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<b>Proposed Title:</b> Seal of Good Local Governance for Barangay (SGLGB) Management System for the DILG of City of Santa Rosa		

### CHAPTER 3 INTRODUCTION

This chapter explains various research methodologies that will be used in data-gathering procedures and analysis. These include research design, providing a framework for the systematic investigation of the study; selection of the research locale; identification of sources of data; specification of the research instrument, detailing the instruments chosen for collecting different levels of data; the procedures implemented to gather data; ethical considerations; and lastly, the application of statistical analysis to the data, interpreting and making sense of the consolidated data.

### Research Design

The study will employ a descriptive-quantitative research design to systematically investigate the SGLGB implementation processes and the identified challenges faced by the DILG Santa Rosa office and the barangays, as well as to evaluate the effectiveness of the researchers' proposed system.

Descriptive research involves gathering data that describes events or phenomena. This research approach prioritizes the exploration of the "what" aspects of the study, rather than placing importance on the "why" of the research topic. The collected data are then organized, tabulated, and described. Descriptive research can be either quantitative or qualitative. In this study, the researchers adopt a quantitative type of research, characterized by its detailed measurement and statistical analysis to draw meaningful conclusions and patterns.

Using a descriptive-quantitative approach, the researchers aim to provide a comprehensive understanding of the SGLGB program's implementation procedures, shedding light on the details, roles, communication mechanisms, and workflows involved. Through interviews with key personnel, the descriptive aspect aims to capture narratives that provide more clarity, offering a comprehensive view of the program's operational environment. The researchers also performed a detailed document review using the memorandum circular and SGLGB Assessment Forms disseminated by the central office for contextualization and analysis of the entire flow of the SGLGB program. Additionally, the researchers seek to identify and categorize challenges encountered by the DILG Santa Rosa office and barangays involved in the SGLGB program. Utilization of questionnaires with Likert scale questions and follow-up

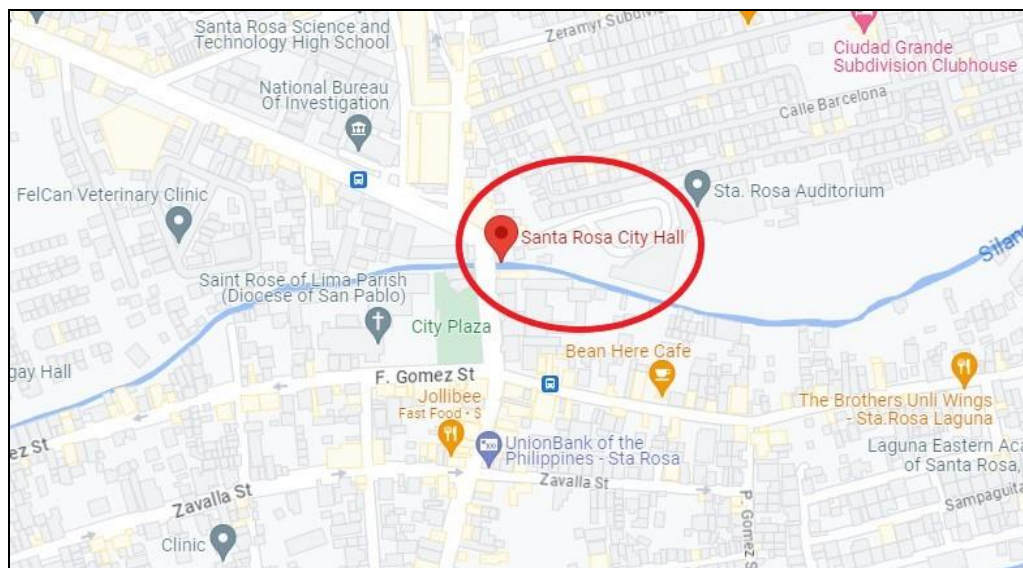


interviews, the study aims to quantify these challenges and to also assess the acceptability of the proposed system to provide a structured basis for statistical analysis.

This holistic approach lays the foundation for the development and assessment of the researchers' proposed system. It guarantees that the solution is based on the understanding of the SGLGB's program procedure, and the challenges experienced by the DILG office and barangays involved in the City of Santa Rosa.

### Research Locale

The study will be conducted in the Department of the Interior and Local Government (DILG) office situated within the City Hall of Santa Rosa City, which is located at J.P Rizal BLVD. Barangay Malusak. DILG was specifically selected, as it is the primary office administrating the Seal of Good Local Governance for Barangay (SGLGB) and the barangays involved in the program in Santa Rosa City. The researchers will collect data through various means, such as questionnaire, interviews, and document reviews. Figures No. 1 and 2 show the research locale.



**Figure 1.** Santa Rosa City Hall (Google Maps)



**Figure 2.** Santa Rosa City Hall (3D View/Google Images)



### Sources of Data

The researchers utilized the total enumeration method, a sampling technique chosen to examine the entire population. The focus is specifically on the DILG office's assessment team with a total population of 7, consisting of the City/Municipality Local Government Operations Office (C/MLGOO) and other key personnel, and barangay officials comprised of the barangay's captain and secretary with a total population of 36 in the City of Santa Rosa. With a manageable population size of 43 that includes key personnel from the DILG office and barangays involved in the SGLGB program, total enumeration ensures a complete investigation of the study's findings. The following table (Table 1) illustrates the total population of the respondents:

Name of Population	Total
Barangays' Officials	36
DILG Office Assessment Team	7
<b>Total</b>	<b>43</b>

**Table 1:** Determining the total population of the respondents.

The participants were selected based on their involvement and roles in the SGLGB program. As the research is designed to address their perspectives, obtaining their input is crucial. The total enumeration method minimizes sampling error and increases reliability by guaranteeing the validity of the study as it is not confined to a subset of the population but represents the entire spectrum of individuals directly impacted by the SGLGB program and its administrative processes.



### Research Instrument

A research instrument refers to the tool or collection of tools that are being used to gather data systematically. It enables the exploration, analysis, and interpretation of information in the context of the study. These tools serve as the means through which researchers collect data to accomplish the study's objectives.

**Questionnaire:** As one of the primary sources of data, questionnaires will be used to collect quantitative data from the barangay officials and DILG office personnel. The researchers will prepare two categories of questionnaires, both in the form of a Likert scale and multiple choices, providing various options. The initial set will assess the impact of manual procedures on the timely submission of MOV documents and SGLGB Form 1 by the barangays and the auditing process at the DILG office. The subsequent set, which is based on ISO 25010, will cover the functionality, reliability, usability, and security aspects of the SGLGB Management System. The functionality section tailored for the DILG office and barangay officials will evaluate the system's efficiency in document tracking, organization, verification, real-time responses, and communication facilitation. Usability assessments will measure design clarity, navigation ease, and overall user satisfaction. Reliability will target operational consistency, issue occurrence during uploads and modifications, login reliability, accessibility during network fluctuations, and document recoverability. Security considerations will evaluate the efficacy of activity logs, user credential verification, document accuracy, enforcement of access controls, and trust in information confidentiality. Additionally, questionnaires will address issues with space constraints, document organization, and staff dependencies for the DILG office, along with the effect of manual processes on timely submissions. These tasks include retrieval, printing, and checking for barangay officials. This research instrument intends to provide insights into the SGLGB Management System's functionality, reliability, usability, and security, as well as practical challenges brought by manual procedures involved in document submission.

**Interview:** Interviews and discussions specifically used with the City/Municipal Local Government Operations Officer (C/MLGOO) and the key office staff overseeing the SGLGB operations, will also serve as one of the primary data sources. These interviews, with the help of the prepared and assessed interview questions, aim to understand the office nuances in the process in terms of document verification, record-keeping, and tracking. Recording of interviews with their consent will be enabled for later transcription and analysis.

**Document Review:** Referred to as a secondary source of data, document review involves an analysis of relevant documents from the preceding years of the program. These documents are the memorandum circulars and SGLGB Assessment Forms; specifically Form 1: Barangay Documentary Checklist and Certification Page, Form 2: Data Capture Form (DCF), Form 3: Technical Notes, and Form 4: Component City Consolidated Performance Assessment Form (CC CPAF). They are integral to understanding the SGLGB program's historical flow and what functionalities should be included in developing the SGLGB Management System for the DILG in the City of Santa Rosa.



For validation purposes, the prepared draft questionnaire and interview questions will be presented to the Fundamentals of Research (FOR) adviser. The researchers will consult the research adviser for the assessment of the research instruments, especially identifying if the drafted questions are unambiguous, adequate to collect data pertinent to the study, objective and not biased, and relevant to the research problem. Therefore, in designing the items in the questionnaire and interview questions, both feedback and suggestions of the research adviser will be taken into full consideration to further improve their clarity and definiteness.

### **Data Gathering Procedure**

The researchers will initiate the data gathering process by formally informing the client, the DILG office of the City of Santa Rosa, about the commencement of the SGLGB Management System development. This will be carried out by official letters sent to both the DILG office and the barangays, signed by the student researchers and the research adviser that explicitly state the purpose of data gathering for the study.

Following the client's acknowledgment, the researchers will coordinate with the DILG office to obtain relevant documents including memorandum circulars and assessment forms from prior years. With the obtained documents in hand, the researchers will analyze the historical and progressive flow, key procedures, and collaboration with other entities involved in the SGLGB program. Based on the information gathered from document analysis, the researchers will contact the client to schedule and conduct interviews at mutually convenient times. It will cover the details and specifics of the processes and flow of administering the SGLGB program, particularly in the City of Santa Rosa. Simultaneously, the researchers will also seek support and assistance from the DILG office in identifying and reaching out to barangays or barangay officials under them who are also the target respondents of this study.

Upon contact with the barangays, the researchers will request their participation in answering the self-administered research questionnaires. Following their permission, the researchers will distribute the prepared and assessed questionnaires, either in electronic or hard copy format. The questionnaires will cover various aspects related to the challenges faced during the manual submission processes and the effectiveness of the proposed system adapted from ISO 25010. A week after distributing the questionnaires, the researchers will collect the responses from the DILG office and barangays. The collected results will undergo statistical treatment procedures to quantify and analyze the data gathered. This step involves applying appropriate statistical methods to draw meaningful insights.





Answers the following	Data Collection	Data Type	Data Level	Basis
What are the current procedures implemented by the DILG office regarding barangay submission of Means of Verification (MOV) documents and SGLGB Form 1 in terms of: a. Document Verification; b. Record-keeping; and c. Document tracking?	Interview	Quantitative	Primary	Validated Interview Questions
How do the standard manual procedures impact the timely submission of documents by barangays and the auditing process in the DILG office?	Questionnaire and Interview	Quantitative	Primary	Validated Questionnaire Items and Interview Questions
What communication mechanisms are utilized by the DILG office and barangays to address SGLGB program concerns?	Interview	Quantitative	Primary	Validated Interview Questions
How acceptable is the current and to-be-developed system based on the ISO 25010 Software Product Quality in terms of: a. Functionality; b. Usability; c. Reliability; and d. Security?	Questionnaire	Quantitative	Primary	Validated Questionnaire Items

**Table 2:** Data Analysis Plan Table

The primary data that the researchers will obtain will come from the questionnaire results and interviews, whilst secondary data will come from document review and analysis. The results from both questionnaires and interviews will be tabulated. They will also be comprehensively analyzed and interpreted descriptively. Insights from interviews are synthesized with quantitative findings to provide a holistic understanding of the challenges and potential solutions associated with the SGLGB program. These results will inform the researchers of the possible ways to design and develop the SGLGB Management System to alleviate the challenges in the compliance of the DILG office and barangays to the SGLGB program.



## Statistical Data Analysis

The researchers will opt to adopt Google products such as Google Sheets and Google Forms for accurate and efficient data analysis. The gathered data will be organized, tabulated, analyzed and calculated using Google Sheets to guarantee a systematic and error-free procedure, specifically in weighted mean computations which is the statistical procedure the researchers will utilize. In tandem, Google Forms will make it easier to collect and analyze insights coming from the data of the respondents which will primarily come via questionnaires. The incorporation of these Google products improves the analytical workflow of the researchers by promoting real-time collaboration, transparency, and accessibility in the statistical data analysis process.

The following statistical procedure/s will be used to interpret the data gathered from the respondents of the study:

1. **Weighted Mean.** This statistical tool will be utilized to compute the weight of the responses in the questionnaire assigned by the barangay and DILG office respondents during the data gathering procedure. The formula for the weighted mean is as follows:

$$WM = \frac{\sum(fx)}{n}$$

Where:

WM	=	Weighted mean
$\sum$	=	Summation
f	=	Frequency for response
x	=	Assigned weight
n	=	Total number of respondents





The following are the corresponding verbal interpretations for the weighted mean.

Weighted Mean	Verbal Interpretation
4.50 - 5.00	Strongly Agree
3.50 - 4.49	Agree
2.50 - 3.49	Uncertain
1.50 - 2.49	Disagree
1.00 - 1.49	Strongly Disagree

**Table 3:** Agreement Scale

Weighted Mean	Verbal Interpretation
4.50 - 5.00	Very Organized
3.50 - 4.49	Organized
2.50 - 3.49	Uncertain
1.50 - 2.49	Disorganized
1.00 - 1.49	Very Disorganized

**Table 4:** Organizational Scale

Weighted Mean	Verbal Interpretation
4.50 - 5.00	Very Easy
3.50 - 4.49	Easy
2.50 - 3.49	Uncertain
1.50 - 2.49	Difficult
1.00 - 1.49	Very Difficult

**Table 5:** Ease Scale



Weighted Mean	Verbal Interpretation
4.50 - 5.00	Very Informative
3.50 - 4.49	Informative
2.50 - 3.49	Uncertain
1.50 - 2.49	Not Informative
1.00 - 1.49	Not Informative At All

**Table 6:** Informativeness Scale

Weighted Mean	Verbal Interpretation
4.50 - 5.00	Very Satisfied
3.50 - 4.49	Satisfied
2.50 - 3.49	Uncertain
1.50 - 2.49	Unsatisfied
1.00 - 1.49	Very Unsatisfied

**Table 7:** Satisfaction Scale

Weighted Mean	Verbal Interpretation
4.50 - 5.00	Always
3.50 - 4.49	Often
2.50 - 3.49	Sometimes
1.50 - 2.49	Rarely
1.00 - 1.49	Never

**Table 8:** Frequency Scale



Weighted Mean	Verbal Interpretation
4.50 - 5.00	Very Likely
3.50 - 4.49	Likely
2.50 - 3.49	Uncertain
1.50 - 2.49	Unlikely
1.00 - 1.49	Very Unlikely

**Table 9:** Likelihood Scale

Weighted Mean	Verbal Interpretation
4.50 - 5.00	Very Manageable
3.50 - 4.49	Manageable
2.50 - 3.49	Uncertain
1.50 - 2.49	Challenging
1.00 - 1.49	Very Challenging

**Table 10:** Challenging Scale

Weighted Mean	Verbal Interpretation
4.50 - 5.00	Very Helpful
3.50 - 4.49	Helpful
2.50 - 3.49	Moderately Helpful
1.50 - 2.49	Slightly Helpful
1.00 - 1.49	Not Helpful At All

**Table 11:** Helpfulness Scale



### **Ethical Consideration**

The researchers uphold the ethical standards to safeguard the rights, privacy, and well-being of all the participants involved in this study. Participants, including the DILG office staff and selected barangay officials, will be fully informed about the study's purpose, procedures, and potential outcomes, with voluntary participation and the right to withdraw, in accordance with the principles of Republic Act No. 10173, also known as the Data Privacy Act of 2012. All collected data including the questionnaire answers and audio recordings of interviews are handled with utmost confidentiality. Participants' identities are anonymized, and measures are in place to securely store and protect all sensitive information. The researchers are committed to ensuring participant welfare by minimizing the potential discomfort or distress arising from participation. Participants are identified collaboratively, and approval and support from the DILG office are sought. Transparent and truthful reporting of findings is prioritized, while any potential conflicts of interest or biases are acknowledged.