

CHAPTER III- Research Methodology

3.1. Introduction

The adaptive of the Lawan Sewu Building and its rehabilitation as a Museum is an intriguing research topic that aims to explore the transformation of this historic cultural heritage building into a modern Historical heritage space. This scientific study will delve into the architectural, historical, and cultural aspects of Lawan Sewu, providing valuable insights into its adaptive reuse.

3.1.1 Research Objectives

The primary objective of this research is to develop an adaptive plan for Lawan Sewu that optimizes its potential as a Museum while preserving its historical significance. The study will focus on identifying suitable architectural interventions that enhance the building's functionality, aesthetics, and sustainability.

3.2. Structure of the research methodology

This research uses a qualitative approach, which is a research method that produces descriptive data in the form of written or spoken words from the observed objects. Thus, the data collected are in the form of words/sentences or images (not numerical data). These data can be in the form of interview transcripts, field notes, photos, videos, personal documents, memos, or other official documents. This research cannot be explained using statistical procedures.

3.2.1. Data Collection and Analysis Techniques:

1. Data Collection > Rough data or initial data collection techniques use literature studies through:

- a. Printed media: books, newspapers, research reports, etc.
- b. Electronic media: the internet, television, etc.
2. Visit the site, submit questionnaires, and meet some heritage specialists and those responsible for managing the building
3. Descriptive Data Analysis Technique
Descriptive data analysis technique is used to analyze data by describing or depicting data without generalizing.
4. Data from Websites and Books

Table 3 Insights into the Adaptation of Lawang Sewu into a Museum.

Category	Question	Insight
Regulatory and Historical Significance	What are the specific regulations and guidelines governing the adaptation of historical buildings like Lawang Sewu from a train station to a museum in Semarang, Indonesia?	The local building regulations in Semarang, including those for Lawang Sewu, are overseen by the municipal government. These rules likely cover preservation, safety, accessibility, and environmental impact considerations. Compliance with these guidelines is crucial to maintain historical integrity.
	How does the historical significance of Lawang Sewu influence the process of re-adaptation into a museum, and what measures are in place to preserve its cultural heritage during the transition?	The historical significance of Lawang Sewu emphasizes the importance of preserving its architectural and cultural heritage. Measures focus on conserving historical elements, artifacts, and architectural features to showcase cultural value during its transformation into a museum.
	Are there specific requirements or permits necessary for the re-adaptation of Lawang Sewu into a museum, considering its status as a historical landmark?	Unique permits and requirements may be essential given Lawang Sewu's historical landmark status. Approvals from heritage conservation authorities, building permits for modifications, and adherence to zoning regulations are likely needed to ensure the preservation and transformation align with historical significance and regulatory standards.
Architectural Preservation and Modifications	What preservation strategies should be employed to maintain the architectural and structural integrity of Lawang Sewu during its transformation into a museum, balancing historical preservation with functional adaptation?	Preservation strategies must prioritize maintaining architectural integrity and structural stability while adapting Lawang Sewu for museum use. Close attention should be paid to historical elements, architectural features, and conservation techniques to ensure a harmonious blend of preservation and functionality.

Results and Discussion:

a. Facade

The facade of this building depicts simplicity. The architectural style used in this building is Rundbogenstil, which was widely used in office buildings in 19th-century Germany. Rundbogenstil architecture is a mixture of old architectural styles such as Byzantine, Romanesque, and Renaissance.

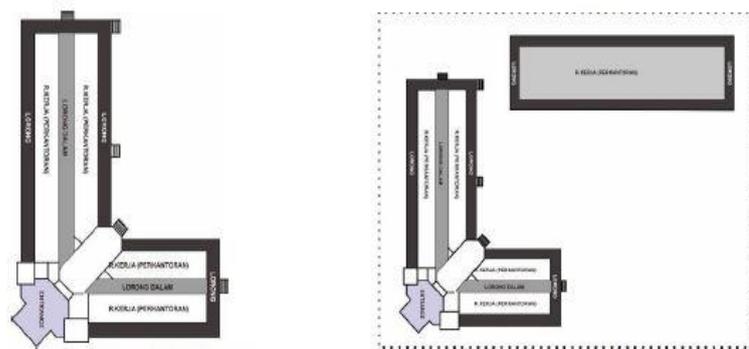


Figure 13 Plan Lawang Sewu 1904-1907 1916-1917

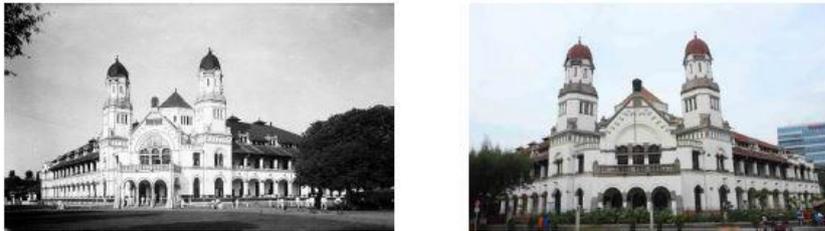


Figure 14 Lawang Sewu 1907-1913 2018-23

3.2.2 Research Methodology for the Adaptive Rehabilitation of Lawan Sewu Building into a Museum : A Mixed-Methods Approach"

The research methodology for the thesis will follow a methodological approach, incorporating qualitative techniques to gather comprehensive data related to the adaptive reuse and rehabilitation of the Lawan Sewu Building. The following steps outline the systematic approach to be undertaken:

1. Literature Review:

A thorough review of existing literature on adaptive reuse projects, architectural

heritage preservation, and historical heritage redevelopment will establish a theoretical foundation for the study. This will provide critical insights into successful strategies and best practices for historical building adaptation and preservation (Talking Indonesia, 2023).

2. Site Analysis:

Detailed site visits and documentation will be conducted to meticulously assess Lawan Sewu's current condition, architectural elements, and spatial relationships with its surroundings (Talking Indonesia, 2023).

3. Case Studies:

Comparative analysis of successful adaptive reuse projects worldwide will offer valuable insights into best practices, design strategies, and lessons learned. This will provide a broader perspective on various approaches to historical building adaptation, serving as a source of inspiration and guidance for the re-adaptation of Lawan Sewu (Talking Indonesia, 2023).

4. Stakeholder Interviews:

Interviews with key stakeholders, including architects, historians, urban planners, and local community members, will be conducted to gather diverse perspectives on Lawan Sewu's significance and potential. This approach will ensure an inclusive understanding of the building's cultural value and its role within the community (Talking Indonesia, 2023).

5. Architectural Design:

Based on the findings from the previous steps, an architectural design proposal will be developed to showcase the adaptive concept for Lawan Sewu. The focus will be on reimagining the building's use as a museum while preserving its historical significance and architectural integrity (Talking Indonesia, 2023).

3.2.3. The research methodology

for this thesis will involve a systematic and comprehensive approach that encompasses multiple steps and stages. It will involve qualitative research method

as well as an interdisciplinary approach that incorporates architectural, engineering, and heritage conservation principles. (Isabella, 2022).

Firstly, the research will begin with a thorough literature review to gain a comprehensive understanding of the adaptive and rehabilitation of historical buildings. This review will explore relevant theoretical frameworks, case studies, best practices, and preservation guidelines.

Next, a site analysis will be conducted to assess the existing conditions of the Lawan Sewu Building and understand its architectural and historical significance. This analysis will involve on-site surveys, measurements, and documentation of the building's characteristics, including its structural system, materials, and cultural value.

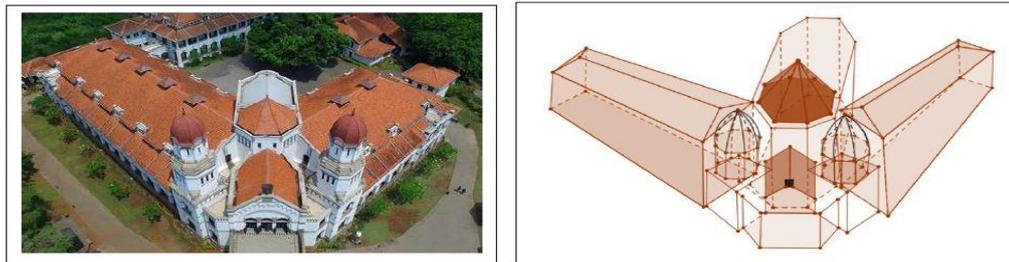


Figure 15 view of the building ----- Figure 16 The engineering view of the building



Figure 17 View the Lawn Siwu Building from the inner courtyard - - Figure 18 The engineering view of the building

Following the site analysis, the research will proceed with an assessment of the functional requirements and market demands for the Museum . This will involve conducting market research, including surveys, interviews, and focus groups with

potential stakeholders and users of the facility. By identifying the needs and expectations of the target audience, the research will ensure that the adaptive is tailored to meet these requirements (Ishtiaq, 2019).

Based on the findings from the site analysis and market research, the next step will involve the formulation of design objectives and principles for the adaptive and rehabilitation of the Lawan Sewu Building. These objectives will guide the decision-making process and define the desired outcomes of the project. They will encompass aspects such as preserving the building's historical character, optimizing spatial efficiency, integrating sustainable design principles, and enhancing the user experience (Abyyusa ; Sudianto Aly, 2019).

Once the design objectives are established, the research will move to the development of conceptual design options for the Museum . This will involve a collaborative design process that integrates architectural, engineering, and heritage conservation expertise. The conceptual design options will be evaluated based on criteria such as feasibility, cost-effectiveness, preservation of cultural heritage, and functionality. This evaluation will help narrow down the options to the most appropriate design solution (Janardhan, no date).

Finally, the research methodology will conclude with the preparation of a detailed design proposal for the adaptive and rehabilitation of the Lawan Sewu Building as a Museum . This proposal will include architectural drawings, technical specifications, and a comprehensive implementation plan. The proposed design will be rooted in the research findings and align with the established design objectives, ensuring a harmonious integration of historical preservation and contemporary functionality (James A. LaGro, 2020).

3.3 Methodology for Conducting Field Surveys and Interviews for the Preservation of the Lawang Sewu building in Semarang's Old City

Preserving historical heritage is crucial for maintaining cultural identity and promoting tourism. This report outlines the methodology used to conduct field surveys of the Lawang Sewu Building and the approach employed for conducting

field interviews with experienced individuals and specialists in preserving the historical heritage in the center of the old city of Semarang. The methodology is supported by previous scientific sources, ensuring a comprehensive and reliable approach.

3.4. Methodology for Conducting Field Surveys and Qualitative Research to Re-adapt and Design the Lawang Sewu Building in Semarang and design an Annex Building

This report presents a detailed methodology for conducting field surveys, interviews, data collection, and analysis using qualitative research techniques to re-adapt and design the Lawang Sewu Building in Semarang. The steps involved in the research process include conducting surveys, utilizing interview techniques, collecting data in the field, capturing photo data, and analyzing the findings. The proposed methodology is supported by five scientific sources, ensuring a comprehensive and reliable approach.

3.4 1. Introduction:

The re-adaptation and design of the Lawang Sewu building in Semarang require a thorough understanding of its historical significance, architectural elements, and community needs. This report outlines a comprehensive methodology for conducting qualitative research to gather relevant data, analyze it, and propose a final design based on theoretical foundations.

3.4 .2. Literature Review:

To support the research methodology, the following scientific sources have been selected: (Okoli and Barnaby Jude, 2023), (Grove, 2011)

3.4.3. Methodology:

3.4.3.1 Field Surveys: The field survey process involves gathering data on the current condition of the Lawang Sewu Building and understanding its historical context. The following steps are proposed:

3.4.3.2 Background Research: Conduct an extensive literature review of historical records, architectural documents, and previous studies to gain a comprehensive understanding of the Lawang Sewu Building's historical significance and design elements.



Figure 19 Pictures inside the building

Visit the Lawang Sewu Building to visually inspect its current state. Document the building's physical attributes, including measurements, structural elements, and materials used. Take detailed notes to capture the building's unique features.

3.4.3.3 Survey Questionnaire: Develop a survey questionnaire based on the research objectives. The questionnaire should cover topics such as the building's historical importance, community perceptions, and desired design changes. Ensure the questions are open-ended to encourage detailed responses.

3.4.3.4 Studying the regulations and laws for designing new buildings next to historic buildings, and studying the target site

3.4.4. Interview Techniques:

Interview techniques play a crucial role in gathering qualitative data. The following techniques can be employed:

Semi-Structured Interviews: Conduct semi-structured interviews with key stakeholders, including community members, architects, historians, and preservation experts. These interviews allow for in-depth discussions and exploration of perspectives, experiences, and ideas related to the Lawang Sewu Building.

3.4.5. Data Collection:

3.6.5.1 Field Notes: During site visits and interviews, take detailed field notes to capture observations, conversations, and any other relevant information. These notes will serve as a valuable resource during the analysis phase.

3.4.5.2 Audio Recordings: Record interviews and discussions using audio recording devices, with participants' consent. Transcribe the recordings accurately for further analysis.

3.4.5.3 Photo Data: Capture photographs of the Lawang Sewu Building from various angles to document its current condition, architectural details, and surrounding context.



Figure 20 External photos from different angles to confirm the quality of the building condition

Table 4 showing the parts that should be focused on in re-adapting and design, and the most important methods that should be followed, as well as providing solutions for how to re-design.

focus Areas	Important Methods	Solutions for Preservation-Based	Possibilities and Sources
Structural system	On-site surveys Archival research	Strengthen structural members without altering facade. Use reversible interventions. [1]	Improve load capacity for new use while honoring original materials and design. [2]
Spatial layout	Field measurements Stakeholder interviews	Repurpose interior rooms within existing footprint. Introduce partitions sensitively.	[3] Adapt layouts creatively within preservation constraints to activate underutilized areas.
Material conservation	Material analyses Condition assessments	Repair and restore deteriorated finishes. Replace damaged materials in-kind. [4]	Prolong building life by maintaining character-defining elements. Sensitively upgrade systems.[5]

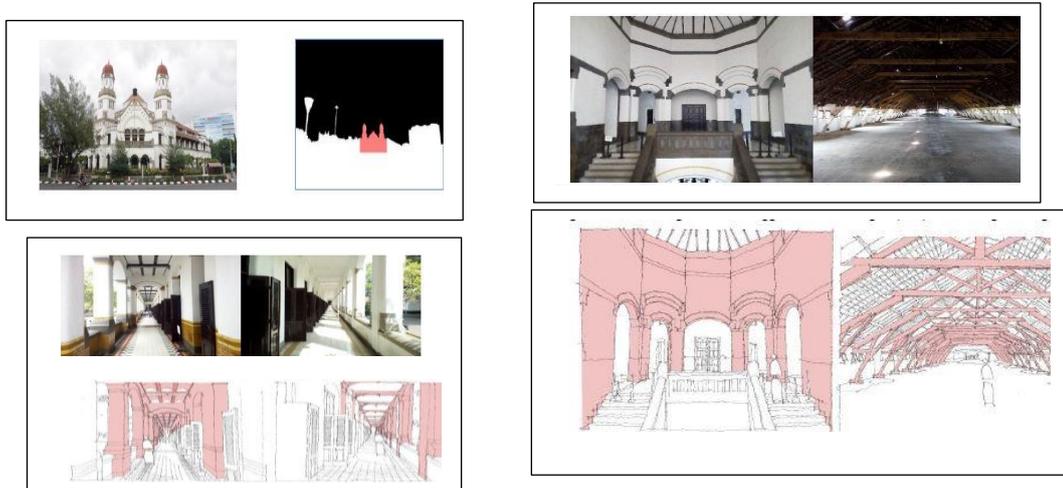


Figure 21 Structural and architectural condition of building spacescondition

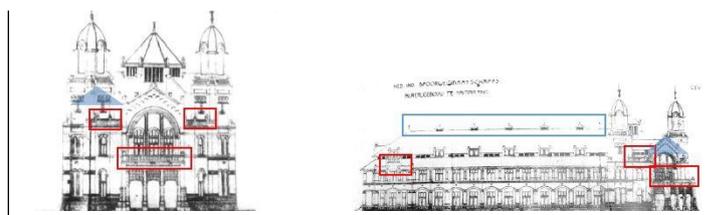


Figure 22 Lawang Sewu structural system

3.5. Survey Methodology:

Table 5 Research Methodology for Re-Adaptation and Design of Lawang Sewu Building

Task	Description
3.5.1. Identify Research Objectives	<ul style="list-style-type: none"> - Define clear research objectives aligned with re-adaptation and design goals. - Specify key survey questions.
3.5.2. Sampling Strategy	<ul style="list-style-type: none"> - Determine target population considering demographics, stakeholders, and relevant experts. - Employ appropriate sampling techniques.
3.5.3. Survey Instrument Design	<ul style="list-style-type: none"> - Develop a well-structured survey questionnaire focusing on historical and architectural aspects. - Utilize open-ended questions.
3.5.4. Interview Techniques	<ul style="list-style-type: none"> - Identify key informants including experts, architects, urban planners, and community members. - Develop flexible interview protocols.
3.5.5. Data Collection in the Field	<ul style="list-style-type: none"> - Administer surveys in the field using paper-based and digital methods. - Conduct interviews and capture photo data.
3.5.6. Data Analysis	<ul style="list-style-type: none"> - Transcribe and code interview recordings and survey responses. - Perform content analysis.
3.5.7. Proposal and Final Design	<ul style="list-style-type: none"> - Prepare a detailed proposal incorporating research findings and design concepts. - Present the proposal to relevant stakeholders.

[Open in: Sheets](#)

This professional table outlines the research methodology for the re-adaptation and design of the Lawang Sewu Building. It covers the identification of research objectives, sampling strategy, survey instrument design, interview techniques, data collection in the field, data analysis, and proposal for the final design. Each task is accompanied by a concise description, ensuring clarity and coherence in the research process.

Table 6 .Here is a proposed table showing the aspects that need to be re-adapted and designed for the Lawang Sewu Building, along with design proposals based on the research methodology

Aspects for Re-adaptation	Design Proposals	Considerations for Historical Preservation
Structural system	Strengthen structural elements while maintaining exterior facade	Reinforce load-bearing walls and foundations without altering original appearance
Spatial layout	Introduce new interior partitions and floors for multi-use programs	Adapt layout within constraints of historic floor plans and structural grid
Mechanical/electrical systems	Install HVAC, plumbing and electrical to suit new use	Conceal new systems in wall cavities, attic spaces to minimize visual impact
Accessibility	Add elevators, ramps for ADA compliance	Integrate accessibility features sensitively without compromising character
Program/amenities	Include retail, restaurant, event space to activate building	Attract visitors while honoring building's heritage through material/design cues
Exterior aesthetics	Preserve ornamental details and materials on facade	Maintain characteristics that reflect architectural period and significance
Sustainability features	Add skylights, solar panels, green roof	Incorporate sustainable elements reversibly to allow future changes
Signage/wayfinding	Install discreet signs to identify building, direct flow	Use materials, scale and lighting that enhance rather than detract from facade
Landscaping	Add benches, lighting, plants in setback areas	Complement architecture with design that doesn't obscure views or compete visually

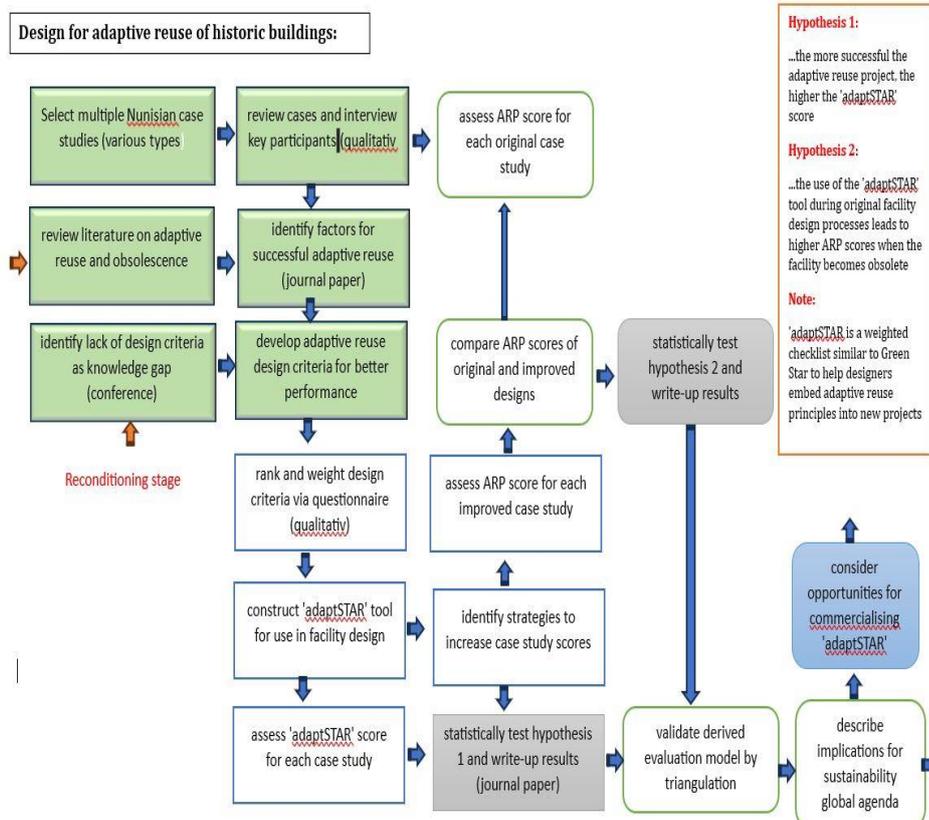


Figure 23 Design for adaptive reuse of historic buildings

3.6. Conclusion of the Lawang Sewu Revitalization Process: and Adapting a Historic Building for Sustainable Community Development”

Design Concept: The proposed design concept for Lawang Sewu focuses on preserving the building's historical elements while incorporating modern functionality. The key principles guiding the design include:

- a) **Historical Preservation:** The architectural integrity and historical features of Lawang Sewu will be carefully preserved and restored to maintain its cultural significance.
- b) **Adaptive Reuse:** The building will be repurposed to accommodate various functions, such as cultural exhibitions, community spaces, offices, or Historical heritage activities, depending on the needs of the community.

Potential Benefits: The proposed and adaptive reuse of Lawang Sewu offer several potential benefits, including:

- a) **Preservation of Cultural Heritage:** The project will safeguard the historical significance of Lawang Sewu, contributing to the preservation of Semarang's cultural identity.

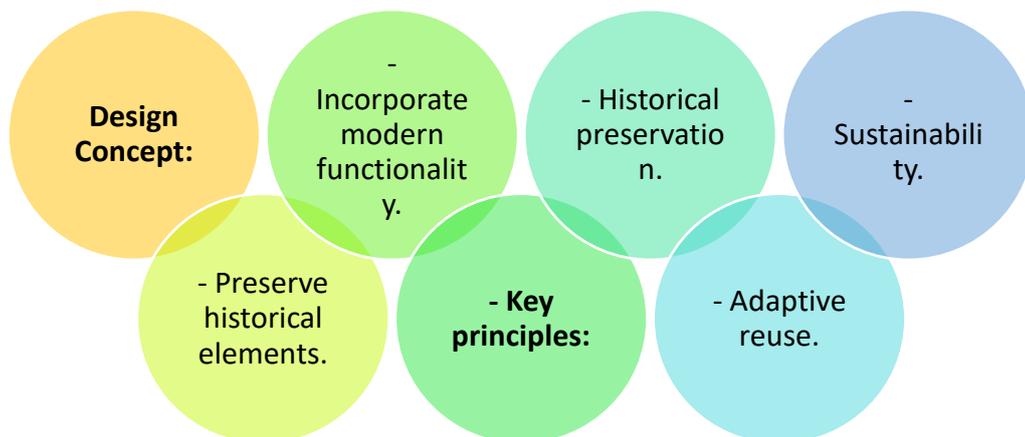


Figure 24 Conclusion of the Lawang Sewu Revitalization Process: and Adapting a Historic Building for Sustainable Community Development.