visitors—are required to sign in. The system therefore serves as a formal control mechanism for monitoring non-residents, and the consistent use of logbooks

reflects compliance with established community guidelines. Such emphasis on documentation conforms to Shala et al.'s (2021) Contingency Theory, demonstrating how critical access control documentation has been prioritized to meet the community's specific security needs.

Moderate Performance of Resident Records. Updated resident lists show significant perception disparities, with security personnel and HOA leaders rating them 4 ("Well Implemented") versus residents' median of 3. In the SBMA context, the policy requiring all household members to obtain identification cards should imply that resident directories are accurate and up-to-date. However, the lower rating from residents may reflect practical issues on the ground—such as homeowners not reporting tenant turnovers, delays in updating the system, or a lack of transparency in how the information is maintained.

Since many homes are rented out or occupied by tenants, it’s possible that changes in occupancy aren’t always formally reported to the HOA or security, which could explain the residents' doubts about the accuracy or completeness of the list. This perception gap likely stems from what Garcia-Aviles (2020) identified as "information asymmetry" in organizational systems, where administrators have more complete knowledge of processes than end-users. The moderate resident rating may reflect infrequent update cycles or limited access to verify list accuracy, issues that Transaction Cost Theory (Cuyper et al., 2021) suggests could be mitigated through digital solutions that reduce verification burdens for all stakeholders.

Digital Systems Show Promise but Need Refinement. Digital registries and backup systems receive consistent but unexceptional ratings (median range 3-4), indicating partial but incomplete technological integration. This finding indicates that while digital registries and backup systems are being used in SBMA residential communities, their implementation is not yet fully optimized. The consistent but moderate ratings (median range 3–4) across stakeholder groups suggest that some level of digitalization is in place—such as electronic logs or databases—but it may be limited in scope, reliability, or user adoption. This points to partial but incomplete technological integration, where traditional systems like paper-based logs may still dominate, and digital tools are either underutilized, inconsistently maintained, or not fully trusted. It also implies that while stakeholders recognize the shift toward technology, they may still encounter barriers like inadequate infrastructure.

These findings resonate with Rogers' Diffusion of Innovations Theory (1962), suggesting these systems are in the early majority adoption phase—functional but not yet optimized. Security personnel's higher confidence (median=4) likely reflects their technical familiarity, while residents' moderate ratings (median=3) may indicate usability challenges or lack of awareness about digital safeguards in place.

Maintenance Documentation: The Weakest Link. Maintenance and housekeeping records show the poorest performance, with residents rating them just 3 ("Moderately Implemented") despite security personnel's more optimistic 4. The residents' lower rating signals a lack of confidence in how service-related

movements are monitored, which could pose a potential security concern if not addressed through better coordination and record-keeping practices. This gap highlights what Mihinjac and Seville (2019) identified as the "service provider visibility problem" in CPTED—where irregular workers escape the documentation rigor applied to regular visitors. The data suggests these records suffer from infrequent updates and lax verification, creating potential security blind spots that offenders might exploit.

3.4 Significant difference in the perceived level of effectiveness of security measures among the three groups of respondents

Physical Security. Table 11 presents the result of a one-way ANOVA test carried out to determine whether there is any significant difference in the perceived effectiveness of physical security measures between three groups of respondents: security personnel, residents, and HOA leaders. The result shows that the F-statistic is equal to 1.14, with a p-value of 0.351, which is greater than the commonly accepted significance level of 0.05. Therefore, the null hypothesis (H_0) of no significant difference in the groups' perceptions cannot be rejected. This means that perceptions of how effective the physical security measures are do not differ significantly between HOA leaders, residents, and security guards.

The F-statistic value, 1.14, is very low compared to the critical value, 3.89, and this also supports the failure to reject the null hypothesis. This indicates that although there might be role and outlook differences between the two groups, they have very similar perceptions regarding the effectiveness of the physical security measures.

In terms of the sum of squares (SS), variation between groups (0.711) is much less than variation within groups (3.728), showing that responses of subjects within each group are more variable than the variation among the groups themselves. This also corroborates the lack of statistical significance across the groups.

Table 11.

One-Way ANOVA Results for Effectiveness of Physical Security Measures Across HOA Leaders, Residents, and Security Personnel

Source of Variation	SS	df	MS	F	p	F	Decision	Remark
Between Groups	0.711	2	0.356	1.14	.351	3.89	Fail to Reject H_0	Not Significant
Within Groups	3.728	12	0.311					
Total	4.439	14						

The results indicate that there is a consensus between HOA decision-makers, residents, and security personnel regarding the efficacy of physical security measures. This could be explained by the general importance of physical security in communal settings, where most of the respondents would have similar expectations and experiences concerning security measures. It may also imply that security arrangements available are viewed as sufficiently effective by different groups, reflecting a common appreciation of their necessity for ensuring security.

Implication-wise, the inability to reject the null hypothesis implies that stakeholders in the community—be they HOA officials, residents, or security staff—are on the same page regarding perceptions of physical security features.

This congruence can foster concerted efforts at enhancing security measures more, as all seem to share the same view about how effective they are currently.

It also implies that no group finds the measures to be more or less effective than the others find them, which would be useful for devising concerted ways of improving community security.

Linking these findings to literature, this lack of significant difference aligns with organizational theory, in particular the shared mental models theory, where it is said that when groups or teams within a community or an organization have the same perception, they are most likely to cooperate successfully towards common objectives (Albalawi et al., 2019). The findings are also resonant with social cohesion theory (Kyryliuk et al., 2023), which contends that shared values and experiences within a society can foster more effective collective action and cooperation. In this case, the lack of significant variation in perceptions suggests that the community has reached a position of cohesion insofar as the effectiveness and applicability of physical security measures are concerned.

Personal Security. Table 12 presents the result of one-way ANOVA testing the effectiveness of personal security procedures between three categories: HOA leaders, residents, and security staff. The F-statistic 5.81 is significantly larger than the critical F-value 3.89, and the p-value 0.017 is smaller than the required significance level 0.05. These results lead to the rejection of the null hypothesis (H_0) and indicate that there exists a real difference in perceived effectiveness of personal security measures in the three groups.

The variation between groups (1.43) is greater than the within-group variation (1.47), indicating that differences between the groups' perceived effectiveness are not due to variability within the groups due to random causes but due to real differences in perception.

Table 12.

One-Way ANOVA Results for Effectiveness of Personal Security Measures Across HOA Leaders, Residents, and Security Personnel

Source of Variation	**SS**	**df**	**MS**	**F**	**p**	**F**	**Decision**	**Remark**
Between Groups	1.43	2	0.713	5.81	.017	3.89	Reject H_0	**Significant**
Within Groups	1.47	12	0.123					
Total	2.90	14						

The comparatively large F-statistic supports the inference that at least one of the groups is significantly different from the others in their assessment of personal security measures. The results show that the perceived effectiveness of personal security measures varies depending on whether the respondent was a member of the HOA leader, resident, or security personnel member group.

This finding indicates that community stakeholders, owing to their individual functions and responsibilities, are capable of having individual perspectives on personal security. HOA officers, for example, may be more interested in long-term strategic planning regarding security processes and consequently may have a distinct perspective from residents, who might be more concerned with practical, everyday issues of safety, or security guards, whose main responsibility is security procedure enforcement. The extensive variation between groups means that

personal security measures might be measured based on changing priorities or standards, which would influence each group's perception of their effectiveness.

Theoretically, these results are in line with role theory, which argues that individuals' roles within a community or organization can shape their perceptions and actions. According to this theory, the HOA leader's role involves more strategic control, the residents' role involves personal safety, and the security personnel's role involves operational security measures (Biddle, 1986). This difference in viewpoint might explain the great variations in the perceptions of the effectiveness of personal security measures.

The findings have important implications for personal security planning and implementation in the community. The differences in perception suggest that perhaps a one-size-fits-all security solution may not be most appropriate. To address the differing concerns of each group most appropriately, tailored security interventions might be needed.

For example, whereas HOA leadership may require more emphasis on policy compliance and advanced strategic security planning, residents may require more individual safety sensitization and specific interventions against topical issues. Meanwhile, security personnel may require support through training schemes to enhance their ground-level effectiveness in enforcing security protocols.

Interpreting these results in the context of existing literature, the dramatic fluctuation in perceptions confirms perception management theory, which

presumes that the roles and experiences individuals have will dictate how they perceive and judge security measures (Balapour et al., 2021).

In the context of individual security, the theory would then presume that perception of security measures can vary depending on one's direct experience and exposure to the issues at hand.

Document Security. Table 13 presents the outcome of the one-way ANOVA test for the perceived effectiveness of document security controls by HOA leaders, residents, and security staff. The computed F-statistic value of 25.87 is significantly greater than the critical F-value of 4.26, and the p-value of 0.0002 is significantly less than the significance level of 0.05, which is a widely used significance level. These results lead to the null hypothesis (Ho) rejection and show that there is a statistically significant difference between the three groups in perceived effectiveness of document security measures.

The between-group variance (2.29) is much higher than the within-group variance (0.40), suggesting that the differences between the groups in perceived effectiveness are large and not due to random variation within groups. The high F-statistic also lends credence to the conclusion that the self-reported effectiveness of document security practices is quite different depending on whether the respondent is an HOA leader, resident, or security personnel member.

Table 13.

One-Way ANOVA Results for Effectiveness of Document Security Measures Across HOA Leaders, Residents, and Security Personnel

Source of Variation	SS	df	MS	F	p	F	Decision	Remark
Between Groups	2.29	2	1.14	25.87	.0002	4.26	Reject H_0	Significant
Within Groups	0.40	9	0.04					
Total	**2.68**	11						

These differences imply that the groups evaluate the effectiveness of document security practices differently, possibly due to their role and actual exposure to the security practices.

Dismantling the findings even more, no one has any doubt that heterogeneity across groups would be influenced by how they are involved in document security management. HOA leaders can easily be involved at a strategic and monitoring level and therefore would know more about overall steps and their implementation. In contrast, residents who are not directly involved in the implementation of document security may have lower exposure to or awareness of the specific security features adopted. Security personnel, on the other hand, would be most likely to have a more practical and hands-on experience with the implementation and enforcement of document security measures. Therefore, both sets of users can judge the efficacy of the measures about their level of involvement and direct exposure to them.

The vastly differing perceptions of security measures in documents reaffirm the need for embracing a more personalized approach to security interventions. For instance, HOA leaders might be assisted by being trained better in document management systems to enable them to decide more effectively on changes or improvements.

Residents might require more transparency or information concerning the security process that is operational because their lower role in the security process might lead to misunderstandings or a perceived lower effectiveness.

For security officers, the focus would be on maximizing their hands-on engagement with document security so that their first-hand experience is oriented towards best practice and maximizes their operational effectiveness.

Theoretically, the results are aligned with organizational theory and the role theory framework, under which individuals in different roles within an organization perceive and interpret events or interventions differently based on their experience and role (Biddle, 1986). In document security, the theory explains why HOA leaders, residents, and security personnel each have varying perceptions of the effectiveness of security measures. Their function determines their access to information, understanding of the security measures, and individual agendas, all of which shape their perceptions of document security.

The findings also have important implications for policy and practice. Because there are considerable differences of opinion, security administrators must adopt a multi-level communications plan that addresses the unique needs of each organization. This could involve enhancing resident communication to inform them more effectively of document security measures, providing security personnel training to ensure they are fully equipped to implement the measures, and working with HOA leadership to enhance monitoring and strategic planning with document security.

Cross-referencing with previous literature, these findings are consistent with perception management theory, which contends that individuals' perceptions are shaped by their roles, experience, and exposure to certain elements of an organization or system (Balapour et al., 2020). In document security, this theory argues that the varying perceptions between HOA leaders, residents, and security personnel are not only to be anticipated but also inevitable, since each of these groups plays different roles in the security apparatus.

3.5 Level of stakeholders' involvement in the development of security measures in SBMA homeowners' associations in terms of Identified Variables

3.5.1 Planning Phase

By and large, the data reveal that security planning in SBMA residences is generally perceived as "moderately implemented," with an overall median score of 3 from both residents and security personnel, while HOA leaders rate it slightly higher at 4. This suggests that while basic participatory structures exist, significant gaps remain in establishing the kind of ongoing feedback loop that Clarke (2017) identifies as essential for effective security management. Three key findings emerge from the results: (1) security personnel are consulted in planning but have limited influence on final decisions, (2) low levels of participation from residents, and (3) high levels of participation from HOA leaders.

Table 14 shows the level of planning participation among stakeholder groups—HOA leaders, residents, and security personnel—across various phases of community security planning.

HOA leaders consistently gave a median rating of 4 for all items, indicating they believe participation and collaboration are well implemented across planning phases.

In contrast, both residents and security personnel gave lower median scores of 3, suggesting they view these participatory practices as only moderately implemented.

Table 14

Level of Planning Participation of HOA Leaders

Planning Phase	HOA Leaders (Median)	Residents (Median)	Security Personnel (Median)	Verbal Interpretation
Residents actively contribute to discussions about security improvements.	4	3	3	Moderately Implemented to Well Implemented
Security personnel are consulted when creating safety plans.	4	3	4	Moderately Implemented to Well Implemented
HOA leaders seek feedback from residents about security policies.	4	3	3	Moderately Implemented to Well Implemented
Stakeholders collaborate on community-wide safety initiatives.	4	3	3	Moderately Implemented to Well Implemented
Residents are encouraged to propose security enhancements.	4	3	3	Moderately Implemented to Well Implemented
Stakeholders are involved in deciding on significant security changes.	4	3	3	Moderately Implemented to Well Implemented
Votes are conducted when implementing major security policies.	4	3	3	Moderately Implemented to Well Implemented
Decisions reflect the collective input of all stakeholders.	4	3	3	Moderately Implemented to Well Implemented

HOA leaders share decision rationales with the community.	4	3	3	Moderately Implemented to Well Implemented
Conflict resolution mechanisms are available for contested decisions.	4	3	3	Moderately Implemented to Well Implemented
Overall Median	**4**	**3**	**3**	Moderately Implemented to Well Implemented

The areas assessed include stakeholder consultations, feedback-seeking, decision-making processes, collaboration, and conflict resolution. Despite the HOA's positive perception, the other stakeholders express a more cautious or limited view of their involvement.

The overall median of 4 for HOA leaders and 3 for both residents and security personnel highlights a disconnect in perceived levels of participation and inclusivity in planning activities.

The results reveal a perception gap in planning participation. While HOA leaders believe stakeholder involvement is well implemented, both residents and security personnel feel only moderately included. This suggests that, despite the HOA's efforts, actual engagement practices may fall short in transparency, collaboration, and inclusive decision-making. To address this, more intentional, visible, and structured participatory mechanisms are needed to ensure all stakeholders feel genuinely involved in security planning processes.

Security Personnel Consultation: Limited Strategic Influence. The data show that consulting security personnel during safety planning is the only item rated as "well implemented" (median=4 by leaders/personnel). It should be noted that the SBMA Handbook for Residents (2011) itself indicates that the security

measures underwent consultation with all pertinent offices in SBMA, which would then include the security personnel who are directly manning the security of communities.

While this indicates their operational expertise is valued when creating security plans, their median score of 3 for all other participation measures suggests their frontline insights are often overlooked in broader policy discussions. This partial inclusion fails to achieve what Santos et al. (2017) advocate for—security personnel's active participation in forums where their operational knowledge could shape more responsive policies.

Residents' Low Levels of Participation. Residents uniformly rate all participation measures at 3 ("Moderately Implemented"), particularly concerning items like voting on major policies (median=3) and collective decision-making (median=3). While mechanisms like voting and feedback collection exist formally (hence not scoring lower), residents likely feel their participation is performative rather than substantive.

This can be explained by the work of Santos (2015), noting that Philippine gated communities often mistake consultation for collaboration. For instance, residents may be allowed to vote on policies (meeting procedural requirements) but feel their votes do not meaningfully alter pre-determined HOA agendas (reflected in the neutral score). This tokenistic participation contradicts Hardy's (2021) model of inclusive security processes where residents co-create solutions. Practical barriers likely include infrequent forums (contrary to Bruss & Sowell's 2020 recommendation for continuous updates) and no formal channels to escalate

resident proposals—a missed opportunity since Johnson and McFarland (2019) show security programs succeed when aligned with resident concerns.

The Ladder of Participation. While residents have low levels of participation in decision-making, HOA leaders consistently rate at 4. This brings to mind what Arnstein (2019) termed the "ladder of participation"—SBMA's planning may have been centered on those holding positions in the community. This resonates with Freeman's (1984) Stakeholder Theory: while all parties are *engaged*, the uneven scores reveal inequities in *influence*. HOA leaders act as "gatekeepers" of participation—a pattern consistent with Weber's (1978) bureaucracy theory, where hierarchical structures limit grassroots input.

3.5.2 Implementation Phase

Table 15 evaluates the level of participation by HOA leaders, residents, and security personnel during the implementation phase of community security measures.

HOA leaders consistently rated participation as well implemented (mostly 4s), showing confidence in communication, coordination, and compliance efforts.

Security personnel generally agreed (mostly 4s), especially on protocol adherence and cooperation.

Residents, however, gave consistent ratings of 3, indicating they perceive implementation efforts as only moderately implemented, especially in areas like communication, feedback access, and involvement in forums.

Notably, areas such as open forums and feedback mechanisms received lower ratings (3 from all), suggesting a weakness in two-way communication and community engagement during implementation.

The overall median ratings—4 for HOA, 3 for residents, and 4 for security personnel—highlight a divergence in perceptions, with residents feeling less engaged or informed during implementation activities.

Table 15.

Level of Implementation Participation of HOA Leaders

Implementation Phase	HOA Leaders (Median)	Residents (Median)	Security Personnel (Median)	Verbal Interpretation
Residents cooperate during the implementation of new security measures.	4	3	3	Moderately Implemented to Well-Implemented
Security personnel follow established protocols diligently.	4	3	4	Moderately Implemented to Well-Implemented
HOA leaders provide clear instructions during security rollouts.	4	4	4	Well Implemented
Stakeholders help ensure compliance with security rules.	4	3	4	Moderately Implemented to Well-Implemented
Cooperation among stakeholders is maintained throughout implementation.	4	3	4	Moderately Implemented to Well-Implemented
Information about security policies is communicated clearly to residents.	4	3	4	Moderately Implemented to Well-Implemented
Regular updates are provided regarding changes in security protocols.	4	3	3	Moderately Implemented to Well-Implemented
Security incidents are reported promptly to all stakeholders.	4	3	4	Moderately Implemented to Well-Implemented

Open forums are conducted to discuss community security concerns.	3	3	3	Moderately Implemented
Feedback channels for reporting security issues are easily accessible.	3	3	3	Moderately Implemented
Overall Median	**4**	**3**	**4**	**Moderately to Well Implemented**

The finding implies that there is a perception gap during the implementation of security measures: HOA leaders and security personnel are confident, but residents feel only moderately involved. This indicates a need to enhance resident engagement, especially in communication, feedback channels, and open forums.

In terms of participation in the implementation phase, stakeholders have generally accorded their participation as “moderately to well implemented”, with HOA leaders (median=4) and security personnel (median=4) expressing stronger confidence than residents (median=3). What this suggests is that while operational protocols are generally followed, resident engagement and transparency remain key challenges. Three critical findings emerge: (1) clear top-down instruction exists but bottom-up feedback is weak, (2) protocol compliance depends heavily on security personnel's diligence, and (3) communication gaps undermine resident cooperation.

Top-Down Implementation vs. Bottom-Up Engagement. HOA leaders rate all instruction-related items as "Well Implemented" (median=4), confirming clear directive leadership during security rollouts. However, residents' lower scores for cooperation (median=3) and feedback accessibility (median=3)

reveal what Clarke (2017) identifies as a "broken feedback loop" – where implementation is mandated but not co-created. For example: Clear instructions (median=4 leaders) do not translate to resident cooperation (median=3) or that Protocol diligence by security (median=4) is not matched by open forums (median=3). This aligns with Hardy's (2021) warning that exclusionary implementation breeds compliance without ownership.

Security Personnel: The Compliance Backbone. Security personnel's high ratings for protocol adherence (median=4) and incident reporting (median=4) validate their role as operational anchors. This, of course, is expected of security personnel who are trained to follow strict procedures—a finding that echoes Santos et al. (2017) on frontline reliability. Yet their median=3 on resident cooperation and feedback channels suggests what Johnson & McFarland (2019) term "enforcement fatigue," where personnel bridge engagement gaps through extra effort rather than systemic support.

Communication Gaps Undermine Trust. The gap between leaders/ residents on policy communication (median=4 vs. 3) and regular updates (median=4 vs. 3) is an important finding that needs to be emphasized. It has long been established that policy communication is important, especially in institutionalizing safe spaces. However, the data reflects what Cossyleon (2023) observed as a a "transparency deficit" in gated communities. Critical lapses include reactive (not proactive) updates; changes shared after implementation (Bruss & Sowell, 2020); formal but infrequent forums; and quarterly meetings instead of continuous dialogue (Mussa, 2023).

5.1.3 Evaluation Phase

Table 16 presents the level of participation in the evaluation phase of community security initiatives, as rated by HOA leaders, residents, and security personnel.

HOA leaders gave consistent scores of 4, indicating they believe evaluation efforts—such as monitoring crime trends, compliance, training, and discussions—are well implemented.

Table 16.

Level of Evaluation Participation of HOA Leaders

Evaluation Phase	HOA Leaders (Median)	Residents (Median)	Security Personnel (Median)	Verbal Interpretation
Residential crimes index	4	3	3	Moderately Implemented
Compliance of residential occupants on existing security procedures	4	3	4	Moderately to Well Implemented
Trainings and deployment of security personnel	4	3	4	Well Implemented
Discussion on security gaps during stakeholder meetings	4	3	4	Moderately to Well Implemented
Intervention response time of the security team	4	3	4	Moderately to Well Implemented
Awareness and dissemination of security information	4	3	4	Moderately to Well Implemented

Overall Median	**4**	**3**	**4**	Moderately to Well Implemented

Security personnel also rated most items 4, showing they feel actively involved in evaluating and improving security operations.

In contrast, residents gave consistent scores of 3, suggesting they perceive their involvement in the evaluation phase as only moderately implemented.

The lowest rating across all groups was in the residential crimes index, possibly indicating limited awareness or inclusion of residents in crime data discussions or feedback loops.

The overall median ratings—4 for HOA leaders, 3 for residents, and 4 for security personnel—highlight a recurring trend: residents feel under-involved in security evaluation processes, despite other stakeholders viewing them as adequately implemented.

The finding implies that there is a clear participation gap in the evaluation phase of security programs. While HOA leaders and security personnel view evaluation efforts as effective and inclusive, residents feel only moderately involved.

Based on the table above, HOA leaders and security personnel generally rate evaluation processes more favorably than residents, indicating a perceptual gap that merits serious consideration. This divergence suggests that while formal evaluation mechanisms exist, they may not fully capture or address resident concerns and experiences.

Security training and protocol. Security training and protocol compliance emerge as clear strengths in the evaluation phase, with both HOA leaders and security personnel assigning high ratings to these aspects. The "Well Implemented" designation for training programs reflects substantial investment in developing security staff capabilities in SBMA, a finding that aligns with Santos et al.'s (2017) research demonstrating the critical importance of professional training in effective security operations. These programs likely include regular drills, certification requirements, and ongoing professional development opportunities that ensure security personnel remain prepared for various scenarios.

The strong performance in protocol compliance similarly indicates that established procedures are generally being followed, suggesting a baseline level of operational discipline within SBMA security systems.

Residents' low level of participation in evaluation. What appears to be concerning in the data is that residents consistently rate all aspects of security evaluation lower than other stakeholders, particularly in areas measuring their awareness and engagement. This persistent discrepancy suggests what Clarke (2017) identifies as a "participation deficit" in security assessment processes.

While security personnel may be executing their duties competently, residents feel disconnected from these efforts and uncertain about their effectiveness. The moderately implemented rating for residential crime tracking further indicates that current evaluation systems may not adequately capture or respond to residents' actual security experiences.

The evaluation of security gaps during stakeholder meetings presents an interesting case of partial success. While HOA leaders and security personnel rate these discussions favorably, residents' more modest assessment suggests these conversations may not be as inclusive or productive as they could be. This aligns with Gilling's (2022) observation that security discussions often privilege professional perspectives over community insights. The result is what Hardy (2021) describes as "truncated dialogue"—exchanges that check procedural boxes without generating meaningful collaboration or solutions.

A particularly important finding involves the evaluation of security information dissemination. While HOA leaders and security personnel believe awareness campaigns are effective, residents' lower ratings indicate these efforts may be missing their mark. This communication gap has significant implications, as Johnson and McFarland (2019) demonstrate that resident cooperation with security measures depends heavily on clear, accessible information. The current approach may rely too heavily on formal channels that do not reach all residents effectively or present information in ways that don't resonate with diverse community members.

The path forward requires recognizing that effective security evaluation must be multidimensional. It needs to incorporate professional standards and operational metrics while also valuing resident experiences and perceptions. It should balance quantitative data with qualitative insights and combine periodic comprehensive assessments with ongoing monitoring. Most importantly, it must

be truly participatory, engaging all stakeholders in meaningful ways throughout the evaluation process.

3.6 Significant difference in the perceived level of involvement in the development of security measures across different stakeholder groups

Planning Participation. Question 6 explores whether there are significant differences in perceived level of participation in planning security measures across various groups of stakeholders, i.e., HOA leaders, HOA residents, and security personnel. The results, as presented in Table 40, indicate that there is a statistically significant difference among the groups in terms of their perceived level of participation in planning security measures. We make this conclusion from the one-way ANOVA summary with F-statistic = 23.35 and p-value of <.001, which is much smaller than the 0.05 significance level. Therefore, we conclude that we reject the null hypothesis of no difference in the level of involvement across the three groups and conclude that the perception of at least one of the groups differs significantly from the others.

Table 17.

One-way ANOVA Summary of Planning Participation Differences Across HOA Leaders, HOA Residents, and Security Personnel

Source of Variation	SS	df	MS	F	*p*-value	F	Decision	Remarks
Between Groups	2.257	2	1.129	23.35	< .001	3.89	Reject the null	Significant differences among the groups
Within Groups	0.580	12	0.048					
Total	**2.837**	14						

The F-value of 23.35 suggests that the difference among the groups is far greater than the difference between the groups, highlighting the fact that the variations in perceived involvement are not the result of mere chance. The p-value of less than 0.001 also provides more evidence to support the fact that there are huge differences between the perceptions of the groups. Particularly, the conclusion to abandon the null hypothesis indicates that HOA leaders, residents, and security staff perceive differences in being involved in planning security measures.

Taking further into account the implications of these findings, the high differences point towards the various roles played by each of these groups in the formation of security measures. The HOA leaders, in general, tend to be responsible with the authority and mandate of decision-making and may feel that they are included more in the planning process. Conversely, residents and security officers, who may be more passive recipients or actors of the imposed security measures, may report lower perceived involvement. This disparity in perceptions is significant since it can affect the overall effectiveness of the security measures. Residents and security officers, if left out of planning, would lead to a lack of cooperation and compliance with the measures.

Existing literature on security and planning with stakeholder involvement suggests that lack of participation from some groups can result in implementation challenges. Bednarska-Olejniczak et al. (2019) believe that the success of programs for community security relies heavily on the involvement of all the concerned stakeholders, and the exclusion of some groups from the planning

process can result in resistance to change and ineffective security interventions. Apart from this, Dunn and Holmberg (2019) also presented that there is more usefulness in community-based security methods whenever stakeholders, the people, and security bodies play participatory roles in the decision-making process.

Findings of the study favor such assertions, presenting the integration of participative decision-making and planning as essential. Karns and Wong (2023) further assert that a sense of ownership and responsibility in security measures is enhanced when all the stakeholders, particularly the residents, are part of the planning process. The sense of belonging not only promotes compliance with the measures but also improves the sense of trust among the community members and the security personnel. Accordingly, the significant differences of the current research imply that more participation by residents and security staff at the planning phase may enhance the general efficacy of the security measures.

Implementation Participation. Table 18 examines whether or not there are significant differences in the perceived level of involvement in the enforcement of security policies among the three stakeholder groups: HOA leaders, HOA residents, and security personnel.

The one-way ANOVA summary table in Table 18 indicates a statistically significant difference between groups, with an F-statistic of 11.27 and a p-value of .00176, which is less than the significance level of 0.05. Hence, the null hypothesis of no difference between groups is rejected, indicating that there exist considerable

differences regarding how each group perceives their level of involvement in the implementation stage of the security measures.

The F-value of 11.27 suggests that the difference between groups is considerably higher than the difference within groups, lending weight to the inference that the differences in perceived participation are significant. This significance statistically suggests that HOA leaders, residents, and security personnel have different perceptions of their respective roles in enacting security measures, most likely due to the differing responsibilities and roles of each group in the security framework.

Table 18.

One-Way ANOVA Summary of Implementation Participation Differences Across HOA Leaders, HOA Residents, and Security Personnel

Source of Variation	**SS**	**df**	**MS**	**F**	***p*-value**	**F**	**Decision**	**Remarks**
Between Groups	1.577	2	0.789	11.27	.00176	3.89	Reject the null	Significant difference among the groups
Within Groups	0.840	12	0.070					
Total	**2.417**	14						

After further analysis, the significant difference in the implementation stage indicates the potential difference in how much interest each group is going to take in security measures. HOA executives, who in a majority of circumstances hold major decision-making power, are likely going to believe they have a greater stake in the implementation stage. On the other hand, residents who are usually on the receiving end of these measures might view their contribution as more passive and

may feel that they are not contributing to strategic decisions, whereas security personnel responsible for enacting the security measures may feel accountable for implementation but not necessarily party to the decision-making process for strategic planning.

The relevance of these observations is vital in making security measures successful. Should there be some perceived non-involvement of the affected stakeholder groups, mainly the residents or the security officers, in the process, it is possible that buy-ins or a sense of ownership are denied, causing some adverse effect on compliance as well as on final success. The author supports Sullivan and Hunter (2019) that where resident or security staff participation has been absent in participatory measures, communication voids, misinformation, and reduced motivation are effects caused, all of which have the power to weaken effectiveness within security measures. Therefore, involving all stakeholders more equally in the implementation process canenhance cooperation, compliance with security measures, and community sense of responsibility.

Further, participatory decision-making literature on community-based security programs shows that participatory implementation processes lead to higher community satisfaction and trust in security measures. Emslie and Willis (2022) also emphasize that if community members, including residents and security officers, are involved in the enforcement of policies, the likelihood of effective integration and long-term compliance is higher. Consequently, the large resultant differences between this study and earlier work suggest that more participatory implementation methods, involving residents and security personnel

alongside HOA leaders, would maximize the overall efficacy and perceived success of security initiatives.

Evaluation Participation. Question 6.3 investigates whether or not there exist significant differences in the perceived level of participation in the evaluation phase of security measures among HOA leaders, HOA residents, and security personnel.

From the one-way ANOVA summary presented in Table 19, the findings indicate that there exists a statistically significant difference between the groups as reflected by the F-statistic of 18.25 and a p-value of .00023, considerably lower than the 0.05 significance level. This leads to the null hypothesis being rejected and, therefore, the levels of participation in the evaluation of security measures differ substantially among the three groups.

Table 19.

One-Way ANOVA Summary of Implementation Differences Across HOA Leaders, HOA Residents, and Security Personnel

Source of Variation	SS	df	MS	F	*p*-value	F	Decision	Remarks
Between Groups	2.032	2	1.016	18.25	.00023	3.89	Reject the null	Significant difference among the groups
Within Groups	0.668	12	0.056					
Total	**2.700**	14						

The F-statistic of 18.25 signifies that the inter-group difference is substantially larger than the intra-group difference, and this further implies that each of the stakeholder groups perceives their role within the evaluation process

differently. This difference may be a reflection of the various roles HOA leaders, residents, and security personnel play in evaluating how well security is working. HOA leaders, who are typically responsible for overseeing security policies, may have a more active role in evaluation, while residents may see their participation as less active, based on the transparency of the evaluation procedures to them. Security personnel, who have the duty to implement and verify security protocols, may have differing beliefs regarding their involvement in the evaluation of outcomes from their work.

With regard to implications, the extreme differences in perceived participation in evaluation suggest that some groups may feel disenfranchised or underutilized in feedback and evaluation processes. This has critical implications for the long-term efficacy of security protocols. If the residents or security personnel are excluded from the evaluation of security measures, they may not be motivated to be actively engaged or provide constructive feedback that would render security policies more effective. Crawford and Herring (2018) believe that disengagement in the evaluation process could undermine the sense of responsibility and ownership among key stakeholders, which could lead to lower compliance and an ineffective response to emerging security threats.

Furthermore, community-based security program literature points out the importance of engaging all stakeholders, like residents and security officers, at the evaluation level. When individuals who are directly affected by security protocols are given a platform to evaluate them, they become more confident and cooperative. For instance, Levin and Martin (2022) argue that incorporating

feedback from various members of the public in the evaluation phase ensures that security procedures are attuned to the fears and needs of all the stakeholders. Such thorough evaluation will result in more effective security policy reforms and greater public acceptance.

The findings from the research inform the need for a more participatory evaluation process under which residents, HOA leaders, and security officials are able to contribute their views as to the sufficiency or insufficiency of the security arrangements and areas where improvement is needed. This would not only serve to increase the effectiveness and salience of the evaluation process but also inform building a culture of collective responsibility to ensure the community's safety and well-being. A more inclusive review procedure would also help identify possible gaps in security, e.g., unreported events or under-stressed vulnerabilities in the security procedures, which can be corrected earlier.

3.7 The challenges encountered by the respondents in the implementation of security measures

In addressing this research question, the researcher conducted thematic analysis from the transcripts of key informant interviews conducted with selected HOA leaders, residents, and security personnel. The themes have been predetermined to align with the variables of the study (i.e., physical security, personal security, document security, and participation in planning, implementation, and evaluation phases). Nevertheless, the sub-themes outlined in the table below were clustered by the researcher based on the interview responses of the participants.

As shown in the table above, several challenges have been raised by participants, including (1) infrastructure deficiencies, (2) maintenance delays, (3) visitor management, (4) staffing issues, (5) data accuracy, (6) digital transition, (7) planning-execution gap, and (8) accountability.

Table 20.

Challenges Encountered by Respondents in Implementing Security Measures

Theme	Sub-Theme	Illustrative Texts
Physical Security	**Infrastructure Deficiencies**	• *"May mga CCTV kami dito sir in many places like sa hall, sa gate, lalo sa public places dito. May mga camera feeds naman sa aming control room pero may ibang hindi operational."* (HOA Treasurer, Village B) "Okay dito kasi maraming CCTV" (Resident) • *"Logbook gamit naming dito, walang biometrics o QR code. May mga ID naman kasi yung residents kaya ipapakita lang nila pero kung wala o di kaya bisita, kelangan sila maglogbook."* (Security Guard, Village D)
	Maintenance Delays	• *"Naku matagal mag-approve ng fence repair dito, ilang Board meetings ang inaantay."* (HOA Secretary, Village C) • *"We reported faulty streetlights 6 months ago pero until now, wala pa ring aksyon."* (Resident, Village B)
Personal Security	**Visitor Management**	• *"May iba na nagagalit sir kung pinapatigil naming mga bisita nila for verification. Binabantaan pa kami na irereport sa management."* (Security Guard, Village B) • *"Airbnb renters arrive with no background checks because owners bypass the HOA."* (Resident, Village C)
	Staffing Issues	• *"Kulang kami—1 guard covers 3 shifts weekly kasi papalit-palit."* (Security Supervisor, Village A) • *"New hires quit after 2 months when they realize the pay doesn't match the risk."* (HOA Manager, Village D)

		• *"Guards fall asleep on night shifts because they're overworked."* (Resident Night-shifter, Village B)
Document Security	**Data Accuracy**	• *"Our resident directory lists 20% ghost tenants—owners don't update tenant changes to avoid fees."* (HOA Database Admin, Village C) • *"Visitor logs from 2020-2022 went missing during the HOA office renovation."* (Security Guard, Village A)
	Digital Transition	• *"Older board members resist digitizing records, saying 'paper never crashes'—until heavy rains and floods ruined our files last monsoon."* (HOA IT Officer, Village B) • *"Mahihirapan ang mga guards kung tablet."* (Security Consultant, Village C)
Stake holder Dynamics	**Planning-Execution Gap**	• *"Annual security budgets get approved, then diverted to landscaping to please residents."* (HOA Finance Chair, Village A) • *"We conduct safety drills on paper but never actually practice them."* (Resident Nurse, Village C)
	Accountability	• *"When security lapses happen, the HOA blames guards, guards blame residents, and residents blame everyone."* (Security Guard, Village B) • *"Homeowners demand 24/7 patrols but refuse to pay higher dues."* (HOA President, Village C)

3.7.1 Physical Security

Interviews with participants show that they generally appreciate the visibility of physical infrastructures, especially the presence of CCTVs. As one resident said, the residential area is okay because there are a lot of CCTVs. However, even if there are many CCTVs in the area, the security guard revealed that camera feeds in their control room are not working properly. Hence, while the presence of CCTVs

can potentially deter crimes and give a sense of security to the residents, the functionality of these devices is still held in question.

Linking this to the quantitative results, this is probably the reason why residents rated surveillance systems lower (median=3) despite HOA leaders' more optimistic assessments (median=4). This perceptual gap mirrors Clarke's (2017) concept of "visible security theater," where "the presence of infrastructure creates an illusion of protection that does not match functional reality.

The maintenance delays are also a challenge. Aside from the CCTVs that need repair, an HOA officer said that the process of repairing security devices or even just approving repairs actually takes time. Reflecting on the SBMA Handbook for Residents (2011), repairs and construction must have authorization from various offices in SBMA. But as one of the interview participants said, it takes a while to approve even just fence repair. A resident also reported that she raised a complaint about the dysfunctional streetlight, but even up to now, repairs have not yet been undertaken. This could explain the quantitative results where perimeter fencing was among the lowest-rated physical security measures (median =3).

3.7.2 Personal Security

The survey found personal security measures like visitor management scoring a median of 3-4, with residents consistently rating implementation lower than professionals. The qualitative data illustrates why: uncooperative residents and Airbnb loopholes (Village C). For instance, security personnel said that residents themselves are uncooperative in identifying their visitors and sometimes are even angry when their visitors' identification is being asked.

An HOA leader also revealed that there are Airbnb renters who just come and go without security checks. These narratives help explain the resident skepticism evident in perception gaps across all personal security metrics. The staffing crisis—with Village A's guard covering three shifts and Village B's fatigued night watch—provides operational context for why security personnel, despite rating their protocol compliance highly (median=4), still only gave "moderately implemented" scores (median=3) to resident cooperation measures. This aligns with Johnson and McFarland's (2019) finding that overstretched security teams struggle to maintain community engagement even when executing core duties adequately.

3.7.3 Document Security

Quantitatively, document security showed the widest stakeholder disparities (leaders/personnel median=4 vs. residents median=3). The qualitative data reveals why: Village C's "ghost tenant" phenomenon and Village A's lost visitor logs demonstrate tangible failures that validate resident skepticism. The digital transition struggles in Villages B and D—from flood-damaged paper records to guards struggling with tablets—explain why quantitative ratings for digital systems showed promise (median=3-4) but failed to reach the highest implementation levels. These narratives ground the numbers in real-world challenges, showing how generational resistance (Village B's older board members) and training gaps (Village D's tablet struggles) create the "moderate implementation" ceiling observed in survey responses.

3.7.4 Stakeholder Dynamics

The quantitative data consistently showed HOA leaders rating security measures 0.5-1 point higher than other stakeholders. The thematic analysis reveals the organizational dynamics producing this pattern: Village A's budget diversions to landscaping and Village D's resistance to higher dues exemplify the competing priorities that prevent full security implementation despite leadership's optimistic assessments. The "blame cycle" described in Village B manifests quantitatively as the lowest scores for conflict resolution mechanisms (median=3 across all groups). Similarly, Village C's "paper drills" without practical execution help explain why quantitative evaluations of emergency preparedness showed implementation gaps despite formal protocols being in place.

3.8 A framework that can be produced to enhance the security measures in SBMA

Based on the data produced in this study, the researcher herein proposes an Integrated Security Enhancement Framework for SBMA (ISEF-SBMA). This framework is two-pronged: one, the framework squarely addresses the challenges or areas of concern that were identified in Research Question 7. This is important because the approach has to be targeted to these challenges to enhance the security mechanisms of SBMA. Two, addressing these challenges also comes with revising the existing handbook of residents in SBMA, published in 2011.

The proposed revisions will also be drawn from the analysis in this chapter, whereby many of the identified points in this study are not yet explicitly expressed in the handbook, such as the use of smart security systems. The targeted

approach and the revision of the handbook form the Integrated Security Enhancement Framework, as illustrated in the figure below:

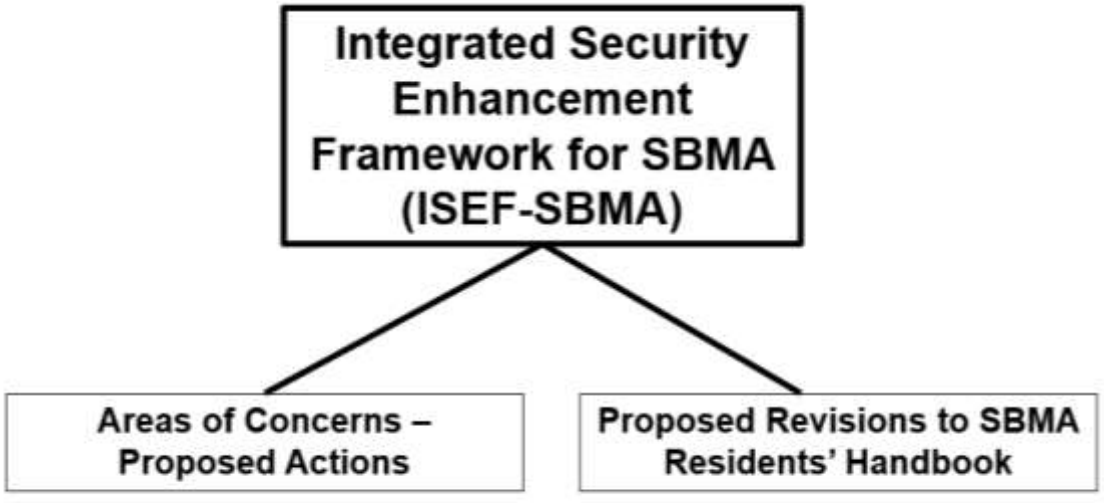

Figure 4. *Proposed Integrated Security Enhancement Framework for SBMA*

8.1 Areas of Concern-Proposed Actions

In this part of the proposed framework, the researcher identifies the areas of concern drawn from the challenges that emerged in this study and lay down proposed actions corresponding to these challenges.

Table 21.

Areas of Concerns-Proposed Actions

Areas of Concern	Supporting Evidence (Quanti + Quali)	Proposed Actions
1. Physical Security Gaps	• *Quanti:* Alarms/motion detectors rated lowest (Median=3). Residents rate perimeter fencing lower (3) vs. leaders (4). • *Quali:* "Only 7 of 16	• **Purchase motion detectors** prioritized in high-risk zones (addresses median=3 implementation). • **Predictive maintenance system** for CCTV/fencing (resolves "under maintenance" delays).

	CCTV feeds operational"; "broken perimeter sensors ignored" (Village A/B).	• **Solar-powered LED lights** with resident-reported outage tracking (aligns with median=4 lighting scores but quali reports of 6-month repair delays).
2. Visitor and Vendor Vulnerabilities	• *Quanti:* External vendors rated 3 by residents vs. 4 by leaders; couriers at median=4. • *Quali:* "Food delivery"; "Airbnb renters bypass checks" (Village C/D).	• Propose fines for non-compliance of household list or guest list to address owners' non-submission of names of Airbnb renters
3. Stakeholder Perception Gaps	• *Quanti:* Residents rate all phases 1pt lower than leaders (e.g., planning median=3 vs. 4). • *Quali:* "HOA blames guards, guards blame residents" (Village B).	• **Community Security Dashboard** with real-time incident/anonymized reports (bridges transparency gaps). Greater transparency for incidents and policies and other updates.
4. Documentation Weaknesses	• *Quanti:* Resident lists rated 3 by residents vs. 4 by leaders; digital logs at median=3. • *Quali:* "20% ghost tenants"; "tablets confuse guards" (Village C/D).	• **QR-coded digital IDs** for residents/tenants (eliminates "ghost tenant" loophole). • **Guards' tech training program** (resolves quali-reported tablet struggles; supports digital transition).
5. Staffing and Maintenance Deficits	• *Quanti:* Security compliance rated 4 but resident cooperation at 3. • *Quali:* "1 guard covers 3 shifts"; "contractors delay repairs" (Village A/D).	• **Resident-funded security staff augmentation** (addresses overwork; cited in quali). • **SLAs with maintenance providers** (enforces timely repairs; resolves median=3 fencing/lighting scores).

8.2 Proposed Revisions to SBMA Residents' Handbook

As it has emerged from the discussion in this chapter, many of the issues raised in this study are not captured or expressly provided in the provisions of the 2011 Handbook, particularly on its "Law and Order" section. This part of the

proposed framework therefore identifies these shortcomings in the handbook, propose revisions, and give rationalization to such proposal.

Table 22

Identified Gaps and Proposed Revisions to SBMA Handbook

Current Handbook Shortcomings	Proposed Revisions/Additions	Rationale (Linked to Study Findings)
1. Reactive vs. Proactive Measures • No mention of **smart security systems** (alarms, sensors, AI analytics).	• **Add Section**: *"Proactive Security Technologies"*: *"All residential areas shall deploy AI-powered motion detectors, smart lighting, and perimeter intrusion detection systems. Alarms must trigger real-time alerts to LED and residents via SMS/app notifications."*	• Addresses **underutilized tech** (low WM scores for alarms/fencing). • Aligns with **Routine Activity Theory** (capable guardianship).
2. Weak Vendor/ Contractor Controls • Lacks **standardized digital tracking** for service providers.	• **Revise 'Service Contractors' Section**: *"All contractors/vendors (including gig workers) must register via SBMA's digital platform, with QR-coded IDs linked to access logs. Unregistered providers are denied entry."*	• Closes gaps in **non-routine visitor monitoring** (low WM = 3.20 for ad-hoc services).
3. Inconsistent Stakeholder Communication • No formal **feedback mechanisms** for residents.	• **Add Section**: *"Community Security Participation"*: *"Residents may report security concerns via the SBMA Security App, with LED required to respond within 24 hours. Quarterly town halls will review incident trends."*	• Resolves **participatory deficits** (residents rated involvement WM = 3.01).

4. Poor Document Transparency		
• Manual logs for visitors/contractors.	• **Replace 'Securing Passes' Section**: *"Digital passes (via SBMA App) replace physical IDs for residents/visitors. Real-time logs of entries/exits are accessible to authorized residents."*	• Fixes **inconsistent record-keeping** (low WM = 2.80 for service logs).
5. Lighting & Perimeter Gaps		
• Silent on **lighting standards/maintenance**.	• **Add to 'Dangerous Materials' Section**: *"LED must ensure 100% lighting coverage in common areas, with solar-powered motion-sensor lights. Monthly inspections are mandatory."*	• Addresses **lighting inconsistencies** (resident WM = 3.60 vs. leader WM = 3.85).
6. Cybersecurity Omissions		
• No policies on **data/digital security**.	• **New Section**: *"Cybersecurity for Residents"*: *"SBMA will provide encrypted Wi-Fi networks. Residents must report suspicious digital activity (e.g., phishing) to the SBMA IT S*	Mitigates risks from **digital registries** (WM = 3.25 for digital use).

CHAPTER 4
Summary of Findings, Conclusions, and Recommendations

This chapter presents the summary of the key findings based on the results of the study, the conclusions drawn from the findings, and the recommendations for future practice, policy, and research.

4.1 Summary of Findings

Across all dimensions—physical security, personal security, and document security—both HOA leaders and residents have rated the level of implementation of existing security measures as “well implemented,” while security personnel have described them as “very well implemented.”

ANOVA results showed no significant difference for physical security ($p>0.05$) and personal security ($p>0.05$), but significant differences for document security ($p<0.05$), with security personnel rating implementation higher than residents. Hence, the null hypotheses for physical security and personal security were not rejected, while the null hypothesis for document security was rejected.

In terms of effectiveness, across all dimensions—physical security, personal security, and document security—both HOA leaders and residents have rated the level of implementation of existing security measures as “effective,” while security personnel have described them as “very effective.”

No significant difference for physical security ($p>0.05$), but significant differences for personal ($p<0.05$) and document security ($p<0.05$), with security personnel consistently rating effectiveness higher.

In terms of planning participation, HOA leaders reported strong participation, but residents noted minimal involvement. In terms of implementation, HOA leaders rated participation highly, while residents highlighted gaps in feedback access. Security personnel emphasized protocol compliance. With regard to evaluation, HOA leaders focused on compliance, while residents felt excluded from crime data discussions. Security personnel prioritized response times.

Significant differences existed across all phases: planning ($p<0.05$), implementation ($p<0.05$), and evaluation ($p<0.05$), with leaders consistently rating involvement higher than residents. Hence, the null hypotheses across all three dimensions (i.e., planning, implementation, and evaluation) were rejected.

Based on qualitative interviews conducted, the challenges experienced by stakeholders include infrastructure deficiencies, repair delays, visitor management, staffing issues, data accuracy, digital transition, planning-execution gap, and accountability.

Grounded on the results of the study, the researcher hereby proposes an Integrated Security Enhancement Framework for SBMA (ISEF-SBMA), which constitutes a two-pronged approach. First, it emphasizes targeted actions corresponding to the challenges identified in this study. Second, it calls for comprehensive handbook revisions that mandate the integration of smart technologies, establish standardized procedures for tracking vendor activities, and incorporate mechanisms for collecting and addressing resident feedback. This

combined strategy aims to strengthen operational efficiency, safety, and stakeholder engagement.

4.2 Conclusions

In probing the perception of security among SBMA stakeholders—HOA leaders, residents, and security personnel—it can be concluded that, in general, security measures are well-implemented in terms of physical, personal, and document security. Slight differences in perception among stakeholders are an indication of the need for leveling off and greater visibility of these security measures. Intervention-wise, this finding implies the need for more deliberate efforts in information dissemination and routine orientations. Policy-wise, this implies the need for clearer operational guidelines and the need to revisit and revise the SBMA Handbook for Residents (2011) to better align understanding and appreciation of existing security measures.

ANOVA results of no significant differences in perception of physical and personal security but significant differences in document security imply that the tangible aspects of security have consensus across the board, while information and documentary procedures may be unknown to residents, especially as several procedures were not articulated in the existing SBMA Residents' Handbook. This would then suggest that the procedures related to documents could be more technical or centralized, and hence, residents would notice a discrepancy in perception between those who administer the systems and those who only experience their implications.

Similarly, in assessing the effectiveness of security measures in existence, the consistent pattern of security officers reporting more positively about the system than HOA leaders and residents—specifically in document and personal security—shows a disconnect that is a result of different levels of engagement or familiarity with evaluative standards. It serves to point out the importance of aligning effectiveness measures with mutual stakeholder understandings in order to support joint evaluations and assurance in findings.

The participation differences that were reported during the planning, implementation, and evaluation stages reveal deeper challenges in inclusiveness and communication. While HOA leaders observed robust participation, residents indicated minimal involvement and limited feedback opportunities, which points to the possibility that top-down planning strategies can unintentionally silence the voices of larger community members. This gap emerges from the need for more inclusive and participatory organizational structures in the management of community security.

The acknowledged difficulties in physical, personal, documentation, and stakeholder areas are systemic shortcomings in technology usage, policy scope, procedural consistency, and outreach to the public. These difficulties not only limit the full extent of existing security capabilities but also are indicative of the fragmented nature of existing initiatives, which indicate a need for greater integration, updating, and definition of role and communication.

In response to such results, the proposed ISEF-SBMA framework entails a strategic remedy through targeted approaches and handbook reforms. Its

technology emphasis on AI, RFID, and digitalization responds to efficiency failures in operations, while handbook revisions and feedback mechanism orientation attempt to harmonize communication failures and establish best practices. The framework thus creates a reflexive synthesis of results from the study, offering a comprehensive framework towards enhanced security governance and stakeholder engagement.

4.3 Recommendations

1. Align stakeholder perceptions through organized evaluation procedures. Since every stakeholder category realized that security activities are well executed, there should be attempts towards ensuring this convergence through means of frequent consultation and walkthrough review procedures with participation from HOA leaders, residents, and security staff. This will guarantee continuance of shared perceptions and shared ownership of neighborhood safety initiatives.

2. Revise the 2011 SBMA Handbook for Residents. Revise the security manual to clearly delineate document security processes and procedures. Given the noted gap in perception in the results—i.e., security staff placing a greater value on document security than residents—the manual needs to be revised to give clear, open descriptions of how documents are documented, archived, accessed, and secured. The revision needs to strive to demystify in-house processes, make clear stakeholder roles, and inform residents about how document-based security operates in the community.

3. Quarterly performance reviews. Because the finding shows that security personnel routinely downgraded effectiveness over residents and HOA leaders, one must make an impression based on objective, quantifiable results. A workable approach would be conducting quarterly performance reviews where actual security incidents (e.g., response times, resolving incidents, number of breaches) are reviewed collectively by residents, HOA leaders, and security personnel. These assessments can be complemented by questionnaires of community feedback and a dashboard of the most important key performance indicators (KPIs), such that effectiveness is not only seen in perception but also actual results, well-known and verified by all the interested stakeholders.

4. Integrate participatory mechanisms in all phases of security governance. Since there is quite a difference between perceived participation in planning, implementation, and evaluation phases—namely between HOA leaders and citizens—there is a need to institutionalize inclusive mechanisms like participatory planning committees, forums for feedback, and open complaint channels as a standard feature so that all have their say and are given equal weight.

5. Problem-specific, targeted interventions. Because the implementation challenges cross physical infrastructure, vendor management, record-keeping, and stakeholder engagement, each will need customized solutions. For instance, upgrading underutilized alarms, installing smart lighting, and digital documentation practices would solve the issues identified in the study head-on. Other specific recommendations have been detailed in Table 21 in the previous chapter.

6. Apply the ISEF-SBMA model. Due to the diversity of perspectives and deeply interdependent issues that were discovered, the Integrated Security Enhancement Framework for SBMA (ISEF-SBMA), detailed in Figure 4 in the previous chapter, offers a holistic and forward-looking model. Its emphasis on AI surveillance, RFID infrastructure, and systematic feedback loops can harmonize stakeholder experiences, correct misalignments, and modernize overall security infrastructure.

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Appendix A
Letter to the Dean of Graduate School

January 25, 2025

Jezreel B. Vicente, PhD
Dean, Graduate School
Philippine College of Criminology
641 Sales St., Sta Cruz, Manila

Dear Dean Vicente:

A pleasant day.

The undersigned is a student of Doctor of Philosophy in Criminology and is currently writing a dissertation entitled Security Measures in Subic Metropolitan Authority Residential Communities: A Framework for Effective Management. I had my dissertation proposal defense last December 20, 2025. The members of the dissertation examination committee approved my proposal paper last December 20, 2025.

In this regard, may I ask permission from your office to commence the data gathering? Upon the approval of your office of this letter, I will make a letter to the concerned key personalities to coordinate the data gathering.
Thank you.

Respectfully yours,

Joven B. Aquino
Researcher

Noted by:

Robin A. Pabustan, PhD
Adviser

Approved:

Jezreel B. Vicente, PhD
Dean

Appendix B
Letter to the Manager, SBMA-LED

January 25, 2025

ALFREDO P. AGUSTIN JR., MS CRIM
Manager, Law Enforcement Department
Subic Bay Metropolitan Authority

Dear Sir:

The undersigned is a student of Doctor of Philosophy in Criminology and is currently writing a dissertation entitled Security Measures in Subic Bay Metropolitan Authority Residential Communities: A Framework for Effective Management as the terminal requirement to finish the degree. The purpose of this research is to identify gaps in the existing security measures within the SBMA housing facilities and recommend additional control measures to ensure the safety and security of the residents inside the SBMA housing.

Relative to this research, may I ask permission from your good office for me to administer the questionnaires, conduct interviews with selected personnel, and request the documents needed for my research? Rest assured that I will abide by the rules of ethics of research and be bound by the rules of confidentiality as I gather the data. I will only use the data for research purposes. I will furnish you with a copy of my research after my final defense.

Thank you.

Respectfully yours,

Joven B. Aquino
Researcher

Noted by:

Robin A. Pabustan, PhD
Adviser

Approved:

Jezreel B. Vicente, PhD

Dean

Appendix B
Letter to the Manager, SBMA-LADD

April 1, 2025

NOLAN T. SUDARIO
Department Manager III
Land & Asset Development Department
Subic Bay Metropolitan Authority

Dear Sir:

The undersigned is a student of Doctor of Philosophy in Criminology and is currently writing a dissertation entitled Security Measures in Subic Bay Metropolitan Authority Residential Communities: A Framework for Effective Management as the terminal requirement to finish the degree. The purpose of this research is to identify gaps in the existing security measures within the SBMA housing facilities and recommend additional control measures to ensure the safety and security of the residents inside the SBMA housing.

Relative to this research, may I ask permission from your good office for me to administer the questionnaires, conduct interviews with selected personnel, and request the documents needed for my research? Rest assured that I will abide by the rules of ethics of research and be bound by the rules of confidentiality as I gather the data. I will only use the data for research purposes. I will furnish you with a copy of my research after my final defense.

Thank you.

Respectfully yours,

Joven B. Aquino
Researcher

Noted by:

Robin A. Pabustan, PhD
Adviser

Approved:

Jezreel B. Vicente, PhD
Dean

Appendix C
Letter to the Research Participants

January 25, 2025

Dear Mr. Gerry A. Johnson,

The undersigned is a student of Doctor of Philosophy in Criminology and is currently writing a dissertation entitled Security Measures in Subic Bay Metropolitan Authority Residential Communities: A Framework for Effective Management as the terminal requirement to finish the degree. The purpose of this research is to identified gaps in the existing security measures within the SBMA residential facilities and recommend additional control measures to ensure the safety and security of the residence inside the SBMA housing.

In this regard, may I request you to answer the attached questionnaire/interview guide questions about my study. Rest assured that the data collected will be used solely for this research without compromising the confidentiality and integrity of the agency you represent.

You have the right to refuse to participate in this research study. Also, you have the right to withdraw the information you provided to the researcher. Should you want to withdraw, you can email the researcher at vhenzkie69@gmail.com.
Thank you.

Respectfully yours,

Joven B. Aquino
Researcher

Noted by:

Robin A. Pabustan, PhD
Adviser

Approved:

Jezreel B. Vicente, PhD
Dean

Appendix D
Letter to the Tool Validator

January 25, 2025

CELEO ALVAREZ, PhD
Dean, College of Criminology
Lyceum of Subic
Subic Bay Metropolitan Authority

Dear Sir:

The undersigned is a student of Doctor of Philosophy in Criminology and is currently writing a dissertation entitled Security Measures in Subic Bay Metropolitan Authority Residential Communities: A Framework for Effective Management as the terminal requirement to finish the degree. The purpose of this research is to identify gaps in the existing security measures within the SBMA residential facilities and recommend additional control measures to ensure the safety and security of the residents inside the SBMA housing.

Considering your expertise about the study, the undersigned is seeking your assistance to serve as validator of the research instrument to be used.

Please check the attached questionnaires.

Thank you.

Respectfully yours,

Joven B. Aquino
Researcher

Noted by:

Robin A. Pabustan, PhD
Adviser

Approved:

Jezreel B. Vicente, PhD
Dean

Appendix D
Letter to the Tool Validator

January 25, 2025

ALFREDO P. AGUSTIN Jr., RCrim., MSCrim.
Manager, Law Enforcement Department
Subic Bay Metropolitan Authority
Subic Bay Freeport Zone

Dear Sir:

The undersigned is a student of Doctor of Philosophy in Criminology and is currently writing a dissertation entitled Security Measures in Subic Bay Metropolitan Authority Residential Communities: A Framework for Effective Management as the terminal requirement to finish the degree. The purpose of this research is to identify gaps in the existing security measures within the SBMA residential facilities and recommend additional control measures to ensure the safety and security of the residents inside the SBMA housing.

Considering your expertise about the study, the undersigned is seeking your assistance to serve as validator of the research instrument to be used.

Please check the attached questionnaires.

Thank you.

Respectfully yours,

Joven B. Aquino
Researcher

Noted by:

Robin A. Pabustan, PhD
Adviser

Approved:

Jezreel B. Vicente, PhD
Dean

Appendix E
Certification by the Tool Validator

This is to certify that I have reviewed and validated the tools used in the conduct of the dissertation:

Title	Security Measures in Subic Bay Metropolitan Authority Residential Communities: A Framework for Effective Management
Author	Joven B. Aquino
Program	Doctor of Philosophy in Criminology
Adviser	Robin A. Pabustan, PhD
Institution	Philippine College of Criminology

The undersigned certifies that the instrument/s in the study were carefully evaluated and validated. The undersigned ensured that the items are reliable and valid measures of the constructs they were intended to measure, the questions are clear, concise, and easy to understand for the target population.

Issued this 25th day of March 2025 at Subic Bay Metropolitan Authority, Subic Bay Freeport Zone.

CELEO A. ALVAREZ, PhD
Dean, College of Criminology
Grand Meritus Security Agency, Inc.
Tool Validator

Appendix E
Certification by the Tool Validator

This is to certify that I have reviewed and validated the tools used in the conduct of the dissertation:

Title	Security Measures in Subic Bay Metropolitan Authority Residential Communities: A Framework for Effective Management
Author	Joven B. Aquino
Program	Doctor of Philosophy in Criminology
Adviser	Robin A. Pabustan, PhD
Institution	Philippine College of Criminology

The undersigned certifies that the instrument/s in the study were carefully evaluated and validated. The undersigned ensured that the items are reliable and valid measures of the constructs they were intended to measure, the questions are clear, concise, and easy to understand for the target population.

Issued this 25th day of March 2025 at Subic Bay Metropolitan Authority, Subic Bay Freeport Zone.

ALFREDOP. AGUSTIN, MSCrim
Manager, Law Enforcement Department
Subic Bay Metropolitan Authority
Tool Validator

Appendix F
Informed Consent Form

Introduction. You are invited to participate in this research study with the details provided in the table. Your participation is voluntary, and you are free to withdraw at any time without penalty. This form explains the nature of the study and the procedures that will be followed. Please read this form carefully and ask any questions you may have before deciding whether or not to participate.

Title	Security Measures in Subic Bay Metropolitan Authority Residential Communities: A Framework for Effective Management
Author	Joven B. Aquino
Program	Doctor of Philosophy in Criminology
Adviser	Robin A. Pabustan, PhD
Institution	Philippine College of Criminology

Confidentiality. All answers that you will provide the researcher will be treated with utmost confidentiality. Your responses will be used for this study only. The data shall be destroyed by the researcher after the study is completed and defended.

Voluntary Participation. Participation in this study is voluntary. You have the right to withdraw from the study at any time without penalty. Refusal to participate or withdrawal from the study is allowed.

Contact Information. If you have any questions about the study, please feel free to contact the author at vhenkie69@gmail.com or Adviser at robin.pabustan@pccr.edu.ph .

Consent. I have read and understood the above information and have been given the opportunity to consider and ask questions regarding my involvement in this study. I have spoken directly to the author of this study who answered to my satisfaction all my questions. I have received a copy of this Participant's Information and Informed Consent Form. I hereby voluntarily agree to participate in this study.

Joven B. Aquino
Researcher

Appendix G
Research Instrument/s

Part 1: Demographic Profile of Respondents

1.1 What is your age?
- Below 25
- 26–35
- 36–45
- 46–55
- Above 55

1.2 What is your gender?
- Male
- Female

1.3 What is your role in the community?
- HOA Leader
- Resident
- Security Personnel

1.4 How long have you been a resident/HOA member/security personnel in this community?
- Less than 1 year
- 1–3 years
- 4–6 years
- 7–10 years
- More than 10 years

1.5 What type of residential community are you part of?
- Gated Subdivision
- Condominium
- Others (Please specify: _____)

SOP 1: What is the level of existing Physical Security Measures?

1.1 Rate the implementation of the following physical security measures in your community (1 - Poorly Implemented (PI) ; 2 - Slightly Implemented (SI); 3 - Moderately Implemented (MI); 4 - Well Implemented (WI); 5-Very Well Implemented (VWI).

Physical Security Measures	**1 (PI)**	**2 (SI))**	**3 (MI)**	**4 (WI)**	**5 (VWI)**
CCTV Surveillance Systems					
Gated Entrances and Access Control					
Perimeter Fencing					
Security Alarms and Motion Detectors					
Adequate Lighting					

Table 2: Implementation of Physical Security Measures

Are there any physical security measures you think are lacking or need improvement?

Yes (Please specify: _____)
No

1.2 What is the level of existing Personal Security Measures
(1 - Poorly Implemented (PI) ; 2 - Slightly Implemented (SI); 3 - Moderately Implemented (MI); 4 - Well Implemented (WI); 5-Very Well Implemented (VWI).

Personal Security Measures	**1 (PI)**	**2 (SI))**	**3 (MI)**	**4 (WI)**	**5 (VWI)**
Visitors Access Control and procedures					
External vendors/ suppliers Control					
Maintenance Contractor Control					
Courier Delivery Control					
Other external services					

1.3 What is the level of existing Document Security Measures

Document Security Measures	1 (PI)	2 (SI))	3 (MI)	4 (WI)	5 (VWI)
Updated list of residence					
Updated list of residential maintenance and housekeeping services					
Logbook recording of announce and unannounced visitors procedures					
Others, if any					

SOP 2. Implementation of Security Measures Strategies

Instruction: Rate the following statements regarding **management strategies** in the residential housing community as per the level of implementation of the security measures (1 – Strongly Disagree, 2 – Disagree, 3 – Agree, 4 – Strongly Agree)

Strategies and Management	1 (SD)	2 (D)	3 (A)	4 (SA)
Planning				
1. Security plans are clear and align with community objectives.				
2. Regular meetings are held to discuss security priorities.				
3. Emergency response protocols are well-documented and updated.				
4. Specific objectives for physical security measures are set annually.				
5. Planning involves input from all relevant stakeholders.				
Decision-Making				
Decision-making processes are transparent and inclusive.				
1. Decisions on security measures are evidence-based.				
2. HOA leaders consider residents' suggestions in security-related decisions.				
3. Timely decisions are made to address security concerns.				
4. Decision-making balances short-term and long-term security needs.				
Resource Allocation				
1. Funds are allocated appropriately for physical security improvements.				

Strategies and Management	1 (SD)	2 (D)	3 (A)	4 (SA)
2. Human resources, such as security personnel, are adequate for community needs.				
3. Security measures are prioritized during budget planning.				
4. Technological upgrades are regularly funded to enhance security.				
5. Resources for training security personnel are consistently provided.				
Implementation				
1. Security measures are implemented promptly after planning.				
2. Projects related to security upgrades are completed on time.				
3. Security plans are executed effectively with minimal issues.				
4. Implementation is reviewed regularly to address gaps.				
5. Staff and residents are briefed on newly implemented measures.				
Monitoring and Evaluation				
1. Security measures are regularly evaluated for effectiveness.				
2. Feedback is gathered to assess the impact of implemented measures.				
3. Reports on security performance are shared with stakeholders.				
4. Improvements are made based on monitoring outcomes.				
5. Monitoring ensures that all security equipment remains functional.				

Table 3: Management Strategy Dimensions

SOP 3. Rate the level of effectiveness of existing security measures employed by homeowners' associations in SBMA to ensure community safety?

(1 - Poorly Implemented (PI) ; 2 - Slightly Implemented (SI); 3 - Moderately Implemented (MI); 4 - Well Implemented (WI); 5-Very Well Implemented (VWI).

Physical Security Measures	**1 (PI)**	**2 (SI))**	**3 (MI)**	**4 (WI)**	**5 (VWI)**
CCTV Surveillance Systems					
Gated Entrances and Access Control					
Perimeter Fencing					
Security Alarms and Motion Detectors					
Adequate Lighting					
Others (If any)					

Personal Security Measures	**1 (PI)**	**2 (SI))**	**3 (MI)**	**4 (WI)**	**5 (VWI)**
Visitors Access Control and procedures					
External vendors/ suppliers Control					
Maintenance Contractor Control					
Courier Delivery Control					
Other external services					

Document Security Measures	**1 (PI)**	**2 (SI))**	**3 (MI)**	**4 (WI)**	**5 (VWI)**
Updated list of residence					
Updated list of residential maintenance and housekeeping services					
Logbook recording of announce and unannounced visitors procedures					
Others, if any					

SOP 4: Level of Effectiveness on security measures among the respondents

Rate the following statements about respondents involvement in the housing facility in terms of level of effectiveness (1 – Strongly Disagree, 2 – Disagree, 3 – Agree, 4 – Strongly Agree).

Stakeholder Involvement Dimensions	1 (SD)	2 (D)	3 (A)	4 (SA)
4.1 Planning Participation				
1. Residents actively contribute to discussions about security improvements.				
2. Security personnel are consulted when creating safety plans.				
3. HOA leaders seek feedback from residents about security policies.				
4. Stakeholders collaborate on community-wide safety initiatives.				
5. Residents are encouraged to propose security enhancements.				
6. Stakeholders are involved in deciding on significant security changes.				
7. Votes are conducted when implementing major security policies.				
8. Decisions reflect the collective input of all stakeholders.				
9. HOA leaders share decision rationales with the community.				
10. Conflict resolution mechanisms are available for contested decisions.				
4.2 Implementation Phase				
1. Residents cooperate during the implementation of new security measures.				
2. Security personnel follow established protocols diligently.				
3. HOA leaders provide clear instructions during security rollouts.				
4. Stakeholders help ensure compliance with security rules.				
5. Cooperation among stakeholders is maintained throughout implementation.				
6. Information about security policies is communicated clearly to residents.				

Stakeholder Involvement Dimensions	1 (SD)	2 (D)	3 (A)	4 (SA)
7. Regular updates are provided regarding changes in security protocols.				
8. Security incidents are reported promptly to all stakeholders.				
9. Open forums are conducted to discuss community security concerns.				
10. Feedback channels for reporting security issues are easily accessible.				

Evaluation phase	1 (SD)	2 (D)	3 (A)	4 (SA)
1. Residential crimes index				
2. Compliance of residential occupants on existing security measures and procedures as per the three identified types of security control				
3. Trainings and deployment of security personnel knowledgeable on the residential security policy and procedures				
4. Discussion on security gaps during the stakeholders meeting to improve the overall security strategy				
5. Intervention response time of security team upon receipt of alert from the housing stakeholders				
6. Awareness and dissemination information of security matters to housing stakeholders				

SOP 5: Assessment on the level of stakeholder's involvement in the development of security measures in SBMA though the following phases.

Cite a narrative questionnaires to the housing stakeholders in able to get their personal insights about their role in the development and implementation of security measures.

5.1 Planning Phase

a) How involved were you in selecting the security systems for your residence?
b) What personal security measures do you use daily to ensure your safety?

5.2 Personal Security

a) How do you engage with residents to address their security concerns?

b) What is your role in monitoring or improving document security (e.g., access control, digital data protection)?

5.3 Document Security

a) Does the Security policy manuals or guidelines that outline physical and personal security measures are updated and maintained?
b) How does security measures were communicated to residents and their input.
c) Does security topics discussed during homeowners association meetings were recorded and disseminated to stakeholders through a minutes of the meeting?.
d) How does personal data or sensitive documents pertaining to housing safety and security were handled and stored within the community (e.g., secure shredding of tenant information, restrictions on access to certain records).

Appendix H
Semi-Structured Interview Guide

Exploring the Challenges in Implementing Security Measures in SBMA Residential Communities

This interview guide is designed to gain deeper insights into the challenges encountered by stakeholders in the implementation of security measures in Subic Bay Metropolitan Authority (SBMA) residential communities. It follows a sequential explanatory mixed-methods design to validate and enrich findings from the quantitative phase.

I. Warm-Up Questions

1. Can you briefly describe your role in the community and how you are involved in its security initiatives?
2. How would you describe the overall security in your community?

II. Overarching Question

- What are the challenges you've encountered in implementing security measures in your community?

III. Thematic Questions and Probes

A. Physical Security

- Are there any issues related to physical security (e.g., gates, guards, lighting, CCTVs)?
- Do you feel the physical infrastructure is sufficient?
- Can you share a time when a physical security measure failed or was difficult to implement?
- There were no significant differences across groups for physical security in the survey. Does this reflect your experience? Why or why not?

B. Personal Security
   - How are personal safety concerns addressed in your area?
   - Can you describe any specific incidents showing limitations in personal security?
   - Do you think residents and security personnel perceive personal safety differently? Why might that be?

C. Document Security
   - What challenges are there in securing confidential community documents?
   - Do you feel there's transparency in how security-related information is handled?
   - The survey showed differences in document security perceptions. Why do you think security personnel rated it higher?

D. Stakeholder Participation
   - How would you describe your involvement in planning security measures?
   - Do you feel consulted or informed when changes occur?
   - Residents noted minimal participation while HOA leaders rated it high. What might be causing this difference?

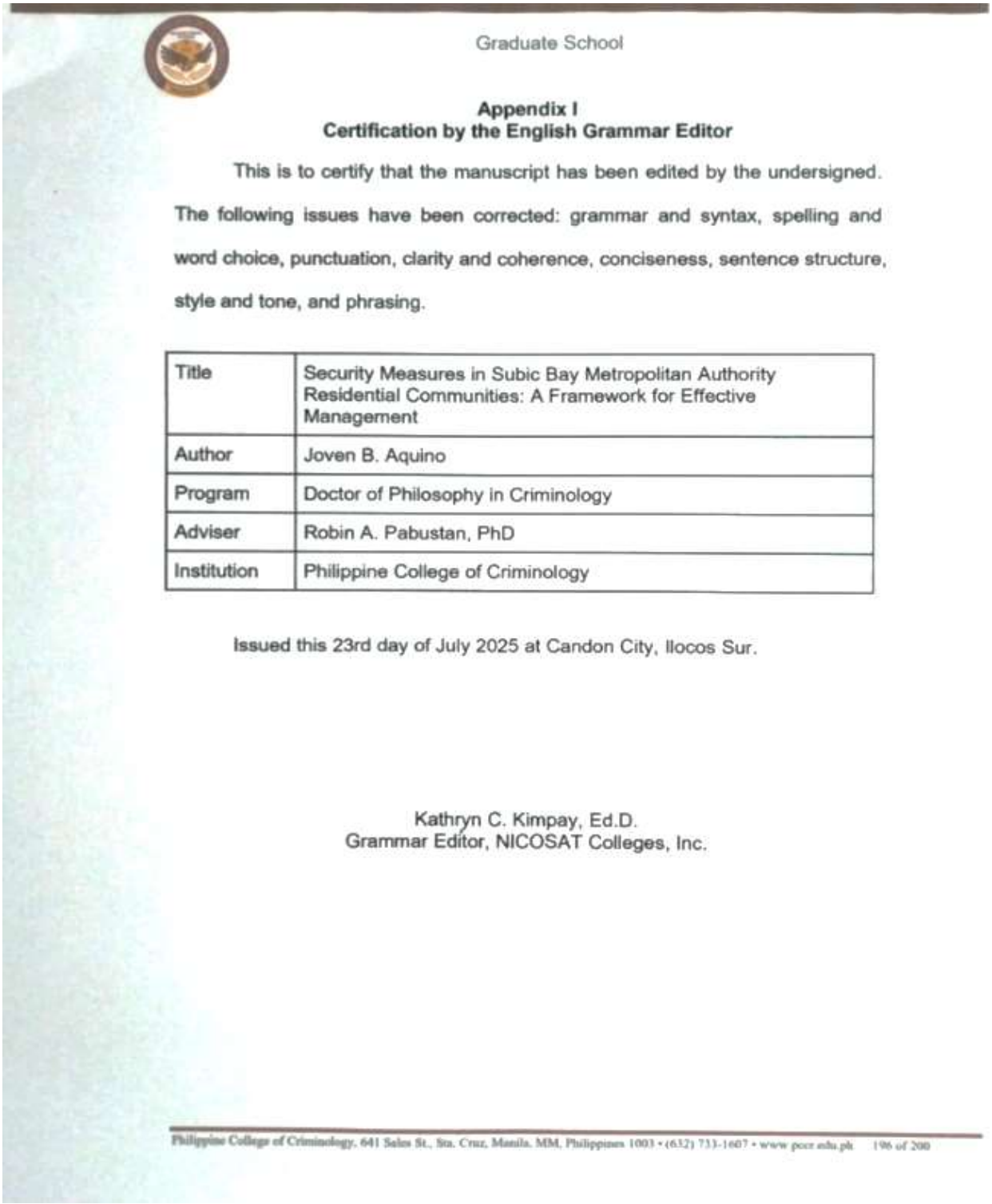
E. Communication and Coordination
   - How effective is communication among stakeholders?
   - Are roles and responsibilities clearly communicated?

F. Capacity and Resources
   - Are there limitations in terms of budget, manpower, or training?
   - What support would help strengthen the community's security?

IV. Final Reflections

- What is the biggest obstacle to effective security in your community?
- What improvements would you recommend?
- Do the survey results reflect the real situation? Why or why not?
- Any final thoughts or experiences you'd like to share?

Appendix I
Certification by the English Grammar Editor



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Appendix I
Certification by the English Grammar Editor

This is to certify that the manuscript has been edited by the undersigned. The following issues have been corrected: grammar and syntax, spelling and word choice, punctuation, clarity and coherence, conciseness, sentence structure, style and tone, and phrasing.

Title	Security Measures in Subic Bay Metropolitan Authority Residential Communities: A Framework for Effective Management
Author	Joven B. Aquino
Program	Doctor of Philosophy in Criminology
Adviser	Robin A. Pabustan, PhD
Institution	Philippine College of Criminology

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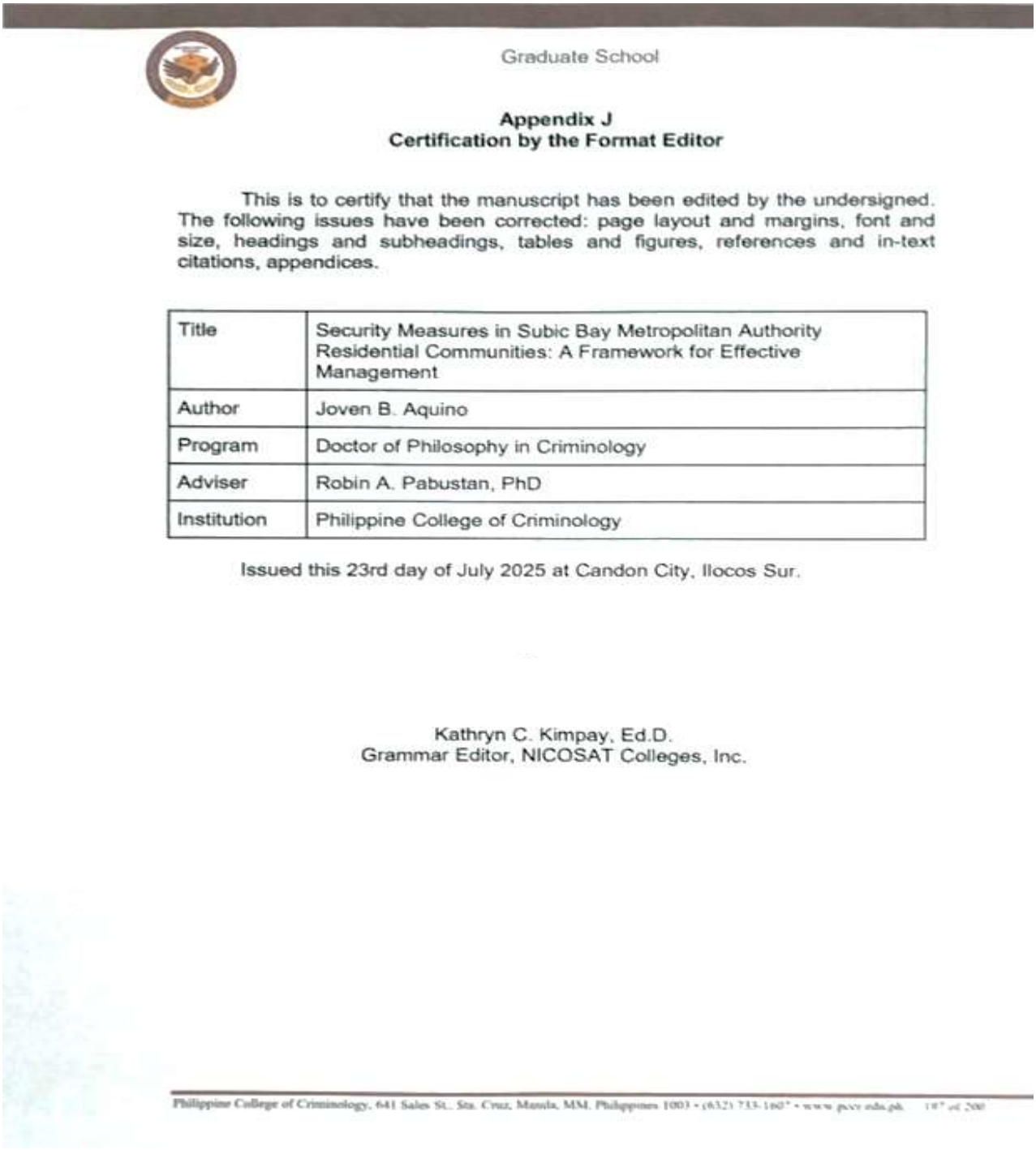
Appendix J
Certification by the Format Editor



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Appendix J
Certification by the Format Editor

This is to certify that the manuscript has been edited by the undersigned. The following issues have been corrected: page layout and margins, font and size, headings and subheadings, tables and figures, references and in-text citations, appendices.

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