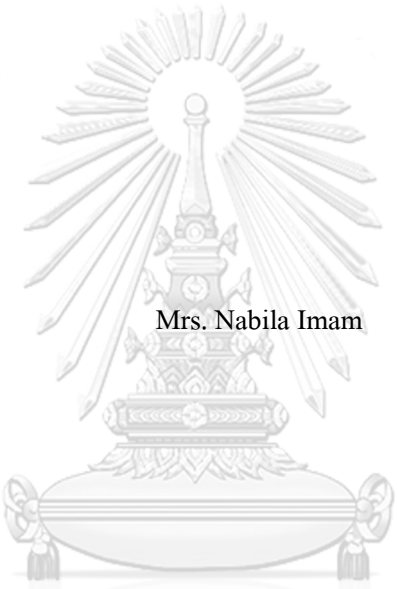
Vacant Shophouse Buildings in Bangkok: The Root Causes and Strategic Options

Mrs. Nabila Imam



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เนื่องจากอาคารพาณิชย์แบบเก่าไม่สามารถตอบสนองต่อการขยายตัวของเมืองและวิถีชีวิตที่เปลี่ยนแปลงไปของกรุงเทพฯ ได้ อาคารเหล่านั้นจึงค่อย ๆ เปลี่ยนเป็นอาคารที่ว่างบางส่วน หรือบางครั้งก็เป็นอาคารที่ไม่มีคนอยู่เลยเป็นระยะเวลาไม่มีกำหนด ในทุกซอกทุกมุมของเมืองมีอาคารพาณิชย์ที่ว่างทั้งหมดหรือว่างบางส่วนที่น่าสังเกตอยู่ อาคารพาณิชย์ที่ว่างเหล่านี้เปรียบเสมือน " ช่องว่าง" ในละแวกนั้น ซึ่งเป็นภัยคุกคามต่อการพัฒนาชุมชนที่อยู่อาศัย โอกาสทางเศรษฐกิจ สุขภาวะสิ่งแวดล้อม และความปลอดภัยสาธารณะภายในเมือง อย่างไรก็ตาม สิ่งที่เรียกว่า "ช่องว่าง" เหล่านี้อาจเป็นโอกาสที่ดีสำหรับเมืองเช่นกัน หากถูกนำใช้อย่างชาญฉลาด เพื่อรับรองว่ามีการใช้อาคารพาณิชย์อย่างเหมาะสม จึงต้องระบุสาเหตุที่ทำให้อาคารนั้นไม่ได้ถูกนำไปใช้ ทั้งนี้จุดประสงค์ของวิทยานิพนธ์นี้คือการสำรวจต้นเหตุที่เกี่ยวข้องกับปรากฏการณ์ของอาคารพาณิชย์ที่ว่างเปล่าในกรุงเทพฯ ในลักษณะโครงสร้าง โดยพิจารณาจากการออกแบบสถาปัตยกรรม คุณภาพชีวิต มุมมองทางการเงิน การขยายตัวของเมือง วัฒนธรรมและพฤติกรรมของประชาชน มุมมองกฎหมายและข้อบังคับของรัฐบาลโดยใช้ วิธีการที่รู้จักคือ การวิเคราะห์ก้างปลาร่วมกับเทคนิคการวิเคราะห์ 5-Whys นอกจากนี้ยังมีการเสนอยุทธศาสตร์การคืนชีพสำหรับอาคารแถวที่ว่างเหล่านี้อย่างเหมาะสม เพื่อพัฒนาย่านที่ยั่งยืนในเมือง ซึ่งการวิจัยเชิงคุณภาพนี้ได้ดำเนินการบนพื้นฐานของการทบทวนวรรณกรรม การสัมภาษณ์ และการสำรวจ ผลการศึกษาสรุปได้ว่าสาเหตุหลักของตำแหน่งว่างคือปัญหาบางประการที่เกี่ยวข้องกับการออกแบบสถาปัตยกรรมที่ล้าสมัย การขาดที่จอดรถ การมีที่อยู่อาศัยที่ทันสมัยและทางเลือกในการชอปปิงที่มากมายสำหรับผู้คน และการอพยพออกนอกพื้นที่ของคนรุ่นใหม่ ตามมาด้วยการขาดกฎระเบียบที่มีประสิทธิภาพสำหรับอสังหาริมทรัพย์ที่ว่างเปล่า และการสนับสนุนทางการเงินสำหรับกระบวนการปรับปรุง กรอบการวิเคราะห์ของแผนภาพก้างปลาจึงถูกใช้เพื่อแสดงสาเหตุของตำแหน่งที่ว่างซึ่งจัดหมวดหมู่ภายใต้มุมมองที่แตกต่างกัน เช่นนี้สาเหตุเบื้องหลังของการที่อาคารถูกทิ้งให้ว่างเปล่าจึงมีความสำคัญในการวางยุทธศาสตร์กระบวนการคืนชีพอาคารพาณิชย์ใหม่เหล่านี้ และเมื่อพิจารณาถึงปรารถนาของเจ้าของอาคารพาณิชย์ที่แตกต่างกันเช่นเดียวกับความต้องการ ในเมืองที่มีศักยภาพสำหรับอาคารพาณิชย์เหล่านี้ จึงได้มีการเสนอยุทธศาสตร์ที่ปฏิบัติได้จริงหลายประการ ซึ่งยุทธศาสตร์เหล่านี้เกี่ยวข้องกับการวางแผนอย่างรอบคอบ แผนการและแนวปฏิบัติเชิงนวัตกรรม การเงินเชิงสร้างสรรค์ และการบังคับใช้มาตรการสำหรับร้านค้าอย่างตรงจุด และคาดว่าผลการศึกษาของวิทยานิพนธ์นี้จะให้ความรู้และวิธีแก้ปัญหาอันมีค่าสำหรับการคืนชีพอาคารพาณิชย์ที่ว่างเปล่าและไม่ได้ถูกใช้งานเหล่านี้อีกครั้ง และยังป้องกันไม่ให้เกิดอาคารพาณิชย์ว่างเปล่าเพิ่มเติมอีกเช่นกัน

สาขาวิชา	ยุทธศาสตร์เมือง	ลายมือชื่อนิสิต .....
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Nabila Imam : Vacant Shophouse Buildings in Bangkok: The Root Causes and Strategic Options. Advisor: Assoc. Prof. APIWAT RATANAWARAHA, Ph.D.

Since the old-fashioned shophouse buildings cannot act in response to the urban sprawl and changing lifestyles of Bangkok, progressively they are converting into partially vacant buildings or sometimes they go off entirely unoccupied for an indefinite period of time. A noteworthy number of fully or partially vacant shophouse buildings can be found in every nook and corner of the city. These vacant shophouses act as the "voids" in the neighborhood, posing a threat to potential housing community development, economic opportunity, environmental health, and public safety within the city. However, these so-called "voids" might offer a great opportunity for the city as well if they are utilized wisely. To ensure that shophouses are properly utilized, the root causes of vacancy must be identified. The intention of this thesis was to explore the root causes relating to the phenomenon of Bangkok's vacant shophouse buildings in a structured manner, considering architectural design, quality of life, financial viewpoint, urbanization, people's culture & behavior, governmental laws & regulations perspectives using a very well-known methodology: Fishbone analysis in combination with the 5-Whys analysis technique. Appropriate reactivation strategies were also proposed for these vacant shophouses in order to develop a sustainable neighborhood in the city. Qualitative research has been conducted based on literature reviews, interviews, and surveys. The findings conclude that the main root causes of vacancy are a few issues associated with obsolete architectural design, lack of parking facilities, aplenty of modern housing and shopping choices for people, and outer migration of the younger generation, closely followed by lack of effective regulations for vacant properties and financial support for the renovation process. An analytical framework of the Fishbone diagram was used to demonstrate the causes of the vacancy categorized under the different perspectives. The underlying causes behind the vacancy are important in strategizing the reactivation process of these shophouses. Considering different aspirations of the shophouse owners as well as the potential urban demand for these shophouse buildings, several realistic strategies are proposed. These strategies are about thoughtful planning, innovative programs and practices, creative financing, and targeted code enforcement for the shophouses. It is expected that the findings of this thesis will provide valuable knowledge and solutions for reactivating these vacant and underutilized shophouse buildings and preventing further vacancy.

Field of Study:	Urban Strategies	Student's Signature .....
Academic Year:	2021	Advisor's Signature .....

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"I may not be there yet, but I'm closer than I was yesterday" -Jose N. Harris

As my thesis journey progressed, I often looked to this quotation to regain my strength. Thank you, Almighty, for bestowing upon me wisdom, strength, perseverance, and ability to complete this journey. Even though this paper was my own work, it would not have been possible without the support and guidance of many others. I would like to thank the following people who have helped me, in many ways during this research work.

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Chapter 1: Introduction

Thailand's shophouse buildings are just another representation of a regional Asian vernacular, which is part of a much wider global architectural phenomenon. The concept of merging commercial and residential activities into a single building emerged out of people's urban needs. The development of shophouses in urban areas was driven by the demand for concentrated businesses near dense residential areas, the necessity to maximize property values on valuable urban land, and the need for shop owners to keep their expenses low in order to create viable, profitable businesses. This complementarity and proximity of business and residential activities, in each case, resulted in dense, culturally rich, and commercially successful urban centers in Thailand. For these simple reasons, shophouses can be found across the country with localized adaptations.

Once, these infrastructures were considered to be a more feasible and sustainable concept than single use zoned building blocks, but the scenario has changed now. Numerous vacant, underutilized shophouse buildings can be noticed, particularly in the metropolis area. As like other developing countries, Thailand's urban landscape is also undergoing rapid and controllable modernization. Due to the demand for new infrastructure and developments, many traditional building styles, including the Thai shophouse buildings, are gradually fading away from the urban fabric. Although these shophouse might be promoted as a beneficial paradigm for future growth in Thailand with the purpose of creating livable, human-scale, and socially sustainable cities. It could provide insights into how to create a city that expresses the essence of its culture rather than a generic contemporary metropolis. This research attempts to revitalize these underutilized and neglected shophouses in a systematic approach.

All of the components that set the foundation for this research are covered in this chapter. The chapter begins with the introduction of the core idea for this research through "General overview" and "Background of the study." The research questions are then presented with alignment and reinforcement through the research objectives and research problem. To enhance the clarity of the content of this study and offer a concise discussion, the scope and focus of the study, its significance, and its limitations are all listed. This chapter also includes a brief summary of the research area. Serving as the backdrop for the study, the research design is illustrated, leading to the section of the overall thesis structure.

General Overview

According to (Wilkilson, 2011), a vacant building is one that has been neglected, unoccupied, or vacant for a significant span of years. Any residential, commercial, or industrial property or land that endangers public safety and so satisfies the criteria of a common nuisance is considered and can be specified as a vacant property. It exhibits traits of negligence on behalf of the owner. Such buildings can range from derelict structures to partly boarded-up structures to completely unused lots which attract trash and debris. These vacant buildings are harmful to cities and burden communities in a variety of ways. Fundamentally, they are expensive and wasteful. The presence of underutilized, dilapidated buildings in any geographic area puts a strain on both the neighborhood and also the community that surrounds them.

According to a recent study by (Pornchokchai, 2019), the Bangkok Metropolitan Region (BMR) possesses 525,889 vacant residential and commercial units (including condos, townhouses, semi-detached houses, and shophouses). Among these vacant units (both housing and commercial), shophouses are remarkable because they are one of the most common building types in Bangkok. Shophouses are mixed-use and multipurpose buildings that are used for both residential and commercial needs. The origin of the Bangkok shophouse is derived from the Chinese shophouse introduced by King Rama V (Tirapas, 2012). During the town's modernization phase, between the 1980s and the 1990s, these shophouses were constructed to 2-4 story height with an early modern structural design. It was meant to be used for both business and residences; the ground floor was commonly used for commerce, while higher floors were used for residences (Potipituk & Perera, 2013).

Well, with the progression of time, the shophouse's occupancy type has changed significantly. These days it's unusual to find out that a business owner still lives above the shop. Most of the shophouse owners have moved to new residential places which provides modern facilities. The residential floors above a store are now rented to families or offices. As a result of an intricate web of leasing and subleasing, many unrelated renters occasionally occupy the upper levels of larger properties. It's fairly common when a building is divided into different apartment sections that many parties lose access to adequate light, air, or restroom facilities, resulting in negative effects on the health and living conditions of their inhabitants. As a result, the quality of life has worsened in these buildings. That's why these days, finding tenants for these shophouses has become very difficult. And these building floors remain unused or vacant for an indeterminate period of time.

Buildings, especially those built close to the street, always have an influence on the streetscape character of any area. Therefore, there is a need to rethink the factors that continue to contribute to shophouse buildings being abandoned, as well as their socioeconomic consequences, in order to prevent this problem from recurring indefinitely. The research mainly focuses on vacant buildings, particularly commercial shophouses. It discusses the prevailing conditions of the vacant shophouses, as well as the possible root causes of the vacancy, from several viewpoints. Also strategize the appropriate options for reactivating of these shophouses in order to promote economic development in the city.

Background of the Study

Beginning in the mid-19th century, Bangkok's shophouses grew and changed in tandem with the unique requirements and tastes of its residents, as well as the economic and social atmosphere of the time (Fusinpaiboon, 2021). While the architectural style and dimension of these shophouses evolved over time, the fundamental concept remained the same: providing a dense, mixed-use, and affordable housing stock for a large proportion of Bangkok's citizenry.

Focusing on Bangkok, shophouses from the 1960s and 1970s still comprise a significant portion of the city center and urban suburbs today, despite their popularity dropping significantly since the 1980s. In the 1980s, the shophouse was blamed for the capital's road congestion, pollution, and disorderliness. Bangkok's market trend for shophouses is on the decline, according to the most recent real-estate market data (Fusinpaiboon, 2021). Townhouses and single-family homes have gradually become high in demand across the suburbs, while multistory living developments are sprouting up in the middle, around, and along the town's mass transit systems (Tirapas, 2012). Furthermore, young people's city lifestyles have changed: separated working and residential areas, long working hours, high-tech communication aids, single-family preference, and minimal living space requirements are trending now. These portray Bangkok's metropolitan sprawling and homogeneous habitat growth trends. Development of the road network, construction of expressways, and increased private car ownership fueled suburban growth, attracting many of the original owners, heirs, and inhabitants of shophouses to relocate to suburban housing. As a result, the shophouse buildings appear to be slowing down in their pursuit of new lifestyles.

Currently, in Bangkok, most of the shophouses are commercial mixed-use shops within which commercial is the first function and other uses are secondary. They're usually located in dense business centers along the main road. The majority of the shophouses in the city are now old, underutilized, and not maintained properly.

Figure 1: Shophouse buildings in Punnawithi area

Unfortunately, most of the shophouse buildings aren't being well maintained, hence defects and damage within the building are common phenomena. Peeling paint, old-rusted windows, dead or dying groundcover, poor ventilation, and overgrown vegetation are very common features in these buildings. Although these properties can be converted to their intended use with significant repairs, some shophouse buildings are seen as fully vacant for an extended period. These buildings are unsafe to enter or occupy for further intended use. The structure and property aren't being maintained for a protracted period. These shophouse buildings create substantial health or safety dangers, as well as significant community disruption. The owners appear to be unresponsive or unidentified, and the property appears to be unmonitored. That's why these days, finding tenants for these shophouses has become very difficult. And these building floors remain unused or vacant for an indeterminate period of time. A recent study by the Agency for Land Affairs (AREA) shows that the Bangna area has about 14% of vacant buildings, which is the second highest rate of vacant housing units in BMR (Pornchokchai, 2019). Only a few of them are well-maintained and can be lived in or used for their intended purposes. These shophouses require little to no care or repairs. It appears that the owner regularly monitors the property on a proactive basis and might be tuned in to reasonable governmental requests.

Research Problem

From recent statistics, it appears that the issue of fully or partially vacant shophouse buildings is a key concern in Bangkok metropolitan. It was earlier mentioned that the Bangkok Metropolitan Region (BMR) possesses 525,889 vacant residential and commercial units (including condos, townhouses, semi-detached houses, and shophouses). Amongst these vacant units (both housing and commercial), shophouses are remarkable as they are one of the most common building types in Bangkok.

The issue of understanding the vacancy state of shophouse buildings and its dominant factors must be sought out and presented in the context of a sustainable urban neighborhood. Previous research on shophouses has mainly concentrated on generalizing the problems and structural solutions to the old shophouse buildings. However, the goal of this study is to uncover the root causes of vacancy of shophouse buildings considering quite a few standpoints. The thesis's research question and overall objectives are focused on the next section.

Research Question

As given by the background of the study and the overview of the research problem, there appears to be an imminent need and opportunity to comprehend the actual reasons behind shophouse buildings' vacancy. Hence, this research aims to mainly answer the following questions:

- *What are the main reasons for Bangkok's abandoned shophouse buildings?*
- *How can a strategy framework for addressing and resolving the challenges associated with Bangkok's abandoned shophouse buildings be developed?*

This research question is purposefully broad; in order to investigate and capture the complexities of causes, as well as to allow for an open research process, the observational data collection process must be broadened and expandable. The key is to allow research participants to offer their own perspectives on why shophouse building vacancies occur and what they may imply, as well as to investigate the solutions that interviewees would accept, rather than to narrow the process by adopting the researcher’s own connotations and explanations.

Whereas the second research question aims to outline the aspects that must be considered while developing strategies for reactivation.

Research Objectives

To answer the above question, the goal of this research is to uncover the underlying causes of the occurrence of vacant shophouse buildings in a systematic manner. Once the causes and problems which led to the vacancy are identified, solutions can be easily recognized so that the risk of these traditional city features becoming vacant can be eliminated or, at the very least, reduced to an acceptable level. This research will also help to strategize and debate specific solutions to this phenomenon. It focuses on Punnawithi district, the emerging Cybertech district in Bangkok as Punnawithi's vacant shophouse buildings pose a big challenge to the economic development of the area. The subsequent research objectives are established based on the research's goal. The following objectives will serve as the research's guidelines:

- *The prime research objective was to identify the possible root causes behind the vacancy of shophouse buildings at Bangkok from a variety of diverse and extensive perspectives.*
- *In addition, the research focused on developing a strategy framework for addressing and resolving the challenges associated with Bangkok's abandoned shophouse buildings.*

Scope and Focus of the Study

This research was conducted in an organized manner within a limited number of fundamental measures. The sphere work was administered in the Punnawithi district, Bangkok, during the month of September 2021. The research involved in-depth interviews with shopkeepers and an analysis of the responses retrieved from the survey questionnaire. The focus of this study was on commercial shophouse buildings. For the purpose of the interview, shophouse buildings that had been partially vacant for at least three years were chosen. The analysis of vacant housing wasn't fully conducted on a regional scale because of time limitations and practical considerations regarding the continued pandemic situation. This research focuses solely on the primary causes of vacant shophouse buildings, which might lead to the recommendation of several strategic solutions. It might serve as a solid foundation for future investigations into how to deal with the problem of vacant shophouse buildings in Bangkok.

Research Site

The study was conducted in Punnawithi area, which is on the border of Phra Khanong and Bangna. The actual location of the area falls under the Bangchak subdistrict, around Main Sukhumvit road. Earlier, it used to be primarily a residential suburban area, but nowadays it has further shifted towards commercial activities. Figure 2 displays the location of Punnawithi area in Bangkok's map.

Shophouse owners were interviewed in this area, particularly in the main Sukhumvit road, Sukhumvit 101 road and Sukhumvit 101/1 road. The study area has various land uses, for example, residences, commercial activities, trading, industry, and schooling. Most private households in Punnawithi are condominiums and apartments, followed by a large portion of shop houses or row houses, and some town houses, duplexes, and townhomes. The number of mixed-use commercial and residential shophouse is notable in this area. In terms of both the quantity and covering area of the structures here, these shophouses have taken up a considerable proportion.

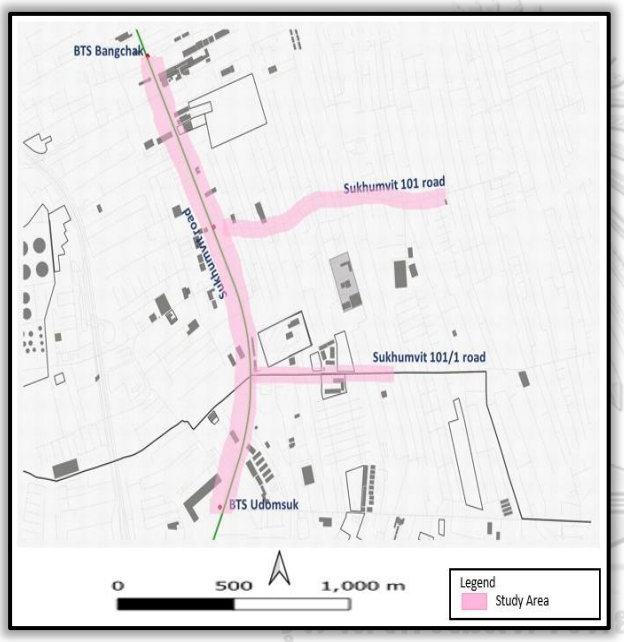


Figure 2: Map of the research site

The area is well-connected to the CBD, with a BTS station that connects to a variety of routes. The Chalerm Mahanakorn and Chalongrat Expressways are the two main expressways that go through this area. The Sukhumvit Road, on the other hand, is the prime route of commuting in the Sukhumvit neighborhood. The district is 25 minutes away from the Suvarnabhumi airport. In the first place, Punnawithi seemed like another secluded suburb of Bangkok. Yet the area is one of the fast-developing suburbs of this capital city as it is set to be Thailand's first developing Cybertech district. Several ongoing projects related to the Cybertech district will drastically transform the area in near future. It can be considered to be an ascending neighborhood because of significant rises in demand for urban living, which has grown popular with new inhabitants, mostly young individuals.

Significance of the Research

The problem of vacant shophouse buildings is very important once we try to understand the dynamics of the contemporary Thai economy and the way the Thai property market is plagued by these blighted properties. It's significant to note that there's a scarcity of research regarding the causes of vacant properties in Bangkok. Therefore, this research will provide insight into this occurrence. Successful completion of the proposed research work will uncover the real reasons that trigger the vacancy of shophouse buildings. It will inevitably educate relevant personnel within the property market on the challenges of shophouse building vacancies in terms of clear economic, social, and environmental causes and repercussions. As a result, it will contribute to the correction, reduction, or elimination of unnecessary errors and risks of vacancy in the future attributed to the specific key stakeholders in the matter. This study can provide a solid foundation of cognitive content for further investigation regarding ways to resolve the matter of vacant shophouse buildings in Bangkok.

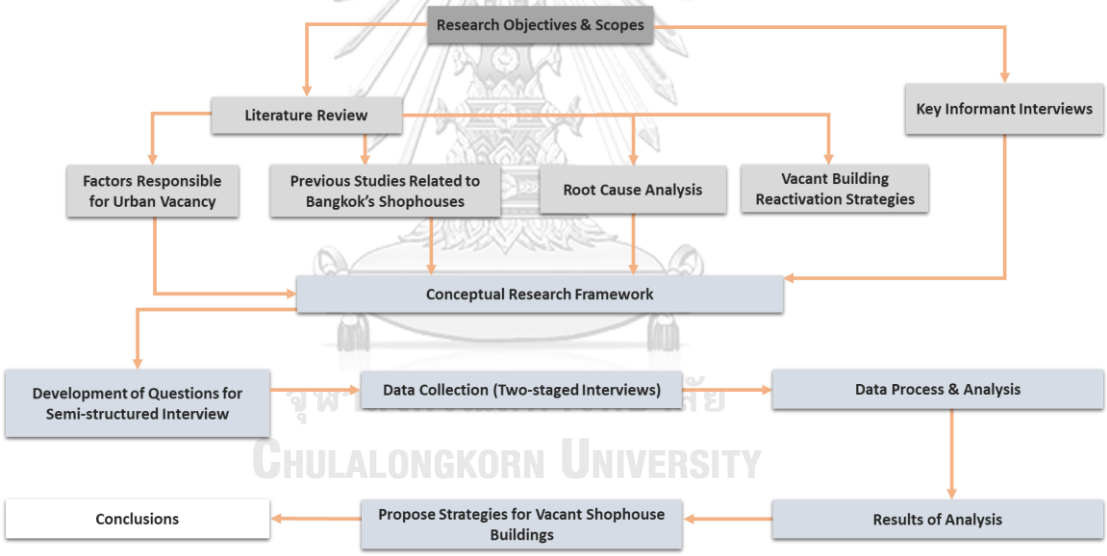
Limitations of the Study

This research contains several limitations that ought to be considered when appraising its findings and for future studies. First, the statistical data about the total number of shophouses, types of shophouses, and categories of business conducted within the existing shophouses isn't always obtainable. This information was valuable for gaining insight into Bangkok's existing situation. Second, since no previous studies have ever been undertaken on this topic, generally previous studies on shophouse buildings focused on the structural and architectural aspects. Identifying the causes of the vacancy is undoubtedly a difficult task. It's tricky to confirm that the results of this study are going to be equally applicable in the future. Third, the shortage of time to hold out the field survey. Unlike other surveying techniques, purposive sampling is an unbiased method for gathering responses from a large group. These drawbacks include the time required to compile a full summary of a particular population, the capital required to retrieve and call that list, and the bias that would occur if the sample set was not large enough to adequately represent the entire population. People were reluctant to participate in interviews since disclosing information regarding property is a sensitive topic.

Research Design & Method

According to a search of the literature, there have only been a few studies conducted on shophouse buildings in Thailand. Most of the studies are associated with architectural design or structural redevelopment in general. As such, it is necessary to carry out the study in order to identify the root causes of the vacancy of shophouse buildings in Thailand and to develop a framework for a strategical planning approach for solving this problem that may be applied to improve the existing shortcomings of the vacant shophouse buildings. The uniqueness of the problem should have been the subject of research that could provide some tools for future studies. The research methodology is designed in such a way that the emphasis is on gaining insights into the challenges rather than making definitive conclusions about the findings. The research design of this study is illustrated in the figure below:

Preliminary research



A brief preliminary investigation has been carried out in order to gain a clear understanding of the issues surrounding Bangkok's vacant shophouse buildings. This preliminary research involved collection of information through reviewing literature from different sources and key informant interviews with selected personnel related to this issue. They helped to identify and/or refine issues related to vacant shophouse buildings, which was helpful in the formulation and testing of the conceptual framework of this research work. In parallel, several reconnaissance site visits were conducted to course correct the theories obtained from literature review and develop survey questions.

Data collection, processing & analysis

A qualitative explanatory research analysis was performed involving data collection through survey questionnaires, in order to achieve the objectives stated earlier. So, the main research instrument of this study was the survey questionnaire. Questionnaires were distributed to the target population, followed by face-to-face interviews. A targeted population (shophouse owners/tenants) was selected in the Punnawtihi district based on few criteria. Data analysis (using the fishbone diagram and 5-whys tool) was performed after all the required data has been collected before reaching any conclusions for pinpointing the root causes of the vacancy. It is a diagram-based system that involved brainstorming with a type of concept map and motivates you to evaluate all possible causes of a problem rather than the most obvious ones. Once the problem statement was determined, major categories (architectural design& quality of life, financial, laws & regulations, culture & behavior, and urbanization) of causes of the problems were brainstormed. Further branching off these causes using 5-whys tool shows thorough thinking about all possible triggers of the vacancy problem that may be related to the five major categories mentioned above. Eventually, the fishbone diagram summarized potential root causes from various perspectives and sorts out the possible causes further into subcategories. A causal loop diagram was also constructed to visualize the interconnections among the identified causes.

Proposing strategies to reuse these vacant shophouse buildings

Once the root causes and effects were identified, this research intended to develop strategies to mitigate these causes by using a conceptualized strategic planning approach. This study aimed to find a way to generate urban demand for these vacant shophouse buildings and to assemble the available strategic tools for supporting the transition of vacant shophouse buildings to productive reuse. It offered an overview of available tools in Thailand to deal with the vacant properties: i.e., funding options, legal actions, and consultation facilities. Considering the different aspirations of the shophouse owners, several realistic strategies are proposed. This study doesn't try to suggest specific steps for improving shophouses. It does, however, suggest the "direction" during which such steps should be taken, supported by the research results.

Thesis Structure

All in all, the presentation of this research will follow the structured approach of a doctoral thesis (Perry, 1998). The research then proceeded by establishing a broad view of interconnected factors of urban vacancy, which led to the main emphasis of the research problem. This problem identification followed the development of a conceptual framework that is supported by theory and literature in order to be examined factually and conceptually. The thesis is organized into six sections, each of which is introduced as follows:

Chapter 1: Introduction offers as a quick overview of the research topic. It includes the general overview, statement of the problem and the research question. It has also outlined the objectives, significance, scope, and limitations of the study.

Chapter 2: Literature **Review** explores the concept of vacant buildings, shophouses, root cause analysis, the fishbone tool, 5-whys technique and transect walk. It contains information from the literature as well as a theoretical framework for supporting claims based on past research at all levels, from global to regional. It focuses on five major dimensions (Bangkok's shophouses, influencing factors for property vacancy, root cause analysis and fishbone diagram tool in research, strategy development for vacant buildings) of literature part.

Chapter 3: Conceptual **Framework** discusses the development process of conceptual framework of the study. It discusses the method of transect walk and key informant interview in detail.

Chapter 4: Research Methodology discusses the conceptual framework of the study. It covers all of the important aspects of the research methodology being used. From the justification for the qualitative approach to the study, key informant selection, research instrument, research participants, and sample size are all covered in this chapter. It also contains a summary of qualitative data collection as well as an analysis strategy.

Chapter 5: Data **Analysis** & **Findings** focuses on the study's qualitative findings. The findings from the interviews and subsequent disclosures is presented in this chapter, which focuses on the identification of root causes of vacancy. After data analysis, the prime root causes that emerged as a result of the fishbone analysis are visually depicted. Interconnections among the causes were depicted by a causal loop diagram

Chapter 6: Strategic options for vacant shophouse buildings presents a strategy development framework. This framework assembles all the prerequisite instruments needed for a sustainable strategy formation process. Sustainable reuse strategic options are provided along with a decision matrix.

Chapter 7: Discussion & Conclusion integrates the findings with the research question and the objective. As a recommendation, 'vacant property program' is suggested. This chapter highlights the need of preserving and repurposing shophouses.

The general outline, in addition to the organizational pattern of this thesis, is shown below:

Table 1: Structure of the thesis

Chapter	Subchapter
1. Introduction	General Overview
	Background of the Study
	Research Problem
	Research Question
	Research Objectives
	Research Site
	Scope and Focus of the Study
	Significance of the Study
	Limitations of the Study
	Research Design Method
	Thesis Structure
2. Literature Review	Definition of Key Concepts
	Overview of Shophouse Buildings in Bangkok
	Overview of Factors Contritbuting to Urban Vacancy
	Overview of Root Cause Analysis Tool in Research
	Overview of Vacant Property Revitalization Strategy
3. Conceptual Framework	Preliminary Observational Research (Transect Walk)
	Key Informant Interview
	Conceptual framework of the Study
4. Research Methodology	Root Cause Analysis Framework
	Research Approach
	Research Instrument
	Research Participants & Sampling
	Data Collection Method
	Data Analysis Method
	Validity & Reliability
	Summary of Research Methodology
5. Data Analysis & Findings	Punnawithi's Suburbanization Over the Years
	Location & Physical Condition of the Shophouse Buildings
	Limitations & Challenges in the Field Work
	Images from the Field Work
	Key Outcomes from Qualitative In-depth Interviews
	Interconnections Among Identified Causes
6. Strategic Options for Vacant Shophouse Buildings	Strategy Development Framework
	Sustainable Reuse Strategies
	Decision Matrix
7. Discussion & Conclusion	Understaning the Findings in Relation to the Research Questions
	Recommendation - A Way Forward for the Solution
	Acknowledge the Value of Such a Ubiquitous Asset
	Conclusion

Chapter 2: Literature Review

This chapter draws on four main literatures: Bangkok shophouse buildings; contributing factors to urban vacancy; a root cause analysis tool in research; and a vacant property revitalization strategy. Despite the fact that the literature is considerably diverse, a commonality is concern about analytically identifying the root causes of shophouse vacancy in Bangkok and determining the most suitable strategic options for resolving this complex situation.

This review initially focuses upon a few key-concepts (vacant & unoccupied property; shophouse building; root cause analysis; fishbone diagram; 5-whys analysis technique; and transect walk) that are required in the context of research. The review highlights on the current state of Bangkok shophouse buildings. This is followed by an integrated discussion of the various factors that contribute to urban vacancy as well as research for theoretical approaches to facilitate vacant property revitalization strategies. I believe that considering these aspects is essential to developing a conceptual framework that will identify the root causes of vacancy as well as provide relevant strategic options for reusing those vacant shophouse buildings.

This chapter is somewhat complex since it explores and integrates four kinds of literature that are distinct in nature. Figure 3 attempts to visualize the overall structure of this chapter.

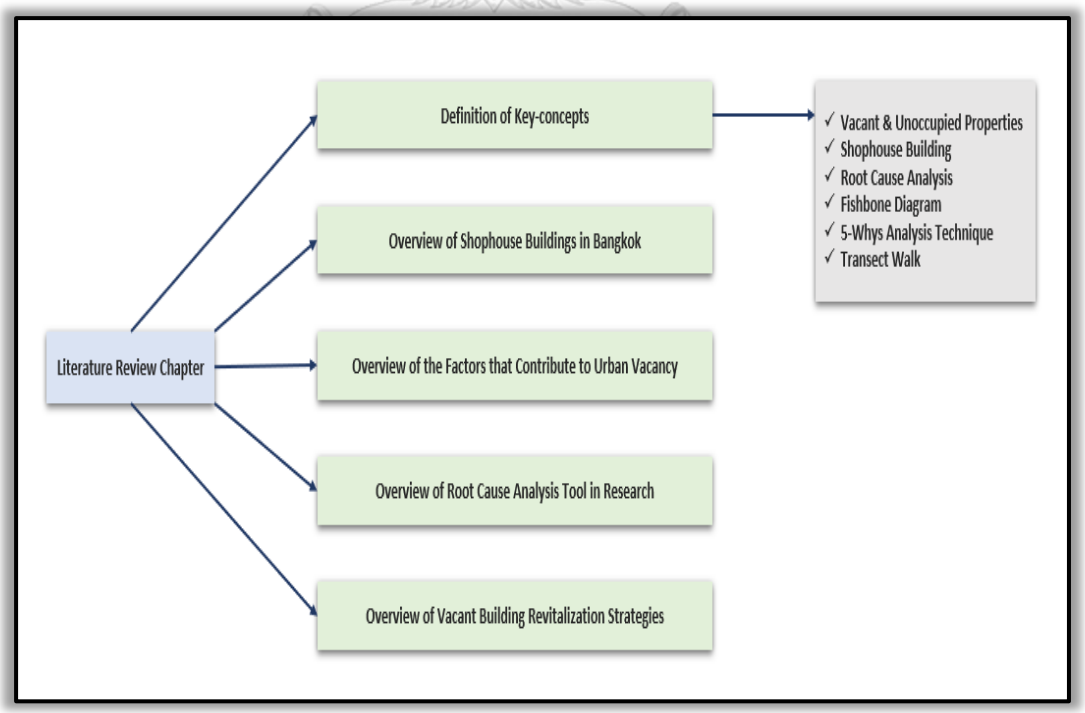


Figure 3: Structure of the literature review chapter

Definition of Key Concepts

Vacant and unoccupied properties

Each country has its own definition and investigation scope for vacant and unoccupied properties. In general, a "vacant house" is one that has been unused for an extended period of time. It is indeed characterized as residential, commercial, industrial, or mixed-use real estate that hasn't been officially used and maintained and actively promoted for rental, either under construction for 45 days or over. According to Pressler, a vacant building is one that has been "unoccupied for years, appearing to be intact from the outside" but lacking framework and systems (Pressler, 1996). Coleman specifies an empty structure as featuring "no one inside at the time of the fire," while a vacant building has "no (or only a few useless) things therein (Coleman, 2004). Scanlon emphasizes the need to differentiate between these words (Scanlon, 2002). A vacant building is one that is temporarily without residents, maybe because it is being reconstructed, whereas an abandoned structure has had no "activity" for five years (Botts, 2010).

Although the concepts of "vacant" and "unoccupied" properties may sound like they are equivalent in general usage, they are distinct. A vacant building can be defined as one where there is little or no furniture or other personal items in a building. On the other hand, the word "unoccupied" refers to a property that has been left in a situation where all of the belongings and possessions are still present, as if the owners may return at any time. A building can be unoccupied even though it is not vacant when people are not present. A building is labeled vacant until it is occupied to the extent of at least 31% of its total square footage, and the operations carried out must be in conformity with the structure's intended use (Newman, G; Park, Yunmi, 2018).

The fact that no one is currently residing in it does not suggest that it has been abandoned, even though the house needs repairs. For instance, a property may be a seasonal rental or remain vacant after a fire while the insurance assessor and repairs are being done. Other scenarios are far more complicated: if a building is boarded up for an extended period of time but property taxes are still collected, it is considered unoccupied rather than vacated, preventing the government from taking legal action (Botts, 2010).

Shophouse building

A shophouse is a type of building structure that may be used for both residential and commercial purposes. As per the dictionary, it is a building style found in Southeast Asia that is "a storefront opening on to the street and also utilized as the owner's dwelling," and has been a widely used phrase since the 1950s (Lim, 1993).

Figure 4: Evolution of shophouse buildings over the time (Wagner, 2017)

The shophouses were initially built along the roads to represent a modern development at that time. These were depicted as a rational model for urban residents since they served as both a residence and a modest business place. From Sachakul's study, the typical features of a shophouse building can be observed (Sachakul, 1982). The layout of each building was narrow in width and lengthy in depth. It was constructed to be narrow and intense so that as many businesses as possible could be accommodated along a street. The front portion of the shophouse building, along the street, was a formal place for the customers, but the backyard areas were designed for family members, with bedrooms, toilets, kitchens, and other amenities. Generally, commercial ventures took place on the ground floor, while residential functions took place on the upper floors. This used to represent the modern and living heritage of Southeast Asia. In Thailand, the early shophouses were derived from the Chinese shophouses during the King Rama V period (Tirapas, 2012). Chinese immigrants brought their country's architectural styles to Bangkok, but they transformed then into a completely distinct vernacular as a result of the environment, local culture, and European colonial influence. Perhaps the most appealing feature of the shophouse is the ever-changing appearance of its structure. It hasn't maintained a fixed exterior over time but has evolved to reflect the current culture and style. Figure 4 illustrates the evolution of shophouse buildings' architectural design over time. The diversity of shophouses that have popped up gives a unique insight into style and culture across time, with its popularity covering the majority of the twentieth century. It turns into a visual history of Thailand's architectural and cultural movements.

Root cause analysis

Root cause analysis (RCA) is a systematic investigation designed to determine the actual causes of an issue as well as the steps designed to fix it. It's a broad term that comprises a set of methodologies, tools, and strategies for discovering the root causes of an issue. It examines each of the three categories of causes (physical causes, human causes, and organizational causes) (Sproull, 2001). In his article, Wilson described that root cause analysis as an analytical approach for conducting a comprehensive, system-based evaluation of significant incidents (Wilson, 1993). It involves defining the root and supporting causes, establishing risk-reduction strategies, and developing action plans with assessment techniques to assess the efficacy of the plans. According to Dew, identifying and eradicating the root causes of any problem is crucial Root cause analysis is the process of determining causal factors through the use of a systematic methodology and tools designed to provide a focal point for identifying and recognizing situations (Dew, 1991). Root cause analysis techniques aid organizations and individuals in uncovering the roots of their problems.

According to the Canadian Root Cause Analysis Framework (2005), it's a key component of comprehending the whole context of "what happened." To resolve an issue, one should first identify the root of the problem. This is the basis of root cause analysis. A root cause is the most profound basis for an unwanted problem or situation (Wilson, 1993). If the actual cause of the problem is not recognized, one is just prolonging the inevitable, and the problem will persist.

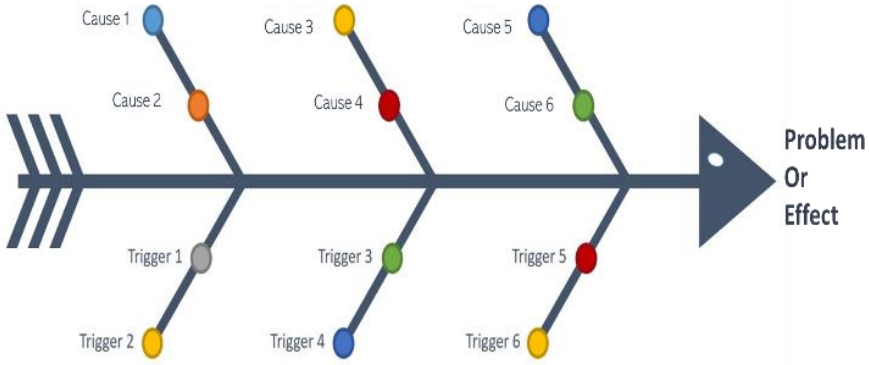
Understanding the fundamental elements or causes of a system failure might aid in the development of corrective solutions that will last. To uncover the root cause (s) of an incident, it is essential to investigate all potential "what," "why," and "how" inquiries (Wohlust, 2021). It is a helpful method for evaluating and resolving problems. RCA is a common and widely utilized approach that assists people in understanding why a problem emerged in the very first place. It aims to find the root of a problem by following a series of actions and utilizing connected tools to determine the problem's ultimate cause, so that one can:

- Figure out what happened.
- Figure out why it happened.
- Consider what you can do to reduce the chances of it happening again.

Fishbone diagram

There are a wide range of techniques for root cause analysis methods for innovative theories, such as: Fishbone diagrams, Mind Mapping, Pareto Analysis, Causal Tree, Brainstorming, Nominal Group Technique, Metaphorical Thinking, and 5-Why Analysis. This research will concentrate on the Fishbone diagram in combination with the 5-Why technique for this study.

A cause-and-effect diagram, often called a "fishbone" diagram, is considered as one of the effective tools in Root Cause Analysis (RCA) (Qapi, 2020). Professor Kaoru Ishikawa, a quality management expert, introduced the Fishbone diagram in the 1960s. The concept was first officially introduced in his book in 1990, "Introduction to Quality Control." The diagrams are famous as Ishikawa diagrams, cause, and effect analysis, or "fishbone diagrams," since the finalized diagram might resemble a fish's skeleton. The problem or impact is shown at the head or mouth of the fish. Possible contributing causes and triggers are recorded on the smaller "bones" under a variety of cause categories (illustrated in the figure below). It's a visual representation of cause and effect.



This is an excellent tool for brainstorming and organizing ideas into relevant categories in order to identify potential causes of an issue (Shinde, 2018). This method is intended to generate innovative thinking in a more balanced approach than brainstorming. This kind of illustration highlights all of the possible causes of a problem. When all of the necessary information has been collected and displayed by the fishbone diagram, it can aid in solving problems. The graphic above is a perfect example of this technique. A fishbone diagram can be useful in distinguishing potential causes of a problem that might not otherwise be thought of by telling the researcher to consider the classifications and think of alternative causes.

5-Whys analysis technique

"5-Whys" is a repetitive questioning approach used to investigate the cause-effect correlation behind a particular incident (Leino & Helfenstein, 2012). Sakichi Toyoda invented the approach, which was later used by Toyota Motor Corporation throughout the development of manufacturing techniques. It has increased in popularity and has been adopted by concepts such as Kaizen, Lean, and Six Sigma. The basic objective of the method is to identify the root cause of a problem by repetitively asking "Why". Each answer serves as the basis for the following question. It is not always necessary to ask five questions to get to the root of a problem. Sometimes three or four questions are sufficient, and other times more may be required (Pojasek, 2000).

The analysis can be performed using two basic approaches. They are:

- Fishbone analysis
- A tabular format

These two approaches help the analysis procedure be branched to provide several root causes of a particular problem. The basic concept of "5-Whys" is straightforward (Leino & Helfenstein, 2012):

1. Define the problem.
2. Ask yourself: why did this happen? Create a list of all the probable causes you can think of.
3. For each of the causes you just found, ask, "Why did this happen?" once again.
4. Repeat steps 2 and 3 until you've done steps 2 and 3 five times. During this process, all credible answers must be recorded for further evaluation to arrive at the root cause.
5. Find solutions to address preventive activities and ensure that the problem does not repeat.

This is a quick and easy method in root cause analysis process. It can be helpful in the initiating a thinking process that will ultimately lead to solving the problem at hand. Figure 5 illustrates an example of 5-Whys analysis technique.

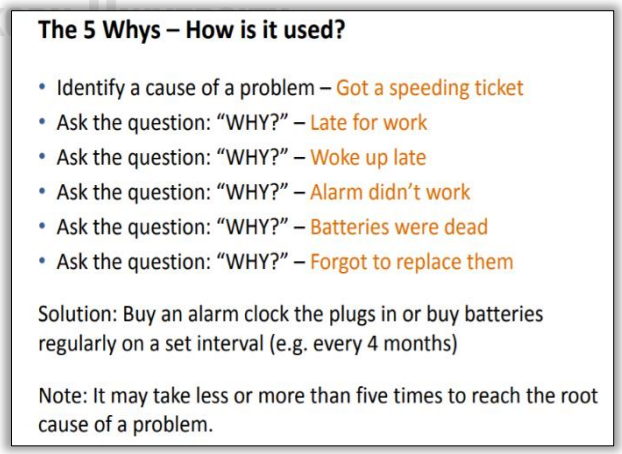


Figure 5: An example of 5-whys analysis technique

Transect walk

Transect walk is a very fascinating and free tool for an urban planner to get to know one particular neighborhood and interact with local residents. It is a systematic walk along a predefined path (transect) all through the neighborhood/research area to investigate the physical and environmental conditions by observing, asking questions, listening to people, looking, and sketching a transect diagram (Kanstrup, Bertelsen, & Madsen, 2014). This is usually performed during the initial phase of fieldwork. It is recommended to follow a predetermined route that encompasses the greatest variety of urban infrastructure and communities. A transect walk at the start, midway, and end of the project period can also be conducted to monitor and evaluate alterations along the specific path. Furthermore, these walks can give a strong cross-section of information that can be used for particular verification and assessment reasons.

These walks are typically used in rural areas for health and sanitation planning, but in recent times they are progressively being used in urban areas as well. And it might be incredibly beneficial for urban planners who are visiting a place for the very first time, as this would not only show them a transect of the community but would also develop an instant connection with the locals (Puttkamer, 2017). It's useful for rapidly getting to the root of the issues that are discontenting the community and neighborhood. In order to conduct a transect walk in any locality or neighborhood, first define the path or route that needs to be followed. Then walk along the predefined route, stopping occasionally (as features change) to take notes about building conditions. Identify appropriate people for research purposes and approach them along the way to enquire about the required information for the study.

This walk introduces the research team to the community, its people, and their surroundings, even while also evaluating whether the urban elements, landscapes, and environment are interwoven. A transect walk may also be used to evaluate challenges and opportunities. It simply considers the present "observable" condition and characteristics, acting as a starting point for further in-depth analysis. This easy, adaptable, and highly participative approach could well be implemented in community planning as part of a series of initiatives (Mahiri, 1998). It is frequently a useful starting point when initiating a project in a neighborhood. However, keep in mind that it only reflects a confined image of the local context. It is inadequate to solve any significant problems. Transect walks must be accompanied by other approaches like problem-prioritizing and translation into action plans.

Overview of the Factors that Contribute to Urban Vacancy

Urban vacancy rates have become a matter of concern in both shrinking and growing cities. Although all urban areas have some level of vacant land and properties. A small proportion of urban vacancy is required to allow mobility and adequate space for growth in a city, as well as displays of healthy urbanization. On the contrary, extensive urban vacancy in a city may be a sign of structural crisis due to property abandonment. There are several interconnected reasons or factors that contribute to or trigger urban vacancy. According to Accordino and Johnson, the reasons at the rear of urban vacancy are complicated and multidimensional, which makes it difficult to understand the extent of the problem and to suggest interventions to prevent it (Accordino & Johnson, 2000).

A technical report by Shane attempted to look at the vacancy problem in depth and figure out the contributing factors, abandoned buildings and lots. This report pinpointed population decline, unemployment, old building stock, absentee property owners, rising property taxes, and tax delinquency as responsible for vacant properties in any urban area (Shane, 2012). Some real-estate property lending systems (like adjustable-rate mortgages, interest-only loans, etc.), property foreclosures, real-estate speculation, higher costs in commercial compliance and remediation are also considered contributing factors to urban vacancy. Acknowledging these contributing factors will help to design individual local analytical concerns, identify effective tools, highlight key intervention points, and then choose adequate interventions.

Newman and Park examined U.S. cities of more than 100,000 people over the period of 1960–2010 and explored relationships between factors contributing to residential vacancies (Newman, G; Park, Yunmi, 2018). They stated that population decline, and urban expansion are the key drivers of urban housing vacancies. Changes in socioeconomic conditions like economic stability, neighborhood stability, homeownership, and social status also play a vital role in residential vacancy. Regional location, urban density, and city type also influence the number of residential vacancies. Another vital factor identified by this study is housing vacancy policy. Many of these housing policies focus on only short-term issues, which may not eradicate the problem from its root.

In his research work, Platt has shed light on the causes of urban shrinkage in European cities in his research work. According to his study, there are four fundamental causes of urban decline: economics, demographic change, social and environmental factors. Urban vacancy is exacerbated by deindustrialization, globalization of job markets, labor mobility, and other economic factors (Platt, 2004). Demographic causes of vacancies are lower fertility rates, population decline, an increasing aging population, suburbanization, and outer migration. Social factors include changing

lifestyles, lucrative job opportunities outside of the city, modern infrastructure, and services for a comfortable life. Oftentimes, vulnerability to natural disasters, climate change, and landscape degradation also has an influence on urban vacancy. In their paper Nam, Han, and Lee illustrated the present status of vacant houses in Gyeonggi province in Korea. They set three hypotheses to justify the reasons behind the increasing number of vacant properties in the province. Among the three hypotheses (aging society, shrinking urban areas, and surplus of property). Investigation proved that surplus construction work (e.g., recent construction induced by overdevelopment of real estate) and regional population loss (e.g., unemployment, outer migration, lower birth rate) showed the strongest association with vacant property (Nam, Han, & Lee, 2016). However, there is no direct association between the aging population and property vacancy. It is still recommended by the situation of unlet buildings.

Fletcher has brought an interesting point of view regarding this issue. He stated that ancestral issues might have an impact on the vacancy and abandonment of property on a micro-level (Fletcher, 2014). Often, families are struck by estate disputes, and parents who age into elderly care leave their properties vacant for an indefinite period of time. These causes impact upon residential vacancy issues and are challenging to report on a large scale because of their individual behavior. Another study by Aigwi reveals that older inner-city areas have more partially inhabited, totally vacant, or abandoned buildings compared with the outskirts of town (Aigwi et. al, 2017). Poor building conditions (aesthetic condition, elderly and disability access, car park access, etc.), a lack of social criteria (outer migration to the suburbs, competition from modern construction), and economic factors (lower property value, higher leasing costs, and a depressed property market) are among the causes of the older inner-city areas. These identified factors have actively influenced the existing high vacancy rate of buildings in the older inner-city areas.

Despite the fact that Bangkok is a sprawling metropolis, there are urban vacancies in some of the city's nooks and corners. It is most commonly seen in older properties such as shophouses and townhouses. Bangkok's vacancy dynamics differ from those of declining cities. Here, socioeconomic variables play a larger role. According to studies, Bangkok's modernization has affected the Thai people's living and commuting habits, which has an impact on the vacancy of older buildings (Tirapas, 2018). For an unsatisfactory living environment, the majority of shophouse buildings remain vacant (Tapananont, Chantachot, & Chiamprasert, 2014). Fragmented ownership, rights of owners, and city regulations also play a vital role in the shophouse's vacancy (Boonyachut & Tirapas, 2011).

Overview of Shophouse Buildings in Bangkok

The Bangkok Building Code (1979) described a "shophouse" as a bi-functional row building used for both commercial and residential purposes. The shophouse is a well-known mixed-use and multipurpose structure for residential and commercial usage in Thailand, particularly in Bangkok. Shophouses – buildings with mixed commercial and residential use – were introduced to Thailand during the reign of King Rama IV, in conjunction with the construction of modern roads in Bangkok. According to the National Statistical Office of Thailand (NSO)'s survey (NSO, 2010), it can be seen that the households living in the shophouses and row houses in the municipality share up to 11.1 percent. Shophouses were first built in Thailand, especially in Bangkok, as early as the second half of the nineteenth century, with designs and styles closely resembling those in many Southeast Asian cities, such as Singapore, Penang, Jakarta, and Phnom Penh. They have become a vital piece of Thailand's urban morphology during the post-war economic boom period of the 1960s and 1970s, which increased the average annual economic growth to almost 7%. In the 1960s, more than 50% of all new building construction in Thai cities was shophouses. By the mid-1970s, about 70% of the 2.8 million people in the Bangkok Metropolitan area lived in shophouses, resulting in approximately 400,000 shophouse units in the city (Fusinpaiboon, 2021).

Table 2: Number & percentage of household types in Thailand (NSO, 2010)

Type of living quarters	Total		Area	
	Number	Percentage	Municipality	Non-Municipality
Type of living quarters	20,282,743	100	100	100
Detached house	14,728,702	72.6	53.5	89.8
Townhouse, Duplex, Townhome	1,297,664	6.4	9.9	3.2
Condominium, Mansion	492,368	2.4	4.6	0.5
Flat, Apartment, Hostel	1,408,741	7.0	12.8	1.7
Row house, Shophouse	2,256,145	11.1	18.5	4.5
Others	99,123	0.5	0.7	0.3

Because of the commercial nature of the shophouse, it became the dominant residential pattern introduced in Thailand by Chinese immigrants motivated by economic incentives through business. The shophouse's origins may be clearly linked to those found in South China, and they were commonly situated along main trade routes. Initially, shophouses were constructed right over waterways, allowing merchants to unload their goods directly into the shops themselves. In landlocked places, shophouses were built along main commercial alignments within the city center,

with wider commercial streets in front and narrow back alleys in back that were used for the movement of goods (Tapananont, Chantachot, & Chiamprasert, 2014).

In his study, Sachakul demonstrated the physical aspects of shophouses in Bangkok (Sachakul, 1982). According to his findings, most commercial shophouses are oriented toward pedestrian and vehicular traffic for business marketability. Bangkok's commercial shophouse buildings are generally found to be three stories or higher. The average size of a shophouse is about 30-60 square meters. Usually, the width of each Thai shophouse building is between 4 to 6 meters along the front facing the road, though the extent of the length is generally two to four times the width. The narrow but relatively deep building length generates a very specific layout, which can be observed in most shophouse buildings. The frontal face of the building is always used for the business aspects, sometimes covering the entire first floor. Every so often, the rear half of the ground floor is utilized for storing their business products, offices, or cooking and dining areas for the building. The backyard of the shophouse buildings is typically a piece of tiny space, owned by the shophouse owner and is sometimes used as an outdoor kitchen or garden space. At times, shophouse buildings are also interconnected through narrow back-alley passages.

The upper floors of the shophouse buildings are usually constructed in a simplistic way. Because of the space constraints, rooms were arranged in a row, taking up the whole width of the building. Modern technologies such as air conditioning, heat, and noise insulation were not introduced during the time period of construction of the shophouses. The layout of the rooms was designed in such a way that it could maximize access to natural light and ventilation. Shophouse buildings, which are wedged between adjacent shophouses, do not have windows or other external openings on the sideways, they have windows/openings only at the front and rear. As a result, many families are living in cramped, poorly ventilated conditions of almost permanent semi-darkness. Typically, the structure of the shophouse buildings allocates one kitchen, one bathing place, and one toilet, irrespective of the number of family members/users occupying that shophouse.

The current business activities of these shophouses in most residential neighborhoods are limited to household daily supplies and some types of small services. Shops can be found selling local popular foods, pharmaceuticals, and other daily needs combined with sewing and hair-beauty treatments, as well as household appliance and other repairing services. Very few shophouse owners hire workers for their businesses. Most of the shophouse businesses are operated with only the help of their family members. There is no car parking facility available for the shophouse owners, let alone the customers of their business.

Although shophouses are mixed-use buildings, they were not designed for further modification (Tirapas, 2018). Often, the occupants or owners modify it with typical renovation techniques. The structural components like columns and beams are the most difficult components to modify, though the exterior of the shophouse building is rather convenient for modification. The ground floor's front face is more adaptable to any type of repair work, but the upper floors, stairs, and restrooms are fairly rigid in terms of renovation.

As master plans have not been applied to control the city's growth, most commercial shophouses or urban development projects are unplanned. The lack of land use and zoning regulations has caused the strip development of commercial shophouses from the central business areas to residential and industrial areas in the suburbs. Usually, only a narrow piece of land (i.e., 12-14 meters deep) along a main street is acquired for commercial shophouse construction. Unless a major development project occurs, that covers an entire block or more, the inner parcels of land left over by the commercial shophouses on the periphery will never be developed. With less accessibility, these lands will gradually deteriorate and eventually develop into slum areas.

In terms of architectural features, shophouses constructed in Thailand during the 1960s and 1970s were primarily in what might be termed a modern style at the time, but when compared to modern apartment complexes or retail malls, they appeared to be out of date. Most of the shophouses in Bangkok nowadays are old, underutilized, and not maintained properly. Defects and damage to buildings are common phenomena in most buildings. Very few buildings are well maintained and can easily be lived in or used for their intended use. Subsequently, many of the shophouses are left underutilized or vacant due to several problems, especially the incompatibility with present-day living styles (Tapananont, Chantachot, & Chiamprasert, 2014).

The Early Shophouse Style was the first variation of the typology that was introduced to Thailand beginning in 1860 by the patronage of King Rama IV. The majority of these shophouses were found in Bangkok's inner-old part. At that time, the building's simple architectural style was influenced by Singaporean culture. Over the course of time, between 1900 and 1930, the architectural design and layout of shophouse structures underwent significant transitions (Luangamornlert, 2015). During this transitional time, the number of shophouse buildings was rapidly expanding. People adopted it extensively because of its convenient style. Shophouse building's popularity reached its peak in the 1980s. From the second through the fourth National Development Plan Periods

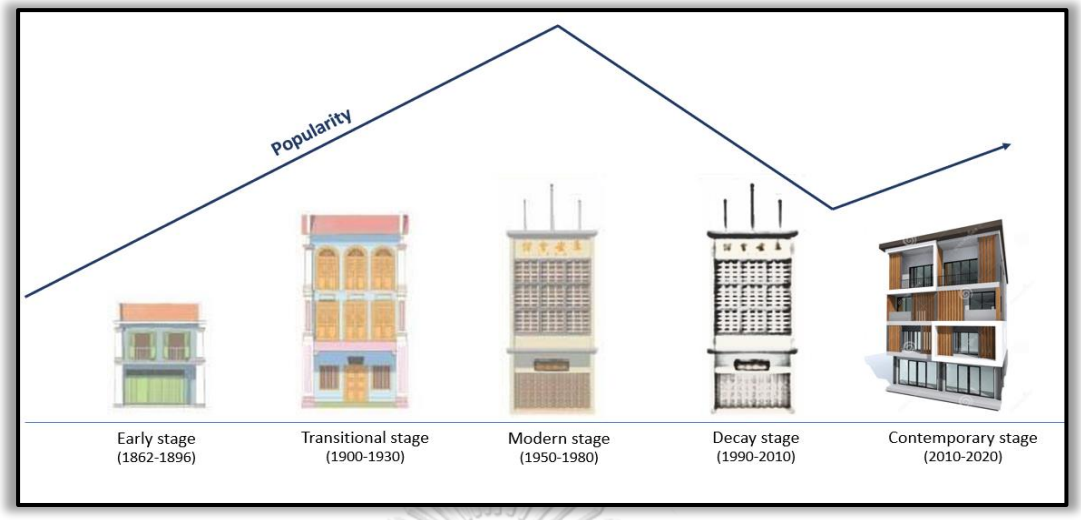


Figure 6: Timeline of shophouse development in Bangkok

(1960–1980), trade and business companies prospered at a 15.4% annual rate (Sachakul, 1982). As a result, the number of commercial shophouse developments has increased drastically.

But, unfortunately, in the late 1980s, its popularity started to decline. The shophouse buildings were held responsible for the city's traffic jams, building congestion, and incompatibility with modern developments. The vibrant street activities that shophouses formerly offered have begun to be replaced by air-conditioned retail malls. Suburban growth was facilitated by the development of the road network, the construction of expressways, and increased car ownership, which attracted many of the shophouse's original owners, descendants, and tenants to migrate to the suburbs (Fusinpaiboon, 2021). Around in the 2000s, a considerable number of shophouses completely collapsed. Many have been abandoned or are being used inefficiently. Most have endured unplanned modifications, which have resulted in an unhygienic atmosphere and structural concern. To make space for new high-rise residences, several shophouses have been demolished in their entirety.

According to real estate market research, demand for shophouse buildings appears to be ramping up again in the 2010s. An ongoing urban trend can be seen in Bangkok, where owners are rehabilitating their old shophouses, transforming them into guesthouses, micro-office space, small shops, restaurants, etc (Tirapas, 2018). Again, it is progressively receiving greater attention among the new generation because of its convenient location and functional use, commercial shophouse developments has increased significantly.

This rising popularity of reusing shophouse buildings, however, is not gaining as much momentum as it could be due to a lack of efficient regeneration strategies. Even if some researchers have looked into it, the number of research is still quite minimal.

Overview of Vacant Property Revitalization Strategy

Almost every city and town in every country has a vacant house, a shuttered shop, a decrepit apartment building or a decaying neighborhood. Every city approaches this challenge by considering its own boundaries and capabilities. Vacant property regeneration strategies in countries have evolved in synch with the evolution of planning relationships and the urban development market, which has been influenced by globalization and urban competitiveness. This section highlights some landmark case studies of vacant property regeneration strategies from around the world to get an overview of the conventional practice to vacant property.

The study of Fusinpaiboon resulted in strategies for renovating old shophouses in Bangkok (Fusinpaiboon, 2021). Aside from basic design techniques, he emphasized that procedural and legal limitations must be addressed, as well as minimizing professional and authority participation, keeping existing building characteristics as much as practicable, and adding new characteristics as few as possible. These strategies can contribute to revitalizing urban heritage while also reducing carbon emissions by avoiding demolition and promoting urban revitalization. Dr. Pornchokchai has advocated for government assistance in reusing vacant properties to avert economic loss (Pornchokchai, 2019).

A study by Beswick and Tsenkova reviewed the economic and social policies that were developed and applied in an attempt to deal with the economic, social, environmental, and physical decline of post-industrialized cities in the UK. Despite the efforts and interventions of several governments, housing and population problems remain a problem (Beswick & Tsenkova, 2002). The growth of the city progressed on the outskirts and suburbs, with only minor initiatives to revitalize the center. According to this study, the path of urban regeneration strategy has shifted over the years from a targeted area-based approach to a strategic regional and national viewpoint. Another report by AHURI explored the mechanisms and components required to construct a new regeneration paradigm in Australia's middle suburbia, with an emphasis on Melbourne (AHURI, 2012). The revitalization of the middle suburbs demands a new development paradigm that embraces the environmental, social, and economic principles of sustainable urban sprawl while recalibrating planning, industry, and community involvement activities. The difficulty of accumulating land, which is mostly owing to private ownership of residential landholdings, is one of the main reasons impeding urban redevelopment possibilities. Allotment sizes and property prices, a defective planning framework that leads to developer uncertainty and increasing land holding costs, and strong community redevelopment are all elements that determine a location's suitability and viability for revitalization.

The publication by the ALT/BAU Transfer network (Scheffler, 2021) presents policies, programs and actions applied by European cities, to reactivate abandoned vacant buildings and sites. They focused on developing alternative strategies in six European cities to activate unused and decaying vacant properties. Seven European towns have teamed up to facilitate the reactivation and reuse of vacant residential properties and apartments in other cities, thanks to the research organization's transfer and adaptation of Chemnitz's "Housing Agency" concept. They participated in transnational meetings with the aim of sharing and discussing the transfer and adaption of Chemnitz's good-practice and other city partners' good-practices. They attempted to answer the following issue: "How can such complex ownership systems be altered?" How to identify partners and contact the owners? How to contact prospective buyers and investors? How might different approaches to social housing or short-term rentals be combined? The final research result has established field-proven responses to those inquiries as a consequence of their real-life experiences. If cities are granted the power to demolish unused and abandoned properties, the obvious issue of "what do you repurpose the property for?" arises. In a paper titled "Urban Design, Regeneration, and the Entrepreneurial city" in 2011, Biddulph performed an inclusive evaluation of the role of entrepreneurial governance as a critical element in the process of urban regeneration in England (Liverpool) in the 1990s (Biddulph, 2011). In his research, the distinction seen between private and public sectors, the quality of the public realm, accessibility, optimum perceived representation, adaptability, and diversification were the variables in his research that were considered in structure, grading, density, and height as components of urban development. Eventually, he investigated how different types of growth, with their urban design ambitions, contribute to urban regeneration in entrepreneurial cities. After investigating urban regeneration procedures, his results revealed that attracting investment, job creation, entrepreneurship, and urban design should all be considered at the very same time.

In his article, Sajadzadeh developed a conceptual framework for place marketing in urban regeneration impacted by entrepreneurial city approaches, utilizing a qualitative inductive and content analysis technique and a comparative assessment of global instances (Sajadzadeh, 2019). The findings revealed that changes made in accordance with urban regeneration and an entrepreneurial city strategy, such as improvements in management systems and the use of corporate governance in association with market incentives and capacity building, had resulted in new forms of involvement and enhanced the quality of life. While protecting local identity, attention to international levels is emphasized in the process of attracting investment in place marketing.

Overview of Root Cause Analysis Tool in Research

According to Charles, Root Cause Analysis (RCA) is a comprehensive approach that combines techniques and tools for examining adverse situations, causalities, and tragic incidents (Charles, et al, 2016). RCA was developed in psychology and systems engineering to identify "the fundamental and causative element(s) that explain variation in effectiveness." The advantages of implementing the Root Cause Analysis process in research are enormous. As RCA is a structured method, it has been applied in a variety of research to comprehend the depth of the problem. It was developed to investigate industrial accidents and is now applied to a variety of disciplines such as food safety management, quality assurance, medicine, healthcare systems for disease detection, software engineering, and clinical studies, among many others. RCA is founded on the basis that risks and responses to human lives, businesses, and the environment can be detected via precise analysis techniques.

RCA identifies the causal connection and, more importantly, actual root causes that are based on active or individual failures. Additionally, it highlights the importance of unbiased investigation, further research scope, and criticism (Shojania, 2001). It should be noted that RCA is not completely consistent. Braithwaite highlights time constraints, a lack of expertise, and a lack of experience as three kinds of disadvantages. They have placed a high priority on continual development and quite good management (Braithwaite J, Westbrook MT, Mallock NA, et al, 2006). They have stated that root cause analysis technologies allow management to anticipate problems and find solutions accordingly. They underline that process improvement models indirectly urge companies to use RCA as a vital step in project and organizational continuous improvement.

(Jimmie, 1998) inspected the root causes of building construction accidents involving workers. The Occupational Safety and Health Administration (OSHA) maintains information on the causes associated with numerous fatal injuries and fatalities. Their analysis offers suggestions on how OSHA reports could be made more valuable. Initially, instead of the usual five groupings of falls, struck-by, electric shock, stuck in/between, and other, injuries were classified into one of the 20 potential cause categories. Additional or supplementary cause codes were also generated through this study. The insights could perhaps be used to concentrate more focus on areas where regulatory changes are needed, and it would be more beneficial to the construction sector by highlighting the main causes of fatal accidents.

Brown investigated the assembling of commercial airplanes using the root cause approach. He has concluded that this is the most effective way to eliminate the causes in the most critical assemblies, such as airplanes, where the highest levels of safety and reliability are required (Brown, 1994).

Rzepnicki and Johnson examined decision errors in child protection using a root-cause analysis technique (Rzepnicki & Johnson, 2005). The objective of this study, as described in this paper, is to discover decisions made in child protection investigations and link them to situations in which children have died after or during an inquiry. RCA highlighted useful insights about the strengths and limits of this analytic method for child fatality reviews and potentially for other social service areas. For this study, root cause analysis has provided a disciplined structure for leading the investigation and probing the facts.

Aboumrad conducted a study that aimed to identify the risk factors for cancer-related suicide using a root cause analysis technique and to highlight strategies to reduce this risk. They analyzed 64 cases involving cancer-related suicide; 100% were males of advanced age. Several suicidal incidents happened during treatment with palliative care. The triggering causes were depression, medical comorbidities, and pain. This analysis revealed indistinct causes and possibilities to decrease the incidence of death by suicide among cancer victims (Aboumrad, 2018).

The Fishbone diagram is a prominent tool for root cause analysis techniques, accepted by researchers as well. The benefit of the Fishbone diagram is that it can break down each and every marked problem, and everyone participating can also provide recommendations about what might be causing the situation. This technique has been around for almost 50 years. It was undoubtedly one of the first approaches created to assist problem solvers in identifying the root causes of problems.

Shinde has applied the fishbone diagram approach to detect problems in the engineering education system in India, considering students and staff as the participants (Shinde, 2018). Key challenges were categorized, and the fishbone diagram was used to evaluate the root causes while emphasizing specific criteria such as personnel, academic, resources, and universities. After finding the root causes of the problem, feasible resolutions were proposed for improvement. A detailed evaluation of student-staff problems was conducted by using the case study of engineering institutes in general.

Bose has used the fishbone diagram tool to investigate multiple challenges in supply chain management and the operational process at St. James Hospital. According to him, the key issue areas include a lack of appropriate equipment, defective methods, misdirected employees, poorly handled materials, an unsuitable atmosphere, and poor management (Bose, 2012).

In a study by Jayswal, root cause analysis of the chemical/energy production process has been described. They have proposed a systematic strategy for sustainability, accounting for the facts of economic, environmental, and social sustainability (Jayswal, 2011). This study is useful for engineers who can improve their practices for sustainable development more systematically in the future.

The 5 WHYs is an excellent asking skill that investigates several causes of a problem till the level of "cause unknown" is achieved, or it recognizes that "why something happened" cannot be completely verified without more investigation. The 5 Whys technique can be applied independently or in conjunction with the fishbone diagram. The fishbone diagram assists in investigating all potential or actual causes that result in a single fault or failure of a system. When all inputs on the fishbone diagram have been defined, the 5 Whys approach may be utilized to dive deeper into the root causes.

Hidayat, Siamrmata, and Togas have combinedly performed a study on the cause of stock outs in logistic installations in Harapan Kita hospital using a fishbone diagram and five whys technique at the same time. To analyze the data, the researchers used fishbone analysis, and the result showed that five factors are causing the stock out in the installation (warehouse) (Hidayat, Simarmata, & Togas, 2017). Later, they used the five-whys tool to find the answer to the root of the problem.

Similarly, Idek has analyzed the main factors contributing to students' chronic absenteeism from school. They conducted two stages of interviews in order to examine the root causes of students' absenteeism, and two root cause analysis methods (fishbone diagram and five whys) were used to categorize and narrow their reasons (Idek, 2019). Both techniques supplemented each other, and, collectively, they were a beneficial approach in determining the root causes of the problem.

Chapter 3: Conceptual Framework

This chapter explains the conceptual framework of the study and how it was developed. This conceptual framework was built by merging the obtained knowledge from literature, experience gained from the transect walk and the valuable opinions of key informants (figure 7). All of the elements that contribute to shophouse buildings' vacancy were combined into a single case study and identified in an academic research way.

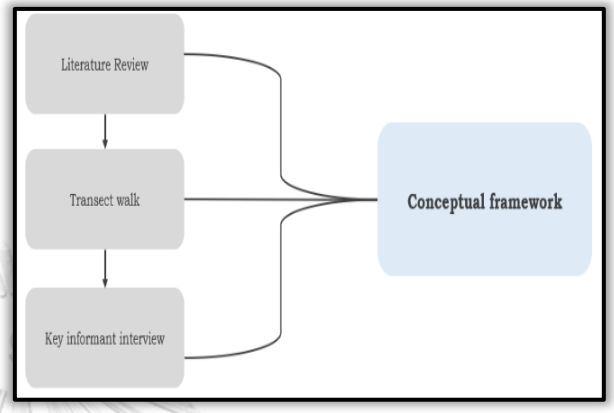


Figure 7: Conceptual framework development process

Preliminary Observational Research Through Transect Walk

Several contributing factors to urban vacancy were highlighted in the chapter on literature review. These factors could also be used as a reference for Bangkok. However, since no previous research has been conducted on the vacancy of Bangkok's shophouses, it was possible that relying solely on the literature review would result in a speculative analysis. So, it was imperative to go to the field and assess the current situation in person. This was accomplished by a transect walk in the Punnawithi area (path of transect walk is shown in Figure 8). This preliminary observation facilitated the development of the research conceptual framework. This preliminary observation was performed on the month of April 2021. It was an opportunity to concentrate on the real issue and have discussions with the locals about the shophouse and its problems. Walking along the predefined path, pausing every now and then (when features change) to take notes about building conditions, was productive. Researcher identified the right persons and approached them along the way to enquire about their property.

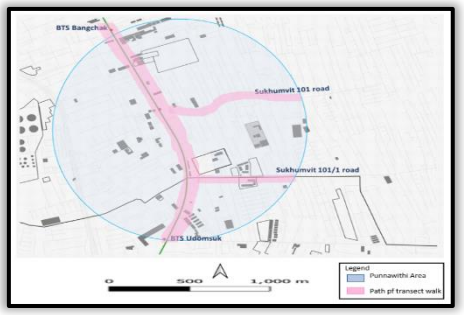


Figure 8: Path followed in the transect walk in Punnawithi area

Key Informant Interview

Key informant interviews are qualitative in nature, which can be described as in-depth interviews of a few specifically chosen experts for their first-hand knowledge of certain topics (Frank, 2017). Usually, key informant interviews are performed in order to improve the quality of the information for project or research design, implementation, and evaluation by asking in-depth and probing questions. Key informants often provide data and insight that cannot be obtained by other theoretical approaches or literature.

It was important to choose a right competent key informant who is in some way connected with Bangkok's shophouse buildings by verifying their basic details. Such key ideal informant must possess certain qualities such as direct or indirect involvement in research of shophouse buildings, intense perception of shophouse problems, insights into Thailand's property regulations, and basic knowledge regarding shophouse vacancy. Considering these credentials into account, the key informant chosen for this study was either an academic person who is eligible to share their insights about this issue, or researchers who performed research about Bangkok's shophouses, or an architect who renovates or remodels the shophouse buildings, or any other responsible person who is actively involved in Bangkok's property market and an urban strategist from academia, who is actively involved in developing national and local urban strategies. These high-ranking informants were regarded as more knowledgeable and trustworthy about the research topic.

A preparatory conceptual framework was developed upon merging the knowledge obtained from literature with experience gained from the "transect walk". To verify the credibility of the developed conceptual framework of the study, one-on-one brainstorming sessions were conducted with each key informant. These informants contributed to the final conceptual framework by sharing their diverse knowledge and extensive experience of Bangkok shophouse buildings. Several steps were followed in planning and performing the key informant interviews. At first, a list was made containing all the information or questions to be asked that were required for this verification process. Initially, a list of appropriate key informants was prepared who could share their perceptions and knowledge about the shophouse buildings. Later, emails were sent to all the key informants, asking for their interest and availability for the interviews. Once they approved the request, a one-hour meeting was scheduled. Due to the ongoing pandemic situation, a face-to-face meeting was not feasible. All the key informant interviews were conducted virtually, through Google Meet or Zoom meetings. For this study, seven key informants were interviewed in total.

Conceptual Framework of the Research

The conceptual framework was built on a combination of contributions from theories about urban vacancy, root cause analysis, the fishbone diagram in combination with the 5-Whys technique, and previous studies of Bangkok's shophouse buildings describing and explaining the degree of vacancy condition of those shophouse buildings. It was then confirmed by field survey in Punnawithi area and discussions with the key informants. The conceptual framework of the study can be visualized here as a fish skeleton. This skeleton comprises five divergent and extensive categories. These are:

- Architectural design and quality of life perspectives
- Financial condition,
- Urbanization perspective
- From the standpoint of laws and regulations
- People's cultural and behavioral perspectives.

The conceptual framework of the study can be visualized here as a fish skeleton (figure 9). This skeleton comprises five divergent and extensive categories. The probable causes of significant factors will be represented in the diagram for each one of the five groups. The branches and sub-branches depicted in the diagram will be primarily illustrative. This diagram summarizes the whole process.

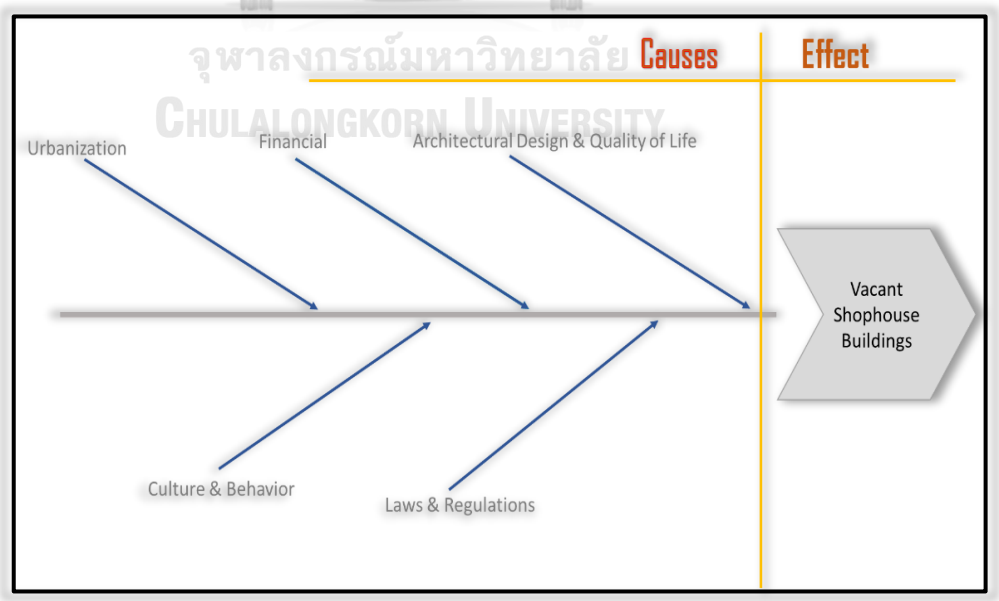


Figure 9: Conceptual framework of the research

Chapter 4: Research Methodology

The aim of this chapter is to discuss about the methodological approach adopted to explore the vacancy issue in Bangkok's shophouse buildings. It will elaborately describe the adopted methodological approach which is undertaken to discover the root causes of shophouse vacancy. This chapter outlines the research instrument, research participants, sampling, and key informant interview. It includes the data collection method as well as the method of data analysis. Finally, it will discuss the validity and reliability associated with this study.

Figure 10 demonstrates the overall research process. Partially vacant shophouse owners from the Punnawithi area were chosen as participants for this research. A total of 40 shopkeepers were chosen based on a set of criteria. The fishbone diagram and the five whys technique were used to identify why their shophouse buildings were vacant. Interviews were carried out in two phases with the same shophouse owners. The Fishbone Diagram was used to aggregate the generic responses, which were obtained from the first interview, into five main aspects. Semi-structured open-ended interview questions were adopted for the first interview. The second interview was held a week after the first to go deeper into each response, and the interview questions were designed using the 5-Whys technique. This chapter will present the insights from the interview responses and subsequent disclosures of five major contexts.

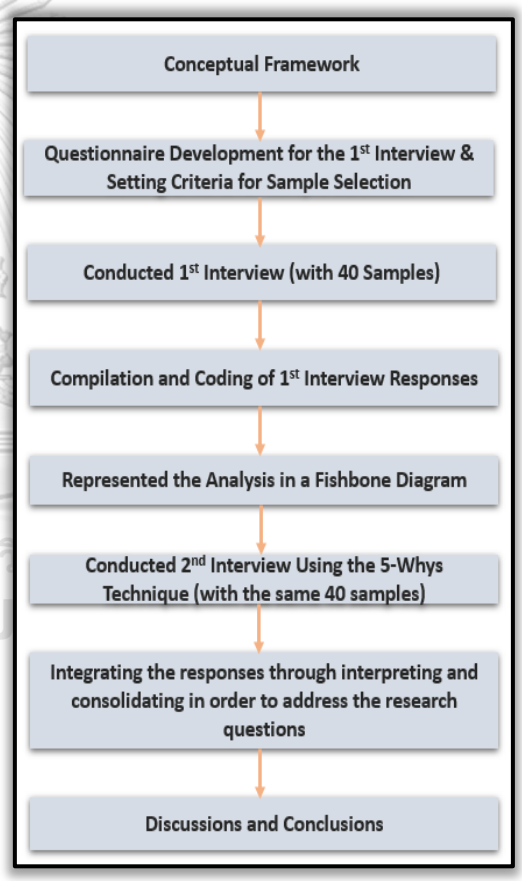
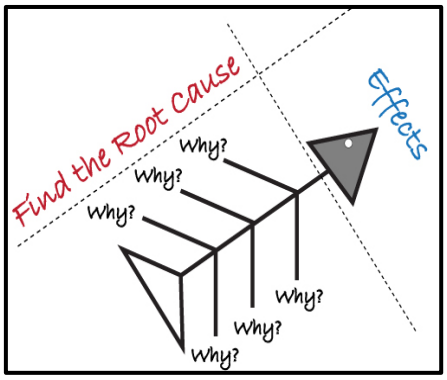


Figure 10: Research process

Root Cause Analysis Framework



There are several distinct tools for performing a root cause analysis. Each of the tools has its own strengths and weaknesses. As stated by (Gano, 2007), an effective root cause analysis process should offer a strong understanding of how the proposed answers come across the purpose. For this reason, it is important to find out which tool best fits the objective of the research. In this research, the fishbone diagram combined with the 5-whys technique is used as the RCA tool.

A fishbone diagram stimulates and broadens thought about possible or actual causes, as well as speeds up further investigation of individual causes. It helps to generate a visualization of the causes. There are 4 key reasons for selecting a Fishbone Diagram for this research:

- It is the most comprehensive and simple tool in the root cause analysis technique.
- It displays the associations among the hypothetical causes and effects shown in the diagram.
- It presents each and every possible cause in an easy-to-understand style.
- It's an excellent way to generate and steer brainstorming about the origin of the problem.

In aiming to identify the main causes and effects of vacant shophouse buildings, it is considered as of equal importance to establish the relationship between the causes and effects based on a cause-and-effect fishbone diagram methodology to establish the causal relationship achievable by designing the questionnaire in a categorical sense. This is considered valid based on matching causes and effects according to pre-specified categories as a pioneering piece of work having to deal with a complex array of variables.

Later, the 5-Whys technique was adopted to further investigate the causes. In fact, the Fishbone diagram is the thought process behind the 5-Why technique. This technique was helpful in allowing one to delve deeper into every category. This excellent inquiry skill investigates several causes of an issue until the point of "reason undetermined" is achieved, or it recognizes that "why something happened" cannot be completely verified without further investigation. Although the “five” in 5 Whys is not gospel, it is held that five rounds of asking why is adequate to get to a root cause.

Research Approach

Qualitative research could be explained as a type of research that generates conclusions that are not obtained by statistical analysis or any other quantitative methods (McLeod, 2019). The main focus lies on in-depth understanding of key words, thoughts, and experiences rather than on digits. Additionally, qualitative methods focus more on the individual than on the general. This method is useful when it provides us with someone's perceptions of a situation, allowing us to understand his or her behavior. Qualitative data, which puts importance on people's experiences, is applicable for obtaining the meanings they put on any activity. Moreover, qualitative research links people's perceptions to the societal aspect. Qualitative research is mostly inductive by nature.

The selection of research methodology depends primarily on the nature of the research question. Instead of quantifying the phenomenon of vacancy with numerical digits, this thesis utilizes semi-open-ended questions to explore the shophouse owner's perspectives. In qualitative research, a technique called induction is used to collect data related to a certain field of research, and from this data, the emerging research contains different concepts and theories (Crabtree, 1992). Qualitative research methods appear to be a good choice for exploratory research like this thesis. The qualitative research approach is the most appropriate method for this study, as it is useful in discovering the insights of people's experiences.

Initially, several research methods were studied and compared. From the inception, the quantitative method was ruled out because the goal of this research is to achieve an analytical generalization rather than a statistical generalization, and traditional quantitative paradigms are limited in capturing human behavior. Finally, a qualitative research design was used to understand the shophouse vacancy in the discussion with the corresponding owner, by asking what they experienced with their property. The data collected through semi-structured questions and interviews reveals the way things are or describes what is actually happening in real life. The qualitative approach was regarded more appropriate for carrying out this study since it offers for greater depth and significance to be acquired from an individual's experiences owning a shophouse building. Using the Fishbone diagram in combination with 5-Whys technique in qualitative interviews helped to get closer to those unarticulated and latent issues of shophouse vacancy. The qualitative research elements used for this study are illustrated in the next sections, which include key informant selection, purposive sampling, a semi-structured survey questionnaire, and systematic and concurrent data collection and data analysis procedures.

Research Instrument

A qualitative survey questionnaire has been used as the main research instrument for this study. Qualitative surveys can also be described as intensive or in-depth surveys. The key purpose of an in-depth survey is to reveal what respondents consider to be essential about the actual issue, in their own words. Qualitative surveys usually offer a detailed description of the topic of interest. These surveys are classified as semi-structured since the researcher has a certain topic in mind for the participant, but the questions are open-ended and may not be asked in the same way or sequence to each participant.

A qualitative survey questionnaire aims to define the diversity of a specific topic of interest within a certain population. This sort of survey does not count the number of respondents who share the same answers, but instead concentrates on the meaningful variation of their responses within that population. Researchers can formulate a hypothesis before collecting data which might help to decide whether the presumed hypothesis is valid or not. The benefit of using semi-structured questions in the survey is that it provides a distinct pattern of data, explained with a few personal insights which truly matter to the respondents. It allows the respondents more flexibility while answering the questions and therefore the capacity to extract information from them is better.

The primary research instrument of this study was the survey questionnaire, in order to achieve the objectives stated previously. A semi-structured survey questionnaire was used to carry on conversations with the shophouse owners that would generate extensively valuable data. This semi-structured surveying approach allowed the participants more room to answer in terms of what is essential to them and the flow of topics. When required, probing questions were asked to encourage participants to comment on or clarify a statement, as well as to explore core experiences. In designing the questionnaire, the researcher ensured that the respondents were able to decode the questions the way they were intended and to participate in providing other possible causes and effects of abandonment and proposed suggestions for resolving them. In addition, after answering to survey questions, participants were usually asked "why?". The researcher attempted to offer adequate thinking time by asking respondents "why." This allowed the respondents to thoroughly think about and explain on their experiences. Respondents' experiences were deeply analyzed via 15-minute questionnaires in order to strengthen the credibility of the study's conclusions.

Research Participants & Sampling

The concepts behind the selection of a particular sampling method were significant since they reflect the research objectives and research questions. A purposive sampling method was used while picking the research participants. This sampling method helped to set the criteria for participants' eligibility. One such method of sampling, found to be mostly strategic, requires significant effort to establish a good correspondence across research questions and sampling. The inclusion criterion was based on some requirements, like participants who own a shophouse in the Punnawithi area, run their business in the shophouse buildings, either residing there with their families or residing somewhere else. This study has made use of both homogeneous and criterion sampling. Homogeneous sampling minimizes variation and makes analysis easier. In criterion sampling, selection criteria were established, and only those samples that satisfied those criteria were chosen. All of the participants in the study own a shop building in Punnawithi and most of them reside there. They use the property for residential and commercial reasons. Their property has been partially vacant (specifically the upper floors) for more than 3 years. This sampling approach is quite effective in terms of quality assurance of the research.

The study was conducted at Punnawithi with about 40 shophouse owners as the sample population for this research. Initially, it was decided that 30 participants would be interviewed, who are currently residing on their property. Experts suggested that if the study comprises similar groups of the population, a panel size of 30 respondents is preferred for in-depth interviews (Vasileiou, 2018). A sample size of 30 appears to be the optimal number for obtaining the most thorough perspective on a subject. However, in order to get a few more different experiences and insights, 10 more participants were selected, who currently do not live there anymore but want to rent or sell their property. They were contacted through a mobile phone, which was posted on their closed storefront for potential renters or buyers to contact.

Participants have been identified through researcher's transect walks in that area. The research was completely voluntary, and respondents had the choice to withdraw at any point. Interested participants filled out the survey questionnaire form willingly. As participants certainly believe that discussing property is a sensitive topic, their names and other personal information are kept secret at their request.

Data Collection Method

Although the data collection and data analysis processes were inextricably interwoven together, they will be presented individually throughout this part of the project for clarity's purpose. Data for the study was obtained from both primary and secondary sources. Primary data was collected from field surveys and virtual discussions. And all secondary data was collected from a variety of sources, including publications, reports, and articles relating Bangkok's shophouse buildings. It was ensured that the data sources were credible and trustworthy while collecting secondary data.

Primary data collection took place in the months of August and September of 2021. The primary data was obtained from key informant interviews with people who were relevant to the study and a survey questionnaire filled out by shophouse owners. The choice of key informants was significant for this research since it has a great influence on the development of survey questionnaires. They were selected on the basis of few qualities. Such a key ideal informant must possess certain qualities such as direct or indirect involvement in research of shophouse buildings, intense perception of shophouse problems, insights into Thailand’s property regulations, and basic knowledge regarding shophouse vacancy. Once, the appropriate key informant list was prepared, those who could share their perceptions about the research topic, emails were sent to them, asking for their interest and availability for the interviews. When they approved the request, a one-hour meeting via Google Meet or Zoom was scheduled. The collection process consisted of the researcher’s written notes and the informant’s written responses to posed questions.

Key informant interviews aided in designing the questionnaire for the field survey. Once the survey questionnaire was designed, the subsequent phase of the study comprised of data collection from shophouse owners. The study was conducted at Punnawithi with about forty shophouse owners as the sample population for this research. Thirty of them were interviewed on site and ten of them were interviewed via telephone. There were few criteria in selecting the respondents. All of the on-site participants in the study live in the Punnawithi area and own a shop building. They use the property for residential and commercial intentions. And the participants, who were interviewed via telephone, they own a shophouse in Punnawithi, but they do not reside there. They have a plan to rent or sell it. All of these shophouse buildings have been partially vacant (specifically the upper floors) for more than 3 years. Participants for the survey questionnaire have been identified through researcher’s transect walks in that area.

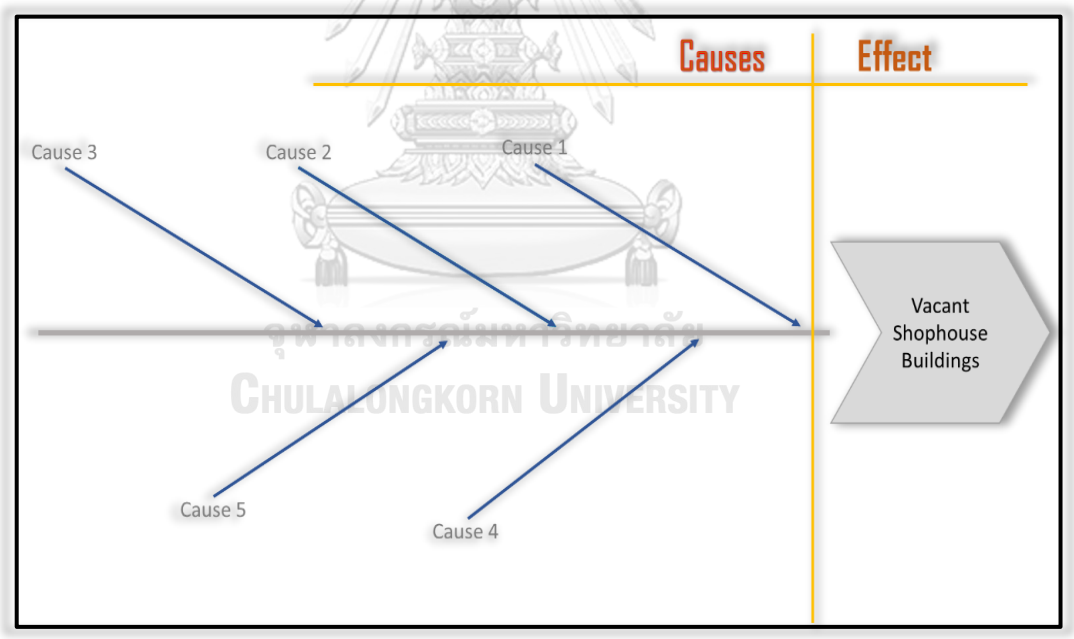
The shophouse owners were interviewed in two phases. The initial interview was used to obtain responses, which were subsequently categorized using the Fishbone Diagram into many significant factors. A week following the initial interview, the second stage was conducted to dive deeply into each factor (using the 5-Whys questionnaire). A semi-structured survey questionnaire was used for the initial stage of the survey. The researcher adapted semi-structured survey questions according to the shophouse owner's responses while referring to these tools to guide them in extracting responses from the questionnaire. The findings from the first stage of interviews revealed five main categories of why the shophouse buildings are still vacant: architectural design & quality of life issues, financial issues, laws & regulations issues, cultural & behavioral issues, and urbanization issues. The second stage of the interview was conducted to identify detailed explanations for every category, and the 5-Whys technique was used to formulate the interview questions to obtain responses from the shophouse owners for every factor. The shophouse owners were interviewed for 15 minutes each. Data from on-site surveys was written on paper, and telephone surveys were recorded. It was eventually transcribed and translated into English.

Interviewees were encouraged to express thoughts and feelings relating to the questions. The researcher intended to adopt a language that was both understandable and relevant to each of the respondents. As the researcher could not communicate in Thai, a translator was recruited to ask the respondents questions on behalf of the researcher and then interpret their responses back to the researcher.

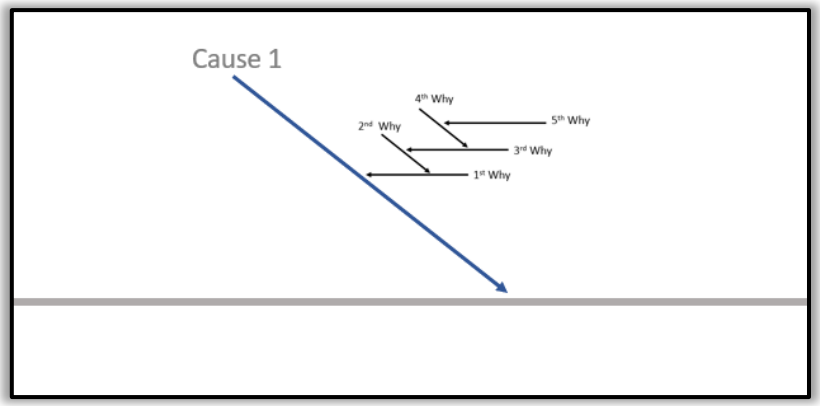
Qualitative research consists of developing relationships with the respondents. In order to encourage participants to answer spontaneously and fairly, data was obtained in a conversational way, which offered more detail on the research. The researcher maintained the research's integrity and professionalism by conforming to professional ethics. During this survey, the researcher protected respondents by obtaining their informed approval and by including a clarification of the nature, purpose, and consequences of the research, as well as the confidentiality and security of the data. As property enquiry may be a sensitive topic for some people, the researcher tried to keep the interview balanced by interspersing questions on the study's topic with inquiries regarding the potential benefits of their vacant property. The information collected through written responses to semi-close-ended questions or discussions did not include the respondent's names or any other identification. Respondent anonymity, confidentiality, freedom of speech, and a fair chronological response were all ensured during the data collection process.

Data Analysis Method

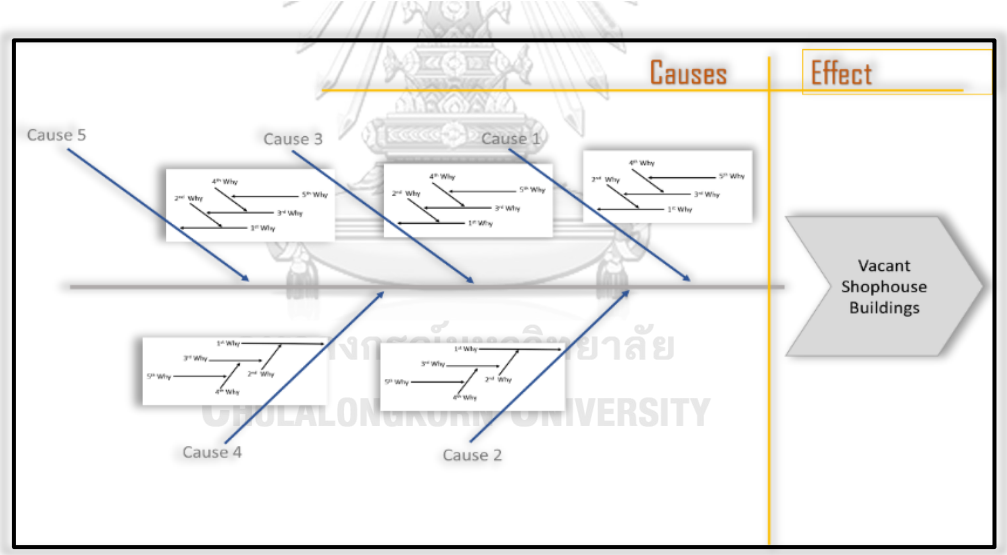
Once all the interviews were done, data was processed for the qualitative analysis. Data from on-site interviews was collected in survey questionnaires. Telephone interviews were transcribed, it was then coded, analyzed, interpreted, and categorized. The coding procedure was done once all of the data had been transcribed. The codes used in this research are variables which are used to categorize or arrange content and are considered as an essential component of qualitative research. Survey questionnaires and transcribed interviews were evaluated several times, searching for specific patterns in the answers. When the major causes of the vacancy problem are discovered, they are categorized in five broad categories: architectural design & quality of life, financial, urbanization, laws & regulations, and culture & behavior. The fishbone diagram was set-up by writing the problem in the head or mouth of the fish and major causes as branches, illustrated in the figure below:



The next phase of the analysis was to brainstorm all the possible causes of the vacancy problem with shophouse owners using 5-Whys technique. The 5-Whys is an excellent inquiry skill that investigates several causes of an issue until the point of "reason undetermined" is achieved, or it recognizes that "why something happened" cannot be completely verified without further investigation.



Shophouse owners were asked "Why does this happen?" for each category to which they responded. Sub-causes were written as branching off the from the main cause branches. To wrap it up, the owners were again asked “Why does this happen?” about each cause for four more times, framing each “why” in response to the answer earlier. Nevertheless, because the approach gets exhausted once the root cause is recognized, it was not possible to answer the five "whys" in all of the factors.



The very last stage entailed data verification, which entails double-checking the validity of the researcher's knowledge by rechecking the transcripts and codes, allowing the researcher to confirm or modify assumptions already established before. The categories were integrated and fine-tuned to form well-defined visual presentation as a fishbone diagram. At the end, a causal loop diagram was constructed in order to visualize the whole shophouse vacancy system.

Validity & Reliability

In qualitative research, validity refers to the "appropriateness" of the instruments, methods, and data. It is essential to validate information collected through desk research, in-depth interviews, and semi-structured survey questionnaires. Validity for this research was addressed by ensuring that respondents were sampled suitably, in order to prevent selecting participants who were inappropriate to answer the research questions. Validity was also established by ensuring that the respondents were responding to questions by making sure they were aware of the research objectives and questions. As interviewees were aware of the study's objectives, it was also clearly depicted in what direction the questions/answers were presented in. Several groups were interviewed, including individual shophouse owners, academics, urban planners, architects, researchers, realtors, shophouse renovators, government officials, etc. Desk research was performed to ensure the authenticity of all of the groups' responses.

Oftentimes, qualitative research is questioned on the issue of reliability. To ensure the reliability of this research, the data collected was reviewed repetitively. Before the survey began on site, all of the interview questions were pre-tested to ensure that only relevant questions were asked. The survey questionnaire was translated to Thai (as it is the official language in Thailand) and eventually collected. In qualitative research, in terms of reliability, what a respondent says the interviewer on day one may change slightly on day two. The study addressed reliability by asking follow-up questions, when necessary, to clarify if an answer was not given in the heat of the moment, implying that differences could be easily monitored if they existed.

Overall, the utmost attempt was made to maintain the level of validity and reliability as high as possible.

Summary of Research Methodology

The conceptual framework and research methodology, including the research approach, data collection and data analysis methodologies, are discussed in this chapter. Several contributing factors to urban vacancy were identified in the literature review chapter. Since no previous research has been performed on the vacancy of Bangkok's shophouses, there is a chance that it may turn out to be a hypothetical analysis if we apply those factors as a reference for Bangkok. So, it was imperative to go to the field and assess the current situation in person. This was accomplished by a transect walk in the Punnawithi area. The information collected from the transect walk facilitated the development of the research conceptual framework, which integrated real-life vacancy circumstances with theories obtained from the literature.

The study used a qualitative research approach and was founded on a conceptual framework. The root cause analysis technique was selected as the appropriate qualitative research method since it addressed the "what" and "why" questions, which were relevant to the research objectives and questions. To evaluate the root causes of shophouse vacancy, two phases of interviews were conducted, and two root cause analysis tools were utilized to identify and refine their explanations. These tools were the fishbone diagram and the 5-whys technique.

Data sources comprised in-depth conversations with the shophouse owners and literature documents A semi-structured survey questionnaire was the primary research instrument. Key informant interviews with appropriate people helped to develop the survey questionnaire. The study was conducted at Punnawithi area with about 40 shophouse owners as the sample population for this research. Thirty of them were interviewed on site and 10 of them were interviewed via telephone. There were few criteria in selecting the respondents. The shophouse owners were interviewed in two phases. The initial interview was used to obtain responses, which were subsequently categorized using the Fishbone Diagram into many significant factors. A week following the initial interview, the second stage was conducted to dive deeply into each factor (using the 5-whys questionnaire).

All survey questionnaires were reviewed several times and analyzed. From the initial stage survey, major categories of causes of the problem were identified. The survey's second stage was designed to find comprehensive explanations for each main category, and the 5-Whys technique was utilized to create survey questions to obtain replies from shophouse owners for each category. Eventually, a graphic has been created to summarize the analysis of the data from the fishbone diagrams and the 5-Whys technique. Lastly, a causal loop diagram was constructed to visualize the interconnection among the identified causes.

Chapter 5: Data Analysis & Findings

This chapter will present the findings from the interview responses and subsequent disclosures of five major contexts. First and foremost, a brief description of the Punnawithi area, its location, and the shophouse buildings' condition were described. Following that, images from the field survey and challenges faced in the field survey were shared. This chapter outlined the general findings and disclosures that were obtained from the interviews, and they were classified in a fishbone diagram to represent them. This was useful in answering the first research question in relation to the first objective of the thesis, which is, respectively:

- *What are the main reasons for Bangkok's abandoned shophouse buildings?*

Punnawithi's Suburbanization Over the Years

Much of Bangkok's recent growth has happened outside of the city, in suburban areas, much like other developing and developed countries. The city extended by 30% from 2000 to 2010, but the suburbs extended by 66%. The city's population increased by 1.9 million people, whereas the suburbs gained 2.5 million people. The rising prosperity of the Bangkok region, inexpensive land and housebuilding prices, and the growing number of families with personal motorized vehicles have all contributed to rapid urbanization (Jongkroy, 2009). Unlike in other Asian cities, where urbanization has taken the form of high-rise buildings, much of Bangkok's suburban expansion has taken the form of townhouses and detached dwellings. According to the interpretation of satellite images, it is found that Bangkok's suburban areas have transitioned from rural farming districts to a more urban-like landscape throughout time. A higher population, a shifting economic structure, changes in people's lifestyles, changing dwelling patterns, and the growing agglomeration of built-up areas in the suburbs all point to this transformation. Punnawithi has also experienced the same urban transformation as other suburbs.

Even twenty years ago, Punnawithi used to be another tranquil neighborhood in Bangkok. It was always away from the bustling central business district (CBD). Most areas in Punnawithi were comprised of low-rise housing complexes, shophouses, and industrial factories. The residents were mostly middle-class families, as well as a few expats. One of the highlights of this zone was the

Piyarom Sports Club. This 40-rai full-service sports club with restaurants and cafés has served the needs of its middle and upper-class neighbors for decades.

In 2000, there was a significant transport development project that was an expressway, the Burapha Withi Expressway, or Bangna Expressway. Because of this highway, many real estate developers took an interest in establishing a large number of housing projects here, and the suburb grew in popularity among middle-class families. It also promoted many local businesses. The second (from On-nut to Bearing, which opened in 2011) and fourth (from Samrong to Kheha, which opened in 2018) extensions of the BTS Skytrain brought significant changes to the neighborhood as well. The entire district was transformed due to this train line development. Before the extension was constructed, there were a cluster of real estate development projects like vertical structures and gated communities along On-nut Station. Following the expansion, numerous urban development projects, particularly condominiums, can now be seen along the train route. Another notable incident was in 2013, when MQDC Company purchased the whole property of Piyarom Sports Club and converted it into a mixed-use project known as Whizdom 101.

Therefore, Punnawithi has been showing signs of urbanization since then. This area is now one of Bangkok's fastest-growing suburbs. In the near future, Punnawithi is expected to become the main hub for cyber technology and cyber start-ups. True Corporation, in collaboration with the National Innovation Agency (NIA), is one of two organizations that have attempted to facilitate the emergence of an innovation district (TDPK, 2018). This innovation district will offer the global tech community an excellent workplace and a pleasant living environment. There are already a lot of plans tabled for property development. Several large-scale projects are already underway. Numerous new developments have been launched near the BTS station, mainly along Sukhumvit Soi 101, by some of Thailand's largest residential property developers. Mixed-use commercial and residential project development is now ongoing.

Today, Punnawithi is a perfect location to live since it is still a moderate-density, minimal-pollution neighborhood. As it is surrounded by roadside food shops, cafes, restaurants, and a market, the neighborhood is quite convenient. There are few supermarkets and many retail stores in the area. These amenities create a connection between the pleasurable aspects of work and personal life balance in the district. This area is quite well connected by transportation network. The walkability around the main road is decent. This neighborhood is encircled by several schools, making it an attractive place for a convenient family life with children. Figure 11 shows the present physical state of Punnawithi area.

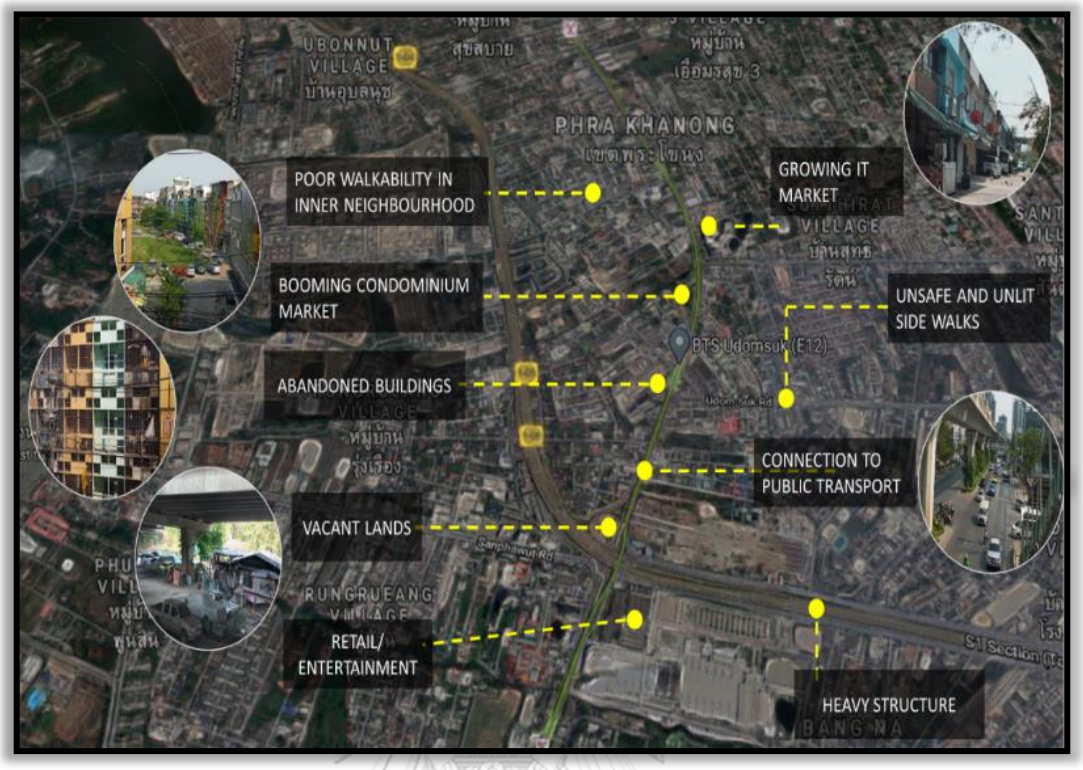


Figure 11: Today's Punnawithi

All of these forms of urbanization, either directly or indirectly, have created diverse activities within the district. Due to the wide range of socioeconomic status quo, balancing this diversity within a short time frame is tricky. Ongoing urbanization has resulted in surplus development, which is now one of the challenges that must be addressed. While the urbanization process progresses, certain specific district plans, and frameworks are still undefined. It results in poor physical and non-physical conditions as there is no concrete strategy. For example, in certain inner-city districts, road networks are excessively narrow, making it difficult to commute by foot. In addition, there are inadequate public and green spaces. Sometimes, this leaves the area with a cluster of unoccupied buildings and vacant land as a result of this urbanization process. The Punnawithi neighborhood now has a lot of vacant land and abandoned buildings, which is sometimes linked to negative externalities like crime, poverty, unemployment, and economic decline.

Location & Physical Condition of the Shophouse Buildings

Although numerous lots of vacant shophouses can be found in Bangkok, this research focused on those vacant shophouse building lots that are located in the city's key locations in the districts of "Phra Khanong" and "Bangna", in between the BTS stations of Bangchak and Udomsuk. These vacant buildings are laid along the main Sukhumvit road, Sukhumvit 101 and 101/1 road (figure 12).

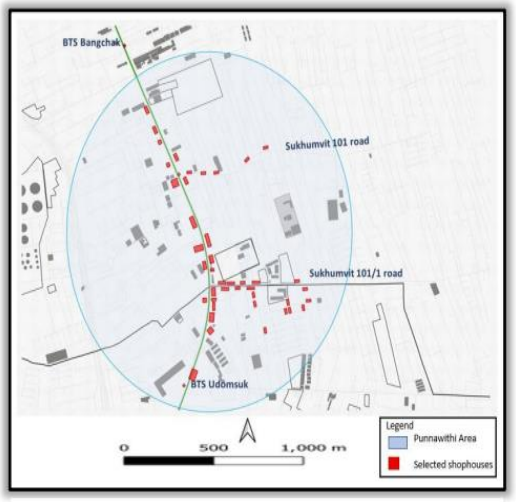


Figure 12: The locations of the selected shophouse buildings for the research

The study area is located in the midst of an old, mid-income, and moderately densely populated suburban area called Punnawithi. At Punnawithi, most of the shophouses are commercial mixed-use shop house in which commercial is the primary function and residential is secondary. They are usually located in crowded business areas along the main road. The majority of the shophouses in the project area are old, underutilized and not maintained properly. For most buildings, defects and damage are a very common phenomenon. The number of well-maintained buildings that can easily be lived in or be used in the future is very small. These shophouse buildings need little or no maintenance or repairs. It seems that the owner regularly monitors the property on a proactive basis and will respond to reasonable governmental requests. However, most of the shophouse buildings are not well maintained. Peeling paint, old-rusted windows, dead or dying groundcover, poor ventilation-lightening, overgrown vegetation is a common feature of these buildings. Although these properties can be used in the future with considerable repairs, The owners do not appear to be proactive and do not regularly monitor the property. Some shophouse buildings were found to be as fully vacant for a longer time period. These buildings are unsafe to enter or occupy for further intended use. These properties are not being used for a long period. There are cracked or broken windows, rusted doors, faded walls, overgrown vegetation, dark damped walls on the property. These shophouse buildings pose significant disruptions to the urban neighborhood. The owners of these shophouse buildings seem to be non-responsive and there does not seem to be any monitoring of their property.

Limitations & Challenges in the Field work

Many difficulties and issues were experienced during the fieldwork phase and responded with in ways that delivered reliable data. Previously, it was planned to select on-site shophouse owners who are currently residing in the Punnawithi area and whose property has been vacant for more than three years, chosen from a purposive sampling method. This proved to be unfeasible due to the fact that a large portion of the residing shophouse owners/tenants were unwilling to share information related to the property. The strategy to find the appropriate interviewees was then changed to accommodate a more willing sample of shophouse owners. These were found from a selection of shophouse owners who wanted to rent or sell their properties and shared their contact numbers posted on the front of their properties. These shophouse owners were interviewed over phone. Many times, their answers were either superficial or incomplete, especially when dealing with questions related to the future aspirations of the shophouse buildings. In addition, several participants left queries unanswered. This is because they may be uncomfortable sharing personal information.

Images from the Field work

The field study in Punnawithi has enriched this thesis. During the month of September 2021, 30 interviews were conducted with the shophouse owners/tenants. It was very helpful to obtain meaningful firsthand data that was not available from the existing literature. These following photos of shophouse buildings in Punnawithi are vivid examples of what shophouse buildings look like at ground level.

Inadequate daylight, poor ventilation, and a faulty drainage system are the common features of old shophouse buildings

Parking spaces are not provided in conventional shophouse buildings

Small business owners might not be financially capable of doing all of the renovation work on their own

Most of the shophouse residents belong to an elderly population, who are indifferent about the situation

As the next generation moves to a new place for work and living,

These aged owners have no desire to renovate or to use the upper floors

Sometimes owners might be benefitted from technical assistance

on how to revitalize both their businesses and properties

Owners appear to be neglecting their properties due to a lack of properly enforced regulations

Poor visibility of the business on the ground floor & lack of privacy in the upper floors are created by BTS line

Modern housing opportunities are always appealing to the younger generation

Key Outcomes from Qualitative In-depth Interviews

An analytical overview of the surveyed shophouse buildings

The following table provides an overview of the different categories of vacant commercial shophouse buildings in the Punnawithi district, including descriptions, typical ages, locations, and ownership information to help reduce this complexity and clarify the opportunities and constraints involved in redevelopment of these properties. These variables was helpful in analyzing the characteristics of the vacant buildings, their priority level and potential redevelopment process. The data for the variables was obtained from a transect walk through the area, talking to the local community and owners of the buildings. This information facilitated the assessment of real-life vacancy situations with theories retrieved from literature. For, preliminary observational research, participants were randomly selected from Punnawithi area.

Table 3: Building condition assessment through preliminary observational survey

Building Block	Building Occupancy Type	Number of Story	Building Age (years)	Building Condition	Ownership Type	Underutilization Level	Reason of Vacancy	Time period of Vacancy (years)	Future Plan/aspiration of Owner
1	Shop	4	35	Very poor	Solo owner	Partially occupied	Lack of tenants	5	Sell
2	Shop	3	20	Moderate	Co-owner	Partially occupied	Financial issue	10	Undecided
3	Office	8	15	Good	Solo owner	Partially occupied	Lack of tenants	10	Undecided
4	Shop	4	20	Moderate	Solo owner	Partially occupied	Financial issue	10	Undecided
5	Shop	4	20	Moderate	Co-owner	Partially occupied	Lack of tenants	10	Sell
6	Shop	4	30	Poor	Co-owner	Partially occupied	Poor environment	5	Redevelop
7	Shop	4	30	Poor	Co-owner	Partially occupied	Lack of tenants	5	Undecided
8	Shop	4	25	Poor	Co-owner	Partially occupied	Lack of tenants	10	Redevelop
9	Shop+Res	4	25	Moderate	Co-owner	Partially occupied	Financial issue	3	Undecided
10	Shop+Res	3	30	Moderate	Solo owner	Partially occupied	Lack of tenants	10	Redevelop
11	Shop+Res	3	40	Very poor	Co-owner	Partially occupied	Poor environment	10	Undecided
12	Shop+Res	4	35	Poor	Co-owner	Partially occupied	Financial issue	5	Redevelop
13	Shop+Res	3	30	Poor	Co-owner	Partially occupied	Lack of tenants	5	Undecided
14	Shop+Res	3	40	Very poor	Solo owner	Partially occupied	Poor environment	3	Undecided

Building Block	Building Occupancy Type	Number of Story	Building Age (years)	Building Condition	Ownership Type	Underutilization Level	Reason of Vacancy	Time period of Vacancy (years)	Future Plan/aspiration of Owner
15	Shop+Res	3	30	Poor	Co-owner	Partially occupied	Poor environment	3	Undecided
16	Shop+Res	3	35	Poor	Co-owner	Partially occupied	Financial issue	5	Undecided
17	Shop+Res	4	35	Very poor	Co-owner	Partially occupied	Lack of tenants	5	Undecided
18	Shop	3	35	Very poor	Solo owner	Partially occupied	Financial issue	10	Redevelop
19	Shop	3	40	Very poor	Co-owner	Partially occupied	Financial issue	15	Undecided
20	Shop	4	30	Poor	Co-owner	Partially occupied	Lack of tenants	5	Undecided
21	Shop	4	20	Moderate	Co-owner	Partially occupied	Lack of tenants	5	Redevelop
22	Shop+Res	4	30	Poor	Solo owner	Partially occupied	Financial issue	10	Undecided
23	Shop+Office	4	30	Poor	Co-owner	Partially occupied	Lack of tenants	10	Sell
24	Empty	2	30	Poor	Solo owner	Partially occupied	Poor environment	3	Undecided
25	Shop+Res	4	30	Poor	Solo owner	Partially occupied	Lack of tenants	3	Undecided
26	Shop	4	40	Very poor	Co-owner	Partially occupied	Financial issue	15	Undecided
27	Shop	4	35	Very poor	Co-owner	Partially occupied	Financial issue	10	Undecided
28	Shop	4	40	Very poor	Co-owner	Partially occupied	Financial issue	10	Undecided
29	Shop	4	30	Very poor	Co-owner	Partially occupied	Financial issue	15	Undecided
30	Shop	4	30	Very poor	Co-owner	Partially occupied	Financial issue	15	Undecided
31	Shop	5	15	Moderate	Co-owner	Fully vacant	Migrated	3	Wants to sell/rent
32	Shop	4	35	Poor	Co-owner	Fully vacant	Lack of tenants	10	Wants to sell/rent
33	Shop+Office	4	20	Good	Solo owner	Fully vacant	Lack of tenants	5	Wants to sell/rent
34	Shop	4	30	Poor	Co-owner	Fully vacant	Lack of tenants	10	Wants to sell/rent
35	Shop	4	35	Poor	Co-owner	Fully vacant	Lack of tenants	15	Wants to sell/rent
36	Shop	4	40	Very poor	Co-owner	Fully vacant	Migrated	5	Wants to sell/rent
37	Shop	4	40	Poor	Co-owner	Fully vacant	Lack of tenants	10	Wants to sell/rent
38	Shop	4	40	Very poor	Co-owner	Fully vacant	Lack of tenants	3	Wants to sell/rent
39	Shop	4	25	Poor	Solo owner	Fully vacant	Financial issue	5	Wants to sell/rent
40	Shop+Res	4	20	Poor	Co-owner	Fully vacant	Migrated	3	Wants to sell/rent

General findings

A total of 40 shophouse buildings were investigated during this study. Thirty shophouse owners were questioned on-site and ten were interviewed over the phone, all of whom were located in Bangkok's Punnawithi area. Some of the shophouse buildings are located along Sukhumvit main road, next to the BTS line, while others are located on Sukhumvit 101 and 101/1 road's inner sois. The representative shophouse buildings were chosen based on the fact that they had been partially vacant for at least the previous three years.

The majority of responders were 45 years and older, with, 12.5 percent being younger than 45 years, 50 percent being 45-60 years old and 37.5 percent being 60 years old or older. It was discovered that 55% of respondents have lived on their property for more than 30 years, while 45% have lived there for less than 30 years. These shophouse buildings are mostly commercial, with local food restaurants, stationery shops, hardware shops, plastic goods & kitchenware shops, sewing shops, and grocery stores. When looking at the age of the shophouse buildings, 32.5% were built within the last 30 years, while 67.5% were built more than 30 years ago. Approximately 45% of shophouse owners said their upper floors had been vacant for 3-5 years, 37.5% said it had been vacant for 5-7 years, and 17.5% said it had been vacant for 7-10 years. The respondents were also asked about the general state of their property at the time of the survey. 27.5 percent of shophouse owners believe their property is in good condition and ready to live in, rent, or sell, while 42.5 percent believe some repairs or renovation work is required before it can be used again, and 30 percent believe substantial renovation/reconstruction work is required before it can be used. On the next page, this information is graphically displayed in Figure 13.

On the basis of the participant interviews, several dominant categories of vacancy factors have been discovered. The most common causes of shophouse building vacancy, among others, are those related to the architectural design and quality of life of the shophouse buildings, the financial capability of the owners, lack of strong rules-regulation and support for vacant properties, people's culture and behavior regarding their property, and the rapid urbanization of the city. The findings from the interview procedure and subsequent data analysis will be presented in this chapter, which will focus on the earlier mentioned five broad perspectives derived from literature review.

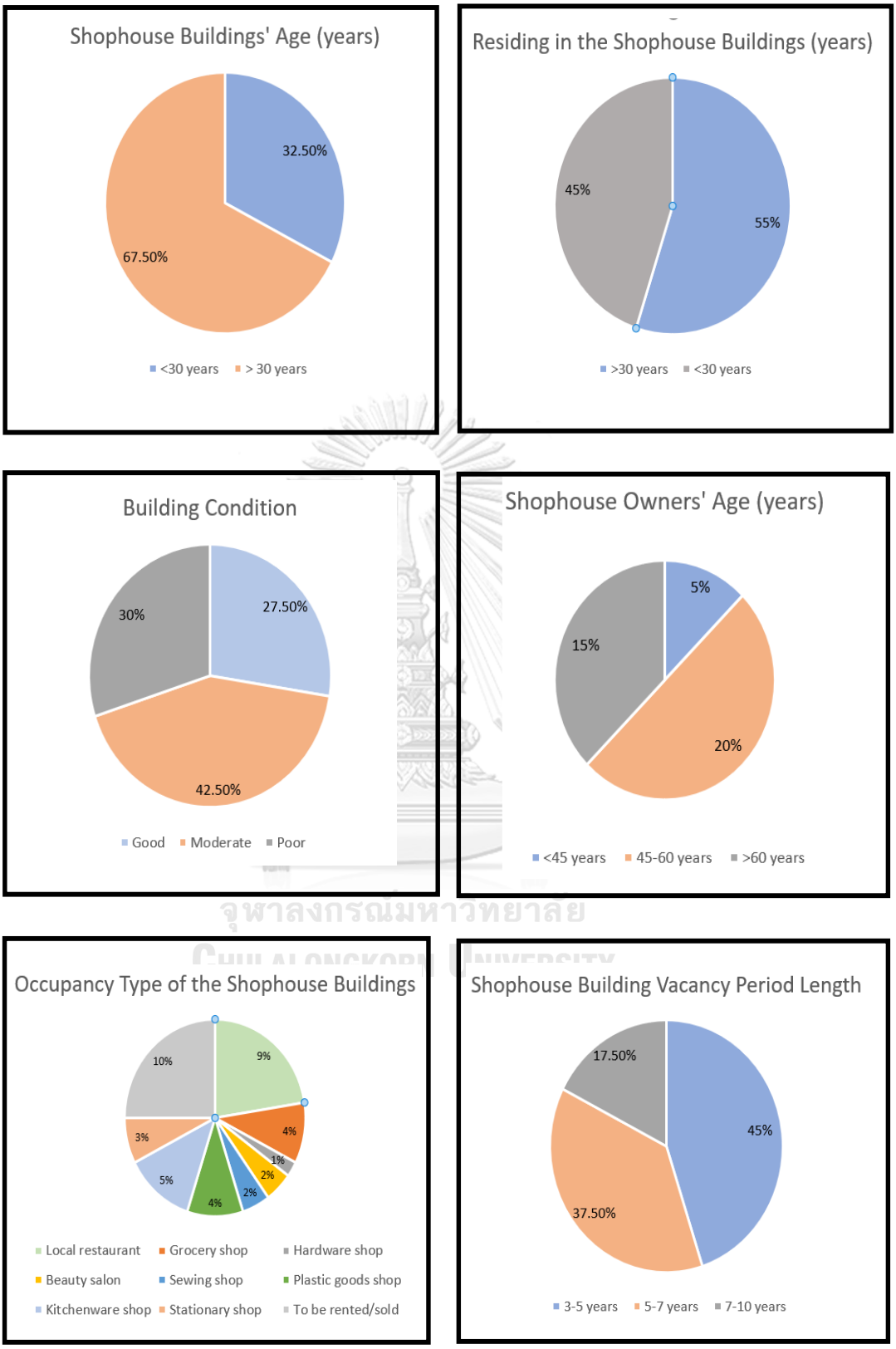


Figure 13: Information obtained from the field survey

Disclosures about architectural design & quality of life

As many buildings have been surveyed for this research at Punnawithi, nearly all of them are between 20 to 40 years old. Although these shophouse buildings are believed to be early modern in design, they appear outdated in comparison to the contemporary real estate developments that surround them. The majority of the shophouse buildings are older, underutilized, and, presumably, have experienced lack of maintenance. Defects and damage like peeling paint, old-rusted windows, dead or dying groundcover, poor ventilation, and overgrown vegetation are common features of these buildings. Many owners have expressed concerns about the architectural design and living ambience of the shophouse while speaking with them. They have expressed their dissatisfaction with the absence of adequate daylight in the building, particularly in the midsection, where there is no window. The air-conditioning system is likewise not up to standard. It's extremely hot in the summer, especially on the upper floors and in the middle portion of the building. On the ground floor, the drainage system is similarly substandard, and overflow occurs on occasion of heavy rainfall or flood. Because of the shophouse's lower elevation from the road, it may easily flood if it rains. The toilets are usually located on the rear side of the building, and oftentimes the number and size of toilets are also insufficient compared to the number of users. Due to a lack of appropriate daylight and air ventilation, the center and rear parts are gloomy and damp.

The majority of the owners stated that if they wanted to use their property again, it would need to be renovated. Some of the structures require substantial renovations, while others only require modest repairs. Few people claim that their property is well-kept and can easily be lived in or used for its intended use Most of the owners do not have much knowledge about how to accomplish the renovation work. They are really not familiar with the many current renovation approaches available. They believe that renovation is difficult, although, according to expert professionals, it is not. That is why they haven't thought about it yet. They do not wish to be bothered in any way. This is a significant reason behind the shophouse vacancy.

Typically, car parking is not included in the design of shophouse buildings. As currently a large percentage of Bangkokians drive, it is difficult to use a property that lacks car parking facilities, whether for residential or commercial purposes. Another impediment is the placement of the staircases. Even if the owners wish to rent out the upper floor levels, the position of the stairs can sometimes make it inconvenient. Tenants may complain about a lack of privacy as the stairs are placed in the inner part of the building. These two reasons are also to be blamed for the shophouse building's failure to rent.

Disclosures about financial aspects

Punnawithi's business environment might be described as an ascending middleclass suburb that was once destitute but has becoming popular with new residents, particularly young ones or expats, since demand for urban living has increased rapidly. Actually, it is a semi-urban area which is less diversified than the CBD. The shophouse buildings that were surveyed are primarily commercial in nature, running small businesses. Few of these businesses are new, but most of them have been operated for a long time. These businesses include local food restaurants, stationery shops, hardware shops, plastic goods & kitchenware shops, sewing shops, and grocery stores.

When the owners were questioned about the renovation work, they replied with a variety of responses. Few thoughtful owners responded that they have their own maintenance strategies and perform relatively little maintenance work each year. While speaking with them, they stated that they could do everything necessary. They are not doing it only because they are skeptical about the type of future business possibility that would suit their property. Some of the owners stated that they could perform a few things if they were given proper procedural direction. The majority of the owners stated that they could not perform any of the routine maintenance activities, let alone the entire renovation. Since they do not really make a lot of money from these businesses. They spend all the money they earn from these businesses on necessities or day-to-day living expenses. The cost of renovating a shophouse is somewhat expensive for the owners. In fact, they don't have enough spare cash to invest in renovations or routine maintenance. Additionally, they don't want to take out a loan or burn their savings. They believe that taking out a bank loan would increase their financial load. These responses illustrate that the respondents have substantial financial capabilities.

The shophouse owners were also asked if they were aware of any government assistance or incentives for property renovations. Everyone responded that they had never heard of such government aid or incentives. They have never offered any kind of assistance, either monetarily or in terms of renovation recommendations. The majority of the owners acknowledged that any assistance would be beneficial for the maintenance or renovation of their property. All of the owners have accepted the fact that if strict vacant property legislation had been imposed on them, they would have had no choice but to properly maintain their property.

Disclosures concerning urbanization

Every city goes through periods of transition and transformation. And the same could be said about Bangkok. The city's appearance is rapidly changing due to ongoing urbanization. The city's urban sprawl extends from the central downtown districts into countless luxury private housing developments as well as affordable apartments in the suburbs with contemporary facilities. The Bangkok sky train, which runs east and south of the city, has provided citizens with a way to get out of the city center. Hundreds of condominium projects and shopping malls can be found in nearly every part of this bustling metropolitan city. The dispersion of retail, economic, and recreational activities in the suburbs is the outcome of population reconcentration. Shopping malls have changed the traditional marketplace culture and are playing a key role in changing customers' shopping behavior. In Bangkok's retail markets, narrowing shopping streets and the growth of shopping malls have been key retail trends.

Shophouse owners were questioned about the ongoing urbanization process and whether it had an impact on their property. They responded with a wide range of intriguing responses. The vast majority of shop owners agreed that their children prefer to live in modern apartments or condominiums. The new generation likes housing units with contemporary amenities since the single-family style is quite popular these days. Additionally, in most cases, the new generation is no longer in charge of their familial businesses. They have switched their profession. Instead of residing in shophouse buildings, they prefer to stay close to their workplace. Changes in shopping behavior are another consequence of urbanization. The growing congestion of shopping malls in metropolitan areas has an influence on people's shopping conveniences and behaviors. The shophouse owners said that nowadays, customers prefer shopping malls to traditional shops since shopping malls are more easily accessible by car and appeal mostly to families on their weekly shopping binge. It is easier for those who have cars to park their cars and shop there. According to the owners, they only receive their regular clients; new customers are quite rare, which is detrimental to their business’s survival.

Massive infrastructure development in the city also has a subtle impact on these shophouse buildings. Bizarre issues occur in shophouse buildings just adjacent to these infrastructures (BTS Skytrain line or expressways). The owners complained that the visibility of shophouse buildings had been obstructed by these massive infrastructures. People are hesitant to rent it since the

commercial viability has declined, implying that business would struggle and tenants on the upper floors would suffer from a lack of privacy and noise pollution. For these reasons, it's a little tough to rent these shophouse buildings. On the other hand, shophouse owners who live a little further away, respond that these infrastructures are advantageous to them since they can commute conveniently.

Another consequence of urbanization is a surge in the rental or sale prices of properties in prime locations. Oftentimes, the owners demand a higher rental price for their property when they compare the rental price to its neighboring marketplace. An overpriced rental price of an old shophouse may discourage potential tenants from visiting the property at all, or prospective tenants who have visited it may believe there are cheaper, better choices available. However, the owners are not bothered by this situation and are unwavering in their decision. All of the shophouse owners have declared that they would keep their properties vacant rather than rent them at a cheaper price.

Disclosures concerning laws & regulations

This research also attempted to explore the legal challenges regarding the vacancy issue. Shophouse owners were asked if they had to pay a tax if their property remained unoccupied for a certain period of time or not. According to all of the owners, there is no such taxing system for unoccupied or vacant properties. In fact, owners have the choice of keeping their property vacant or unoccupied for as long as they want and there's nothing the government can really do to interfere. However, on 25 December 2019, the Ministry of Interior released new notices and regulations on vacant properties in the Government Gazette. Any property liable to the land and building tax, as per the Act, includes land or a building that is either: (i) left vacant; or (ii) not properly used or reasonably used ("Vacant Property") (Medina, 2020). Hopefully, in the future, this new regulation will assist in changing the attitude of owners who intends to keep their properties unoccupied.

Another issue is construction permit or license, which is compulsory if the owner wants to add or modify the building (changing the structure of the concrete (prestressed concrete building), or the material, size, amount, or type of the building, changing a structural component so that the weight is increased by more than 10%, changing a part of the floor or roof whereby the surface increases or decreases more than five square meters, adding posts or beams or the area plan changes) (Acclime, 2015). It's worth noting that shophouse owners may want to renovate and reuse their properties, but because they don't have the knowledge or guidance, they need to acquire this license, they choose not to do it.

Disclosures concerning culture & behavior

Cultural connections and social behavior are well-known as important and crucial elements in one's life and residence. As a result, the researcher felt it necessary to explore on this aspect as well. During the survey, it was found that most of the owners who are still living there are part of an elderly generation. Based on the researchers' discussion with them, a few remarkable things were discovered. Several of these elderly shophouse owners either have no children or their children have moved to another place for living. As they do not have adequate provisions for elderly people to have easy access to the upper floors, only the ground floor is used for living and business. For the time being, the majority of respondents had no concerns about shophouse maintenance work or any kind of renovation for the upper floors. Elderly owners do not feel the urge to do any renovation work when there is no one to utilize that area of the property. These elderly shophouse owners were asked how long they wished to stay in their current residences, if they wanted to move to a new place, or if they wanted to renovate their present homes. They all said they wished to stay where they are now for the rest of their lives, without any renovation work. They feel more secure in their familiar surroundings on a social level.

Another prevalent social occurrence these days is outer migration, and it has an impact on the current situation of shophouse buildings. Due to a lack of opportunity for economic prosperity, new generations are less interested in family businesses. They are more likely to shift professions and try something else in order to improve their financial situation. The younger, high-educated new generation frequently migrates to neighboring metropolitan areas for stronger growth and better job prospects. This outer migration has resulted in a resident drop in the shophouses, which are gradually becoming unoccupied.

Lifestyle changes have also had an influence on shophouse vacancy. Presently, Bangkok is experiencing a significant increase in the standard of living. This has resulted in changes in lifestyles and a demand for space. Shophouse owners revealed that clients prefer to rent modern apartment complexes rather than old shophouse buildings. People nowadays choose to live in residential areas that are surrounded by a decent neighborhood and have easy access to community services. Lack of demand is also responsible for shophouse vacancies.

Comprehensive list of Identified Causes

Based on information obtained during the first round of questioning, the prime reasons of vacancy in Bangkok shophouse buildings have been categorized into five broad groups. The following identified causes of the shophouse building vacancy were further found in the survey that was conducted in different parts of the Punnawithi area during the second phase of questioning where the 5-Whys technique was used. According to the owners, these are all the explanations for the vacancy of shophouse buildings.

Table 4: A comprehensive list of identified causes

A comprehensive list of root causes for shophouse buildings' vacancy	
Architectural design & quality of life	➢ Old building ➢ Inadequate daylight ➢ Poor ventilation ➢ Less appealing to tenants ➢ There is no parking facility ➢ Faulty drainage system ➢ Lower elevation from the road ➢ Inconvenient placement of stairs ➢ Insufficient number of toilets ➢ Wet & damp environment of the building
Financial standpoint	➢ The insubstantial income level of the owners ➢ Renovations are costly ➢ There was no offer of financial or technical support
Ongoing rapid urbanization	➢ Modern housing options always attracts tenants ➢ Shopping behaviors are changing as a result of the availability of numerous shopping malls ➢ The higher market value of the surrounding properties creates peer pressure ➢ Heavy infrastructures, such as the BTS line and the expressway, restrict visibility and compromise privacy
Laws & regulations (regarding vacant property and renovation)	➢ There are no strict regulations for vacant properties in Thailand ➢ A certain level of renovation necessitates permission from the government
Cultural & behavioral viewpoint	➢ The psychology of aged shophouse owners ➢ Changing lifestyle of people ➢ Changing shopping behavior of people ➢ Outer migration of younger generation

Visualization Through the Fishbone Diagram

The following figure (figure 14) shows the root cause analysis of shophouse vacancy in Bangkok with the help of a fishbone diagram. The first round of interviews revealed five major reasons why the shophouses are vacant: architectural design & quality of life, financial aspects, laws & regulations, culture & behavior, and booming urbanization. These primary variables have sub-variables that could lead us to the actual root causes of the problem.

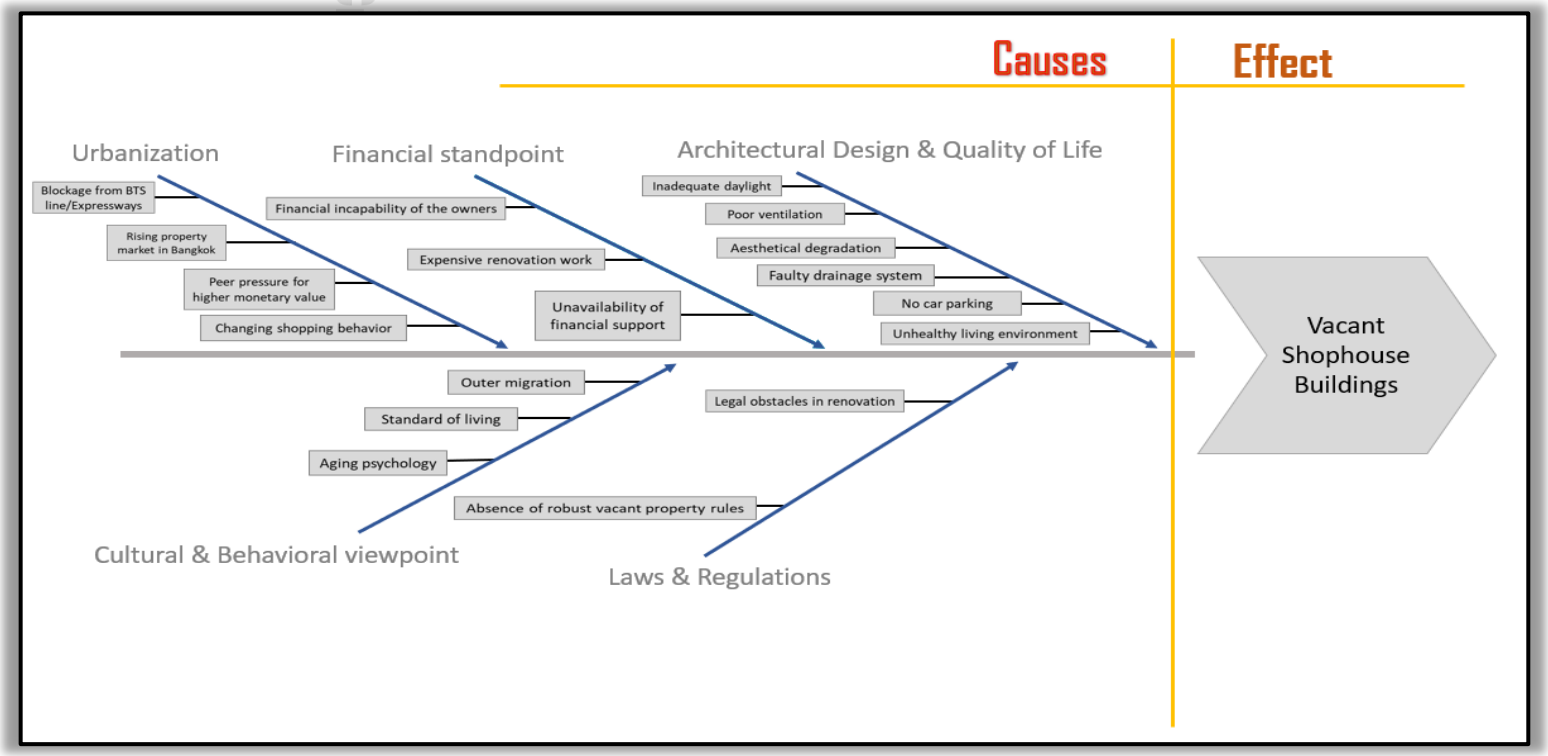


Figure 14: Fishbone diagram representing the root causes of shophouse vacancy in Bangkok

Categorization of Factors on Why the Shophouses are Vacant in Bangkok

The second stage of the interview was conducted to identify a detailed explanation of every factor, and the 5-Whys technique was used to devise the interview questions in order to elicit responses from the shophouse owners for every factor. The descriptions were included in the table below.

Table 5: Categorization of factors on why the shophouse buildings are vacant in Bangkok

Factors	Root Cause
Architectural design & quality of life	The shophouse owners claim that the quality of living in the shophouses is inferior to that of contemporary apartments. There are several necessities of everyday living that are neglected in these shophouses. Renovation work is needed prior to renting or using it on their own.
Financial standpoint	The majority of the owners stated that they could not perform any of the routine maintenance activities, let alone the entire renovation. They have never offered any kind of assistance, either monetarily or in terms of renovation recommendations.
Ongoing rapid urbanization	Shophouse owners claim that shopping malls and contemporary housing complexes have changed clients' behavior. The younger generation are more attracted to modern things than traditional ones.
Laws & regulations (regarding vacant property and renovation)	According to all of the shophouse owners, there is no taxing system for unoccupied or vacant properties. Construction permit or license is required if the owner wants to add or modify the building after a certain limit.
Cultural & behavioral viewpoint	The aging population's psychology plays an important role in shophouses' vacancy. Outer migration and changing lifestyles of the younger generation also have an impact on the vacancy.

Interconnections Among Identified Causes

Eventually, a causal loop diagram is shown in figure 15 as a synthetic representation that depicts all of the different variables involved in shophouse vacancy and their mutual linkages (how they impact the number of empty shophouse buildings in Bangkok while also interacting among themselves) in a single frame. A causal loop diagram's strength is that it helps us understand how different components perform together as a system. It helps to visualize how different variables in a system are causally interconnected. We can literally see the overall picture of the entire system of shophouse vacancy through this map.

The table below shows several variables related to the Bangkok shophouse vacancy that were identified from interview responses.

Table 6: System variables of shophouse buildings' vacancy

System variables			
Building condition	Cost of renovation	Demand of shophouses	Possibility of being sold
Standard of living	Vacant property tax	More shopping malls	Possibility of being rented
Property value	Financial support	More housing complexes	New business opportunities

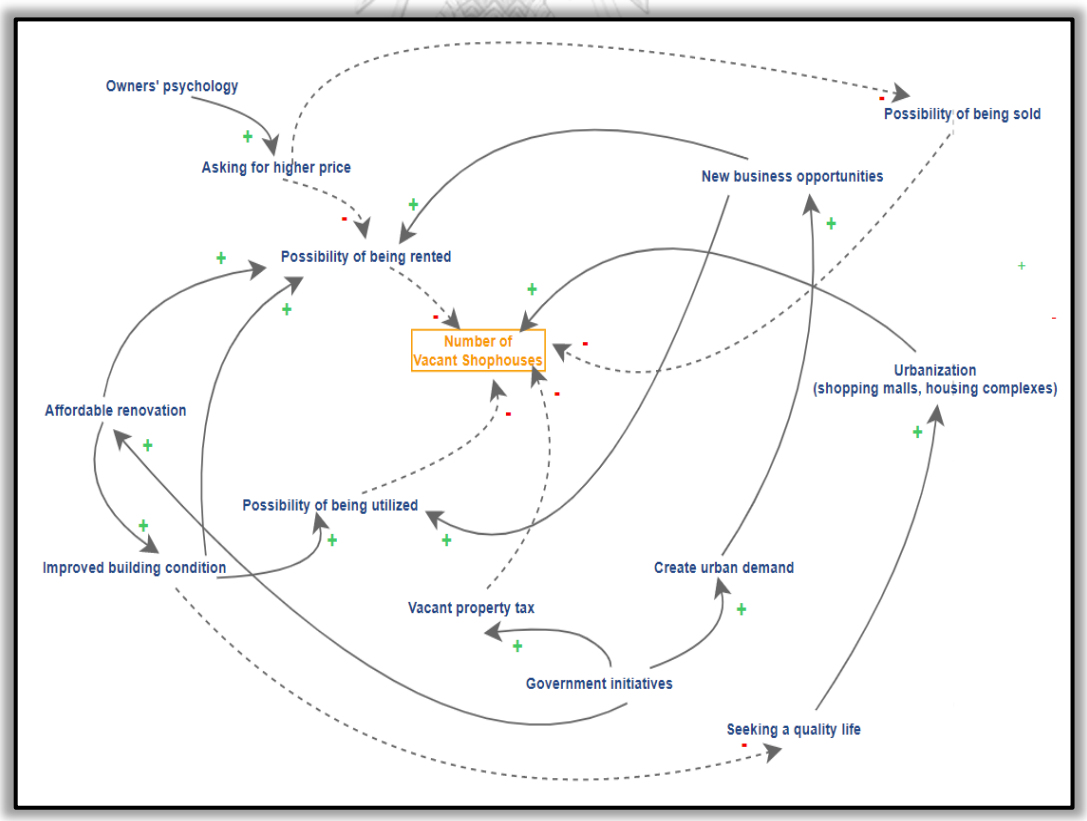


Figure 15: Interconnections among identified causes

Chapter 6: Strategic Options for Vacant Shophouse Buildings

The previous chapter summarized and analyzed the data obtained from interview responses. This chapter has recontextualized the strategic framework in terms of the overall thesis aim and integrated different contexts in order to formulate sustainable reuse strategies. This was required to answer the second research question in relation to the second objective of the thesis, which is, respectively:

- *Develop a strategic framework for addressing and resolving the challenges associated with Bangkok's abandoned shophouse buildings.*

Strategy Development Framework

The strategy development framework aims to integrate requirements with available resources in order to develop sustainable reuse strategies for the vacant shophouses. The chapter focuses on strategic planning and proposes a framework with three parts (figure 16):

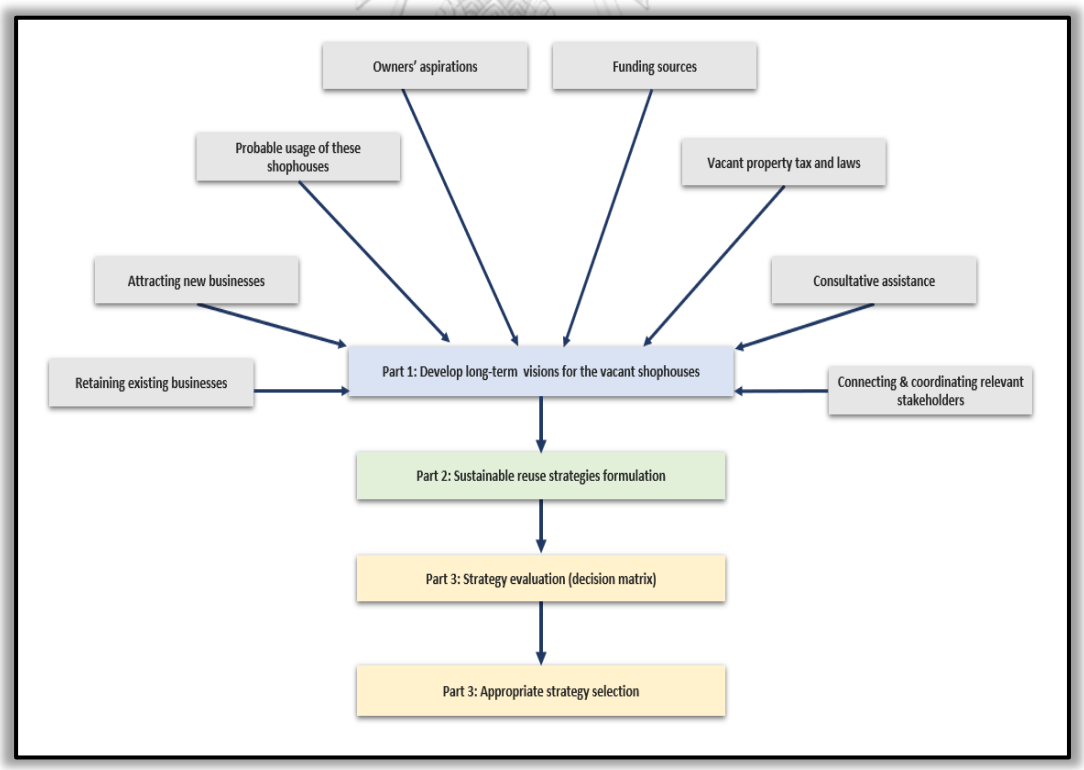


Figure 16: Strategy development process

- Part 1. Acknowledge and assess different contexts.
  - Demand of shophouse buildings (how to retain existing businesses & how to attract new businesses)
  - Potential functions & usage of the vacant shophouse buildings
  - Available reactivation tools (funding sources, consultative assistance, vacant property tax & laws, connecting & coordinating with relevant stakeholders)
  - Owners' aspiration (owners' typology)
- Part 2. Formulate sustainable reuse strategies.
- Part 3. Evaluate and select appropriate strategy by using the 'Decision Matrix'.

Demand of Shophouse Buildings

Buildings will unavoidably age, deteriorate, and lose their basic functions over time. And with the advancement of technology and lifestyle, the design and construction of buildings would be continually updated to satisfy modern customers' expectations, while, as a consequence, older buildings might be neglected and underutilized. However, remarkably, all else being similar, older buildings are often more affordable than new buildings. Considering the lack of modern facilities, old buildings may offer lower rental prices to attract renters. A sufficient supply of old buildings in any area is thus important to long-term local sustainability. People will be interested in reusing these shophouse buildings if there is a significant demand created for them. We must consider both how to retain the old traditional businesses while attracting new ones. Commercial property revitalization associated with prolonged business support initiatives might boost the likelihood of successful commercial regeneration.

Existing business retention and development plans

The provision of technical support and access to finance for existing businesses is an important factor of a commercial revitalization initiative, with the aim of retaining old businesses and promoting new businesses in the commercial area. In particular, small businesses require support in order to manage and control their operations, handle their customers' demands, and compete with other rival businesses. Training and technical support, access to finance, and peer-based aid and advocacy are the three core facilities offered by good business development programs.

Basic training and technical support can include a wide range of topics, such as aid with getting government licenses and permissions, construction assistance for structural modifications, retailing and promotional guidance, and marketing plan design. It is also possible to aid immigrant businesses in overcoming linguistic and cultural challenges. Local entrepreneurs and small

businesses can be supported with their start-up and growth in order to sustain the commercial sector as well as provide jobs for the local community.

Investments are needed for businesses to launch and prosper. While some smaller companies and startups clearly lack traditional banking connections and understanding of how to acquire loans, the situation is far more terrible for many. Many businesses can not apply for bank loans in the prevailing economic position, including from banks where they have had accounts for years. Local public and non-profit groups can assist businesses in need of funding by discovering inexpensive financing choices, financial planning and budgeting, credit enhancement, and loan acquisition in order to increase their access to capital. Business development programs can be introduced that incorporate continual mentoring and coaching both before and after loans are more likely to succeed. Some programs may offer these services directly, while others collaborate with economic development groups to assist businesses in obtaining loan packaging services and alternative finance sources.

Relevant expertise and guidance can be helpful in promoting peer-to-peer support or assistance for local businesses, therefore increasing their collective advocacy strength. The formation of an acceptable and profitable business mix within a commercial area sometimes entails the exclusion of unproductive usage and the introduction of new, more desired usage.

New business attraction plans

Considering the prevailing economic status and future aspirations, strategies for attracting new businesses to vacated commercial premises should aim at attracting the sorts of enterprises that are necessary and acceptable for the particular commercial area. It is always important to investigate market feasibility for the sorts of businesses that are planned and to base development on realistic market possibilities. Meeting unmet convenience shopping demands, such as introducing a grocery store to a "food desert," or promoting shops within established retail specializations, can be the foundation of successful initiatives. The right business mix of chain shops and locally owned enterprises is essential for consumer retention and local economic growth.

The key priority for economic development should be to eliminate undesirable usage or significantly deteriorated properties that limit regeneration, investment, and new economic activity. A combination of governmental-community pressure and an offer of technical and financial support can influence an owner to replace tenants, modify development strategies, or sell to a new buyer. Market analysis information can be used to assist attract businesses to a place by focusing on the connection between the place and the business's goals.

Potential Functions & Usages of Vacant Shophouse Buildings

It is not always straightforward and easy to choose a reuse option for a commercial vacant property since it must match the building type, location, and existing condition. This section describes how to choose an acceptable commercial vacant property reuse strategy and gives a brief overview of numerous long-term and transitory reuse choices. While considering a productive reuse that complements the property and the available resources, it is necessary to be mindful of the market's acceptability as well as the chances for rehabilitation. The commercial property's placement, infrastructure, and surrounding marketplace should all be considered while selecting a property for revitalization. If the neighboring marketplace is booming or extremely significant, the new use's main target audience might well be local residents or employees. Tourism activities, such as distinctive entertainment venues and street markets, can help to grow local markets if they become successful and attract a large number of people from the surrounding region. The reuse alternatives are divided into three categories based on three primary redevelopment strategies: renovation/reconstruction, adaptive reuse, and transformation from single use to mixed-use.

As long as there is market demand from the customer end, renovating a commercial vacant building for the original or equivalent function for which it was utilized might be a viable approach for its revitalization and reuse. When older buildings have outlived their usefulness, they can sometimes be transformed into fresh stuff via a technique called adaptive reuse. Adaptive reuse is the process of repurposing ancient buildings for new functions, such as renovating an industrial mill to house lofts. Commercial buildings are often transformed in ways that can maximize the property's and its neighboring area's existing facilities. Consider those businesses that are already popular in the area and then offer them to current consumers as a smart strategy for selecting a reuse choice that meets local market needs. For example, the presence of hotels in a commercial district might reflect the feasibility of tourist-oriented businesses such as souvenir shops and salons. Conversely, if market research reveals the existence of a market gap, selecting a reuse option that fulfills that market gap may be profitable as well. For adaptive reuse to be sustainable, there must be market demand for it, whether it is responding to a customer base or meeting a market gap. In certain cases, remodeling a single-use commercial vacant property to allow for a mix of uses might be profitable. Since mixed-use buildings minimize the distances between residences, workplaces, retail stores, and other destinations, they may be even more appealing to renters.

The notion of the expected spatial growth of the Cybertech district should be considered while deciding alternative usage/functions of the vacant shophouse buildings in Punnawithi. It is

anticipated that the upcoming urban spatial growth in the region will be fostered, notably around the True Digital Park, and will eventually expand to the remainder of the district. Required modifications and improvements that leverage and highlight the original architecture and character of the old shophouse building may end up making it very appealing to both renters and clients. When turning one or more single-use commercial properties into a mixed-use complex, extensive renovation work is required in addition to a significant amount of investment.

In order to upscale the vibrancy of the neighborhood, these vacant shophouse building lots can take part actively. A thoughtful mix of retail stores and restaurants, as well as other uses at the street front, can happen in these vacant buildings depending on various factors, such as target audience, existing business culture, location, and anchor tenants. Strategic use of space is quite possible. This, however, oftentimes demands more major renovation work than many of the shophouse owners are willing to spend on it. Another vital element of the existing urban fabric is the hawker center around the True Digital Park. As Thailand has a strong tradition of street hawkers, creating a well-organized hawker can be the direct spatial manifestation of protecting the local culture anyway. Street-side empty shopfront lots can be turned into a hawker center in order to support the existing street hawkers and preserve the local business culture.

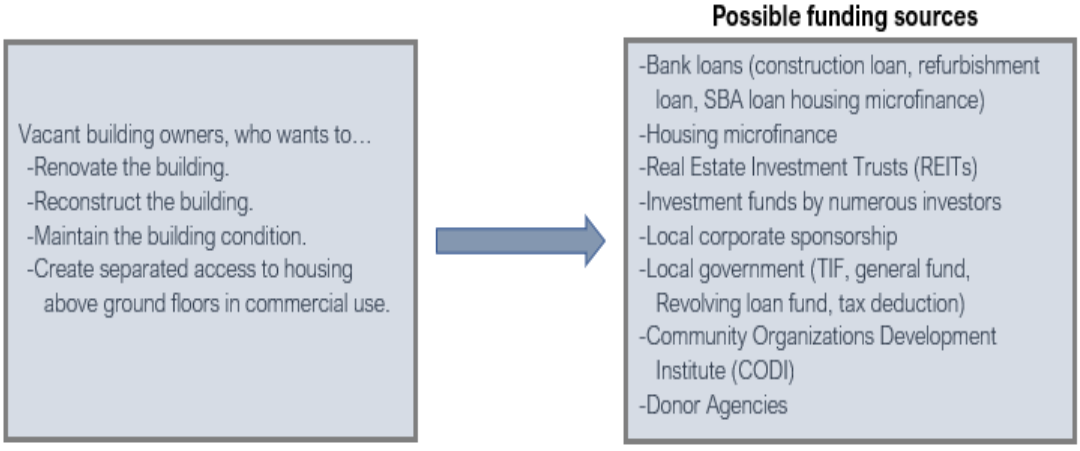
Although residential and office spaces typically influence the financial sustainability of mixed-use buildings, the ground floor is what gives a building its individuality. The ground floor, where buildings meet the street level, has the ability to significantly reshape any city. In order to create a vibrant city, it is necessary to support in attracting ground floor tenants who belong to a variety of groups – residents, office people, families, and tourists alike. There are actually a lot of opportunities for the ground-floor spaces to make their mark on the main street, like coffee and lunch counters, pop-up stalls, bookstores, etc. Adopting a holistic approach and providing for pretty transparent storefronts which let the businesses engage with the sidewalk in a variety of ways might enhance street life and create a distinct local atmosphere. It is vital to concentrate equal focus on the first floor and even those above in order to create environments and activities that entice people to a building and make them feel more comfortable. The best type of business that can run on the upper floors are businesses that do not require customers to approach the store. Businesses that focus on online sales and home delivery would work on the first floor. Boutique hotels can also be accommodated in the upper floors.

Available Reactivation Tools

Sometimes, property owners may want to renovate and utilize their vacant properties, but they lack the knowledge and money to do so properly. Such property owners may benefit from technical assistance in comparing the costs and potential benefits of an investment property, renovating a building, budgeting for the renovation, selecting dependable contractors, or attracting suitable renters. This research intends to assemble the available strategic tools for supporting the evolution of vacant shophouse buildings to sustainable redevelopment. This section has presented a list of available strategic instruments and techniques for promoting sustainable reuse of commercial vacant properties as well as strategies for influencing the property owner when the owner refuses to willingly reconstruct the vacant property.

Funding sources

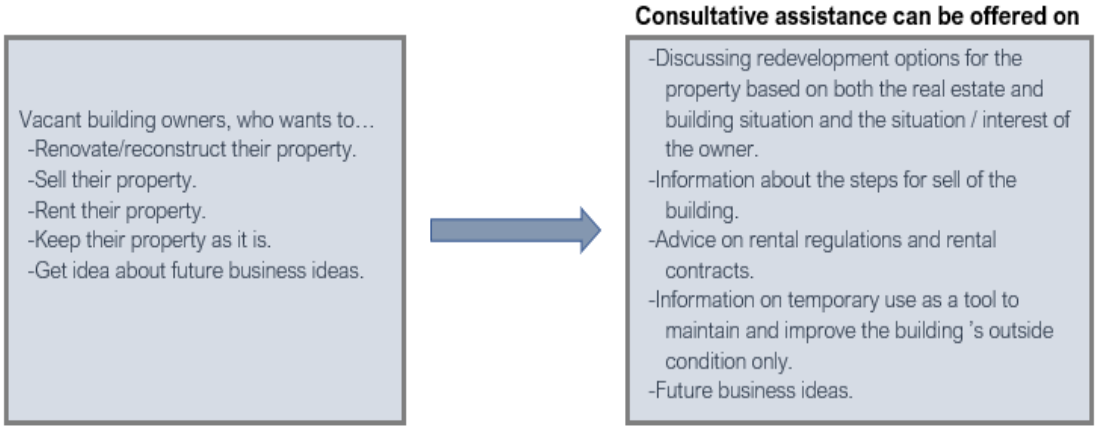
The cost of renovation, refurbishment, and redeveloping commercial vacant properties can be excessively expensive. To carry out each of these operations in the future, recognized and innovative finance sources will indeed be needed. There are various sources of funding options available from both the private and governmental sectors but integrating several sources of revenue from both sectors will provide the best opportunities for funding commercial redevelopment projects. Developers may seek a range of different sources of funding for commercial construction and renovation work. The implementation of any of these modes of finance demands knowledge about how to integrate several financial sources. While some options are available to support organizations that work on commercial regeneration activities, others might



be utilized to explicitly support redevelopment activities. A comprehensive list of funding sources as well as information of how they might be used is provided in the box below:

Consultative assistance

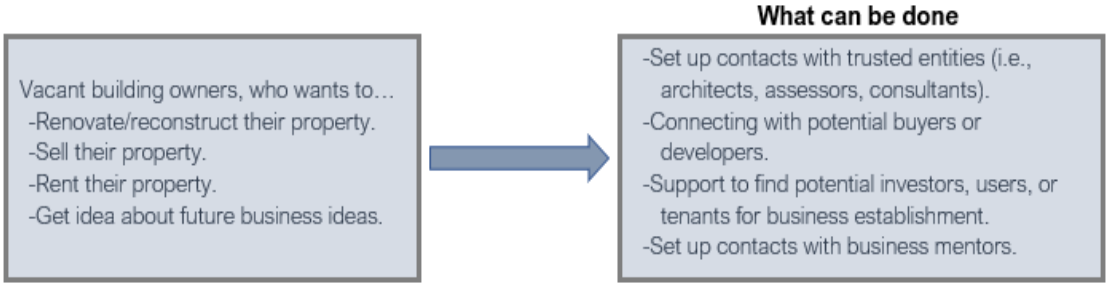
Whenever an owner decides and agrees to take measures to renovate, co-develop, or sell their property, but they are unfamiliar with this procedure and these responsibilities discourage owners from upgrading their properties. Consultative support can be offered in many ways to the owners for the reactivation process. It can either be discussing the redevelopment options for the building, reviewing the probable future business ideas in the building, making the owner informed of the building's actual status and the potential consequences of allowing it to deteriorate farther, or informing the owners about the regulations for selling or renting the building. These auxiliary services might encourage the property owners to rehabilitate their buildings.



Connecting & coordinating with relevant stakeholders

Reactivating an old shophouse structure, particularly one that has deteriorated, is not a straightforward or even an ordinary process. It requires planning for the rehabilitation, financing it, obtaining permits, and so on. Many owners possess expertise in this area, and sometimes these additional responsibilities might discourage owners from renovating their buildings if they do not have knowledge about the entire process. Similarly, relevant agencies such as developers or investors ready to invest in these structures in the interest of city planning targets play a significant

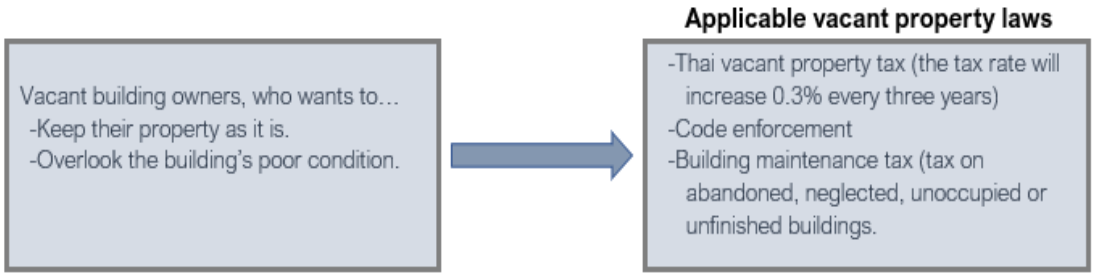
role in the reactivation of vacant buildings. Contacting a suitable active stakeholder for the redevelopment process is a very important task. A balance between 'what the owners want' and



'what kind of investment the investors are looking for' is mandatory. Property owners ought to have the opportunity to meet the owners who have successfully refurbished their buildings. By communicating with the experienced owner, other owners of the same building (if there are several owners) can try to develop a common resolution for the building.

Vacant property tax and laws

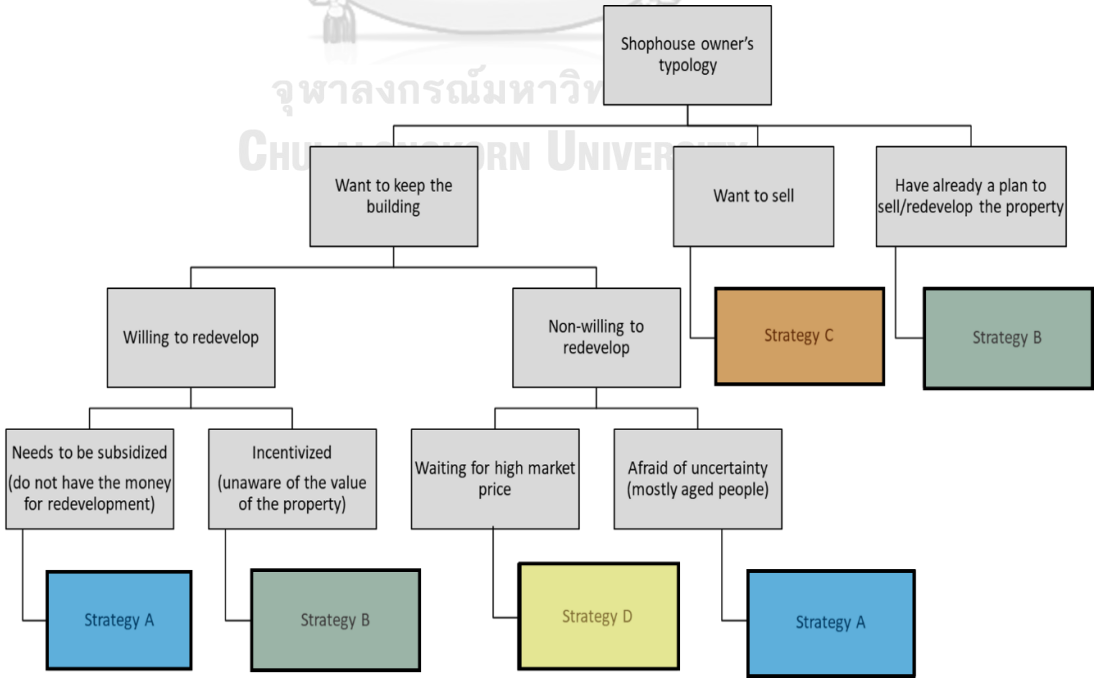
Leveraging private owners to employ vacant properties has always been the smartest option, but it may be challenging, particularly in weak market areas where the payback on their investment may not have been obvious right immediately Although some property owners may have a strategy to refurbish or retain their properties, others do not. Some property owners, particularly speculators, may have minimal interest towards the property, minimizing public influence over its usage. However, municipalities and government entities can employ regulatory changes to encourage property owners to reuse their properties. There are few government laws available to encourage owners to reuse their vacant properties. Guiding the owners through the administrative procedure can be helpful.



Owners' Aspiration

Prior to developing strategies for the reactivation of vacant shophouse buildings, it is essential to consider "what the owners want." Because individual owners have unique aspirations for their property, a single set of strategies will not work for every owner. Each type of owner will demand a specific strategy. It is really valuable to know 'what the owners want', as owners are critical when it comes to the reactivation of vacant buildings and properties. They have final disposal authority and are legally free to do whatever they want with their property. Some owners may want to renovate and use (within individual time frames), while others may want to wait (for personal or financial reasons), want to get rid of the building (with or without speculative interest) or some of them are unclear (often linked to absence and structural decay) about their aim for the property.

The perspectives, ideals, opinions, management style, and behavior of these owners concerning their vacant properties have been classified in order to provide a better understanding of the diversity of these owners' typology. In most cases, the majority of the owners are troublesome. They are more difficult to deal with, and they are unlikely to take any initiative for property reuse without any outside interference. The following flowchart illustrates the typology of shophouse owners at Punnawithi based on their future aspirations for the property:



Sustainable Reuse Strategies

Managing privately owned vacant properties is both easier and more challenging than managing active rental properties. Because the properties do not have renters, the concerns are often more obvious. Nevertheless, because the owner is unlikely to generate any financial flow from the property, the city's capacity to incentivize him or her to utilize it profitably may be constrained, especially in low-income market locations. While some owners may have purchased them knowing they were vacant with the intention of reusing or holding them, many were not vacant when their owners or families purchased them. These owners typically have almost no connection to the property, and it could be difficult or even impossible to trace the owners. In such situations, the city's leverage with them will be limited. Around this time, the city must decide whether to take possession of the property or let it deteriorate. As a result, it is difficult to distinguish between strategies for dealing with privately owned vacant properties and strategies for gaining ownership of vacant properties.

Strategizing privately owned vacant and abandoned properties is complex due to the owner's mindset and purpose of ownership. A common misconception in strategic planning is that a strategy is set in stone once executed. Many mistakenly believe that there is little scope for adjustment after a strategy is implemented. Every strategic plan should represent an agile, dynamic process that changes with the shifting needs of the organization. Therefore, flexibility is key to strategic success. The reason why the shophouse needs to be reactivated should be the start point for developing a sustainable reuse strategy. Every strategy must have a clear conception, purpose, and set of values. A thorough understanding of the conception and purpose of reusing shophouse buildings is a significant part since it facilitates the formulation of an effective strategy. The question should be asked: what role can vacant shophouse buildings play in the city's urbanization concept? The response would provide insight on certain aspects that, from a strategic standpoint, are critical for the reactivation process. Identifying the most important challenges is not enough for strategy development. A good strategy formulation method involves deciding which aspects to focus on and integrating the elements together to develop a framework for defining priorities.

As we can see, there are several categories of owners present in the study area. It is clear that we need more than one set of strategies for the reactivation process at Punnawithi. In this section of the report, four sets of strategic options are provided that can be applied to different types of owners. Each of the strategies will contain a few action plans.

Financial and technical support to the owners

The first strategy aims at supporting the owners and to promote the reuse of vacant shophouses in order to minimize the challenges caused by these shophouses and restrict their potential development. In addition to technical support, financial assistance is to be offered as part of this strategy. The techniques outlined below could be used as part of this strategy:

- Providing information about financial advice and financing assistance. (Microfinance or construction loan for housing).
- Discussion on revitalization possibilities for the shophouses based on both the real estate and building condition, as well as the owner's circumstances and aspirations.
- Set up contacts with trusted entities (i.e., architects, assessors, consultants).
- Future business plans.
- Connecting with potential investors, users, or tenants for business establishments.
- Advice on rental regulations and rental contracts.

Incentivize the owners with technical & financial services

The second strategy is to offer owners technological and financial incentives. This strategy is appropriate for those owners who are capable of undertaking some amount of remodeling work on their own. It comprises alerting owners about contemporary redevelopment incentives, counseling them on redevelopment choices, advising them on prospective business concepts, and linking them with relevant professionals such as architects, assessors, investors, or potential customers and renters. The plans for action are mentioned below:

- Providing information about financial advice and financing assistance.
- Discussion on revitalization possibilities for the shophouses based on both the real estate and building condition, as well as the owner's circumstances and aspirations.
- Connecting with trusted entities (architects, assessors, consultants etc.).
- Future business mentorship.
- Support to find potential investors, users, or tenants for business establishments.

Bring the property back on the market

The third strategy intends to assist owners who might be interested in selling their shophouses. It will support them in initiating the selling process and connecting them with prospective buyers. In the end, selling these properties to eligible buyers will bring them back into the market. This strategy aims to attract (the appropriate) prospective buyers and investors to vacant properties and support them in the acquisition and redevelopment process. The following are the action plans:

- Development of a building profile and a sales contract template.
- Connections with prospective buyers and investors for the selling of the building.
- Information on the stages involved in selling the building.

Buildup awareness

The fourth strategy is for owners who wish to hold the property, retain it unoccupied for an indeterminate amount of time, do not maintain it on a regular basis and are waiting to sell it at a better market price. This strategy aims to inform them about the tax implications of holding properties inactive and unoccupied for an extended period of time or failing to maintain them. Considering the additional expenditures, they might well be interested in reusing or renovating the property. Furthermore, this strategy concentrates solely on pushing them to improve the building's exterior. The following action plans define the strategy:

- Increment in the vacant property tax (the tax rate will increase 0.3 percent every three years but will not exceed 3 percent)
- Building maintenance tax (i.e., for failure to perform maintenance, endangering public safety, and building neglect)
- Information on temporary use as a tool to maintain and enhance the building’s exterior appearance only.

Decision Matrix

The inclusion of a "decision matrix," pictured below in figure 17, will aid in shaping the redevelopment approach to evaluate and select the appropriate strategy for vacant shophouse buildings in Punnawithi. This decision matrix represents a major step forward in approaching vacant building renovation and disposition strategically.

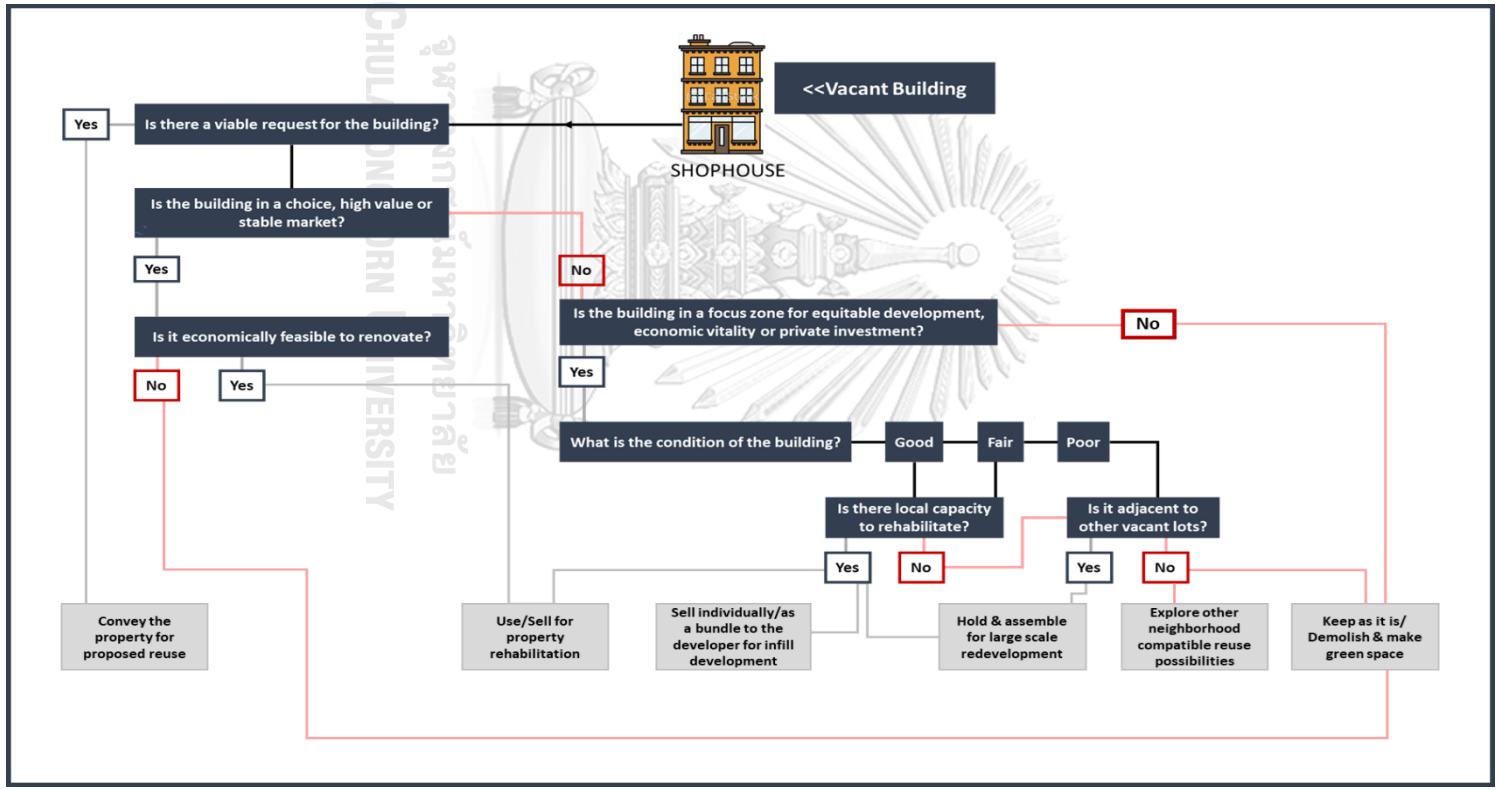


Figure 17: Decision matrix for the revitalization of vacant shophouses in Bangkok

Chapter 7: Discussion & Conclusion

The empirical findings of this study have been presented in detail in the previous chapters. The last chapter of this study focuses on analytical interpretations regarding the research findings and research questions, as well as future directions for solution. The chapter concluded with a stance on describing the role of shophouse buildings in the urban fabric and determining whether it is worthwhile to conserve them or not.

Understanding the findings in relation to the research questions

The overall conclusions of this research are analyzed and documented below under each of the respective research questions, along with an explanation of how they relate to each research question.

Research question 1: What are the main reasons for Bangkok's abandoned shophouse buildings?

The primary objective of this research was to shed some light on one of Bangkok's most significant yet somehow underestimated assets: the shophouse buildings. This thesis has performed a mixed methods approach to determine the root cause of vacant shophouse buildings in Bangkok, using the fishbone diagram in combination with the 5-Whys technique. When the results of this research are examined, a number of conclusions seem apparent. Among other things, the most common shophouse building problems are those associated with problematic old architectural design, deteriorated quality of life, shophouse owners' financial incapability to renovate their property, lack of effective government legislation regarding vacant properties, Bangkok's booming urbanization process, and shophouse owners' cultural and behavioral mindset.

Living environment concerns were cited more frequently than business environment concerns by the shophouse owners. They have complained about the unsatisfactory physical condition of their residences. The architectural limitations, such as the building's size and orientation, permitted them to make only interior modifications and minor renovations to their shophouses. The limited opportunities for significant modification in shophouse buildings often appear to be a key impediment in the reuse process. Although some of the shophouse owners were clearly more concerned about the quality of the neighborhood environment than the physical condition of their shophouses when evaluating it as a place to live. It was obvious from the survey that the majority of the shophouse residents were aware of the problems in their shophouse environment. Another notable aspect of the shophouse buildings is the lack of parking space. When questioned about this issue, the majority of respondents indicated it didn't matter because they didn't have a personal car.

However, they acknowledged that car parking is necessary for business purposes or to attract tenants, as most Bangkok citizens now own a private car.

According to the data analysis, the vacancy doesn't always emerge among individuals who are financially secure and capable of doing renovation work on their own, but rather among owners who are financially a bit more susceptible. The shophouse owners stated that they were never offered any technical or financial assistance from the government in regard to the renovation or effective utilization of their properties. It was observed that various other reasons for shophouse vacancies, such as aging society's mindset and hindrances imposed by BTS sky train line or expressway issues, are not as substantial as architectural design or financial issues, but nevertheless contribute to a high number of vacancies. Additional variables, such as higher rental or selling rates of these shophouse buildings or outer migration of younger generation of shophouse owners, occasionally occur but have a strong impact on vacancy. This implies that they did not cause the mass vacancy of shophouse structures, but if they did, there was a significant possibility that a vacancy would emerge as a result of the increased market price associated with them. Another effect of urbanization was the proliferation of housing and shopping complexes throughout the city. People, particularly the younger generation, are typically more tempted to residences with contemporary services and shopping malls with a range of activities. As a consequence, demand for shophouse buildings is slowly dropping.

Research question 2: How can a strategy framework for addressing and resolving the challenges associated with Bangkok's abandoned shophouse buildings be developed?

According to the findings of the research, the diversity of shophouse challenges is so interwoven that it is a significant impediment to the city council's ability to effectively resolve them. It was imperative to visualize the linkages among the identified causes. The causal loop diagram aided in comprehending the entire system. Indeed, vacant shophouse buildings have been a serious concern for the entire city for years. Despite the fact that these challenges require prompt response, developing a straightforward approach to deal with these is tricky. For this reason, a strategic framework was developed which aims to integrate requirements with available resources in order to develop sustainable reuse strategies for the vacant shophouses. In any given area, planning for vacant shophouse buildings should include how to attract new businesses while also retaining the existing businesses. They must think about what the owner’s aspiration for their property and the tools they have at their fingertips for this reactivation process. Then, and only then, can long-term strategies be designed and executed.

Recommendation - A Way Forward for the Solution

Without a robust national and provincial plan for the vacant shophouse buildings in Thailand, however, the general vacant building patterns will be impossible to reverse. Punnawithi's shophouses cannot hold their own liveliness against the undertow of ongoing rapid urbanization and changing economic patterns. BMR and its surrounding suburbs may begin with just about all of the strategies outlined in this research, as provided as they are implemented in the context of national collaboration and a coherent provincial approach. A new program termed "vacant property program" can be introduced in addition to existing government legislation addressing vacant properties. The ideation of the vacant property framework integrates the 'Vacant Property Registration Ordinance' (VPRO), collaboration among several municipality departments, and a digital database platform. This strategic approach to combating vacancy and blight can prevent abandonment, increase the quality of livability, and provide for the filling of usable space for business purposes. However, an efficient vacant property program always demands a framework well-coordinated with a vacancy prevention program.

The Vacant Property Registration Ordinance or VPRO has a significant role in designing a vacancy prevention program since it enables the property owners to define specific standards and requirements of accountability. The primary aims of these ordinances are to collect superior information about the extent and nature of vacant and distressed properties within a regulatory authority, to have credible and accurate personal details for the owners of these properties, and to confirm that the properties are retained in ways that minimize the long-term damage they imply to adjoining communities. These ordinances constitute regional regulations that oblige property owners to register their unoccupied and distressed properties with the municipal authorities. It assures that vacant property owners are acknowledged to the municipality and other relevant individuals, and that they may be contacted if desired. When a property has been unoccupied for a certain period of time, the property owner is supposed to register it. VPROs may demand annual registration renewal, prompt notification of changes in any relevant information to municipalities, and registration fees. Therefore, VPRO might be utilized as a significant instrument to address property owners responsible for their properties and to enforce a monetary amount on the ownership of a vacant property, which generates an additional motivation for owners to properly maintain and reuse their properties.

In addition to VPRO, partnerships among governmental entities and between the city council and the local community are also required in order to manage available resources and minimize the effect of vacant properties. Many different agencies of local, social and government entities may share extensive knowledge regarding these problematic properties. For instance, housing departments, community development, police and firefighters, the public works department, and municipal authorities are generally in possession of information regarding problematic properties. Municipal governments may call together these departments, as well as community members, to effectively manage vacant property issues. Priorities should be defined at the start for the most formalized partnerships so that each side understands what they are gaining out of the partnership and there is a clear knowledge of the responsibilities each entity will perform. If there was a competent formal process for sharing information about vacant properties, the municipality would be able to make the right assessments of problems and concerns.

Finally, a digital database platform, which may be as straightforward as a spreadsheet, could be established that would contain information about problematic properties and specify whether or not each property has one or more of the earlier triggers of vacancy or abandonment. Property tax delinquencies, water shut offs, and mortgage information can all be used to predict ongoing or future vacancy in any property. Users can have access to all public information regarding properties, including history of code violation, nonpayment of tax, and fire incident history. The data can be easily presented in textual format and visualized using a GIS software (figure 18), and that might be updated on a regular basis. Law enforcement agents, police and fire agencies, community development departments, and civic organizations can all benefit from this type of database. Local governments and organizations can also utilize this database to detect at-risk properties and act before a crisis intensifies or becomes uncontrollable.

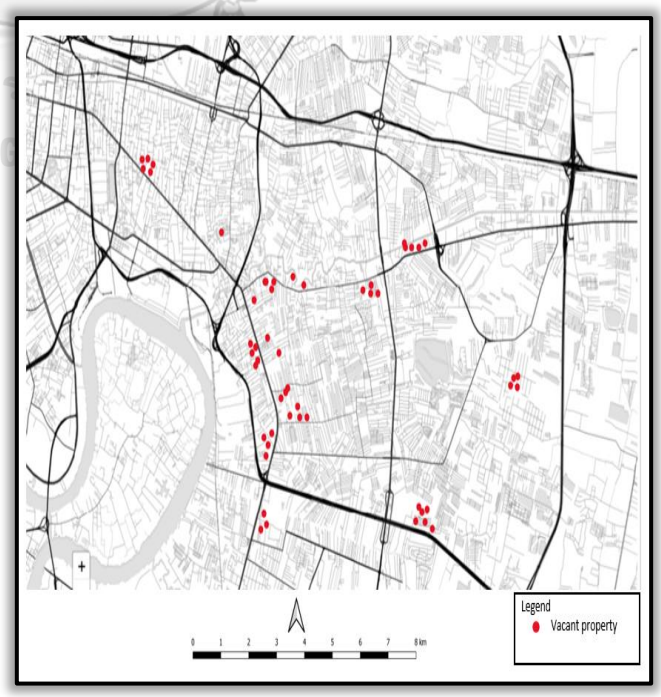


Figure 18: Digital database for vacant properties

Acknowledge the Value of Such a Ubiquitous Asset

The main aim of this thesis was to draw attention to one of Thailand's most significant and overlooked assets: its historical stock of dense, mixed-use, inexpensive, and culturally valuable shophouse buildings. Successful urbanism must acknowledge the inherent social, economic, and environmental advantages of conservation, urban renewal, and revitalization in sparking a city's urban fabric, engaging the populace profoundly with the place and ensuring connection between the past, present, and future. Research has suggested that progressing urbanization should also preserve cultural images to maintain the consistency of urban character. Similarly, Bangkok's shophouses have many valuable traits that the community needs to preserve and enhance, including their history, architecture, culture, and deep sense of solidarity.

The traditional shophouse buildings show clear disparity with the iconic contemporary skyscrapers that characterize Thailand's cityscape. These old shophouses are typically within walking distance of the central business district (CBD), as well as old towns and gentrifying places in Thailand. The distinctive aspects of shophouses are their self-contained architectural design and the flexible nature of their use, which is very appealing to an urbanist. Due to their prime location and flexible usage possibilities, shophouses could offer a viable alternative to boutique hotels, office space, hostels, or food and beverage establishments. Besides, shophouse buildings also offer other urban functionality, including socio-cultural and economic importance. Street activities around shophouse buildings, such as local street markets, weekly night markets, and community events that prioritize local needs and play a major role in the public realm. Daily street activities are essential to forming a community conscience, which stimulates cultural identity and economic advancement in the area. The shophouse buildings' combination of residential and commercial activity is what makes it uniquely qualified to create safer, more resilient neighborhoods.

Although traditional shophouse buildings are an important component of Bangkok's cultural legacy, many of them are currently vacant. These underutilized, unoccupied shophouse buildings have a negative impact on the city's economic, social, and touristic dynamism. This study intends to provide food for thought to deliberate creative concepts for the reactivation and reuse of vacant shophouse buildings and sites in Bangkok, making use of the opportunities that these vacant shophouse buildings might provide for sustainable urban development while also preserving the city's historical characteristics. So that the future Bangkok shophouse could become a place that tells the area's history via its physical environment and serves the needs of its people's social and cultural activities.

Conclusion

Traditional shophouse buildings in Bangkok might emerge to be a remarkably versatile instrument for satisfying the city's evolving demands over time through its socioeconomic and environmental significance. Designing meaningful strategies to combat the city's intensifying vacant shophouse buildings requires an extensive knowledge of the city's sprawling urban fabric. This research would contribute to a better understanding of shophouse vacancy from an array of social, cultural, and economic contexts. As the field of research on shophouse vacancy is quite limited, this study could be considered an investigative and exploratory attempt. This research on Punnawithi's vacant shophouse buildings could be linked to future studies on shophouse vacancies in other parts of Bangkok as well. Starting here in Punnawithi, developing, and implementing plans to address the aims and targets for vacant properties, as well as designing and executing plans to meet these aims and targets, can help Bangkok develop a citywide strategy. The initial actions can be, whether through proactive development of proposed strategic action plans or the convening of existing laws for vacant property with the launch of a vacancy prevention program, would undoubtedly lead to more systemic, long-term change in the city's approach to addressing and attempting to prevent vacant properties in the coming years.

This research work presented realistic and sensible strategies to vacant shophouse buildings that capitalize on the city's strengths and recommends essential approaches for promoting community interactions among people. Bangkok needs to embrace a more equitable route in its urban explosion whilst preserving its distinct sense of place. These historic shophouse buildings must be acknowledged, appreciated, protected, and artistically adapted to the ever-changing urban fabric. Persistent, strategic investments based on systematic coordination and a solid provincial plan may genuinely transform neglected communities and neighborhoods into desirable properties.

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Appendices

Appendix A: Glossary of Terms

Term	Explanation
Architectural design	➢ Building layout ➢ Daylight ➢ Ventilation ➢ Drainage system
Quality of life	➢ Living environment ➢ Attractiveness ➢ Level of comfort ➢ Level of privacy ➢ Noise pollution ➢ Car parking
Financial standpoint	➢ Income level ➢ Grants for renovation work ➢ Cost of renovation work
Urbanization viewpoint	➢ Modern housing complexes ➢ Multi-complex shopping malls ➢ Employment opportunities ➢ Development of transport network
Laws & regulations	➢ Vacant property tax ➢ Vacant property maintenance plan ➢ Vacant and abandoned property legislation
Cultural viewpoint	➢ Lifestyle ➢ Shopping behavior
Behavioral viewpoint	➢ Psychology of aging population ➢ Outer migration of new generation

Appendix B: Key Informant Interview Questions

Research Topic: A Fundamental Approach of Strategy Development for Bangkok's Vacant Shophouse Buildings by Analyzing the Root Causes

What are your thoughts on the "shophouse vacancy" problem in Bangkok? ❑ It's a serious issue ❑ Notable yet not detrimental to the city ❑ Unnoticeable
In your perception, what is the vacant condition/rate of shophouses in Bangkok? ❑ High ❑ Moderate ❑ Low
Is there even a district or neighborhood where the vacancy rate is higher/lower? Or is it the same throughout the city? ❑ Some areas have higher vacancy (which one?) ❑ Some areas have lower vacancy (which one?) ❑ Same throughout the city
What do you think the main reasons of fully/partially vacant shophouses are? ❑ Old design ❑ Inadequate daylight ❑ Poor ventilation ❑ Faulty drainage system ❑ Degraded quality of life ❑ No car parking facilities ❑ Structurally difficult/expensive to renovate ❑ Difficult to rent the upper floors (as no stairs outside) ❑ No grants for renovation/repair work ❑ Legal issues related to renovation

The majority of the shophouse owners who still reside there and operate their businesses are part of an ageing society. Do you agree? ❑ Yes ❑ No
Do you believe the next generation would choose to live here? Would they operate their family business? Instead, they may opt to relocate to a condo/apartment and start a new profession. ❑ Yes ❑ No
Is there a negative influence on business from the BTS sky train line (in terms of shop attractiveness and visibility)? On living conditions (privacy, noise, and absence of adequate daylight)? ❑ Yes ❑ No
Do you believe that the enhanced market price of the property makes it even more difficult to rent or sell? ❑ Yes ❑ No
Is it challenging to renovate a shophouse architecturally? ❑ Yes ❑ No
Is it affordable to renovate a shophouse? ❑ Yes ❑ No
Is there any financial aid or incentive available for work on privately owned property that requires renovation or maintenance? ❑ Yes ❑ No
Is there any legislation or regulation in Thailand for vacant properties? What about charging a tax or imposing penalties on owners of vacant properties? ❑ Yes ❑ No

Are there any governmental regulations that might be a key barrier in the renovation process? ❑ Yes ❑ No
Is there a guideline in Thailand governing the redevelopment/renovation of vacant properties? ❑ Yes ❑ No
In your viewpoint, buyers prefer apartment/condo over shophouse? ❑ Yes ❑ No
Is the municipality's stance toward renovation more favorable or unempathetic, in your viewpoint? ❑ Yes ❑ No
Do you feel that imposing a tax on vacant homes might contribute to encourage people to repair/reuse their vacant properties? ❑ Yes ❑ No
What do you consider are the best choices for renovating and fully reusing vacant shophouses? ❑ Providing grants for improvements and repairs ❑ Make grants easier to apply for ❑ Advice on how to let the property and the income that you could earn from it ❑ Help with selling or renting the property ❑ Affordable organization for renovation ❑ Technical support in renovations and repairs

Note: Though all of the questions appeared to be closed-ended, each of the key informants participated in an open-ended discussion session Several alternative answers were offered to answer the questions, so that the conversation follows the flow of the study's conceptual framework.

Appendix C: Shophouse Owner Questionnaire

Questionnaire about Shophouse Vacancy in Punnawithi

Research Topic: A Fundamental Approach of Strategy Development for Bangkok's Vacant Shophouse Buildings by Analyzing the Root Causes

Section 1: General Information
Are you? ❑ Owner ❑ Tenant
What's your age?
What's your occupation?
How long have you been living/working here?

Section 2: About the Property
Age of the building:
How many floors are unoccupied?
How long has it been vacant?
What is the overall state of your property? ❑ Ready for rent/live/sell ❑ Requires minor renovation work ❑ Requires major renovation work

Section 3: Causes of Vacancy
Why is your property unoccupied, in your personal belief? ❑ The living conditions are not good. ❑ No one wants to rent or buy it. ❑ The next generation shifted to another place. ❑ I don't have the funds to repair/renovate. ❑ When repairing or selling my home, I suffer from legal issues. ❑ I would like to keep it vacant.
You are not maintaining or renovating your property. Because— ❑ You do not have enough money. ❑ You do not receive any financial assistance from the bank for refurbishment. ❑ You still had no knowledge whether or if financial assistance is available. ❑ You believe that renovating is challenging and that you do not want to worry about it.
In your opinion, apartment/condo is better than your property for living? ❑ Yes. ❑ No
Do you believe your property's living conditions are satisfactory? Is it hygienic, has adequate light and air, and is it pleasant? ❑ Yes. ❑ No
Do you think your children and grandchildren would want to live here? Manage their family business? Alternatively, they may opt to live in a condo/apartment. ❑ Yes ❑ No
Do you believe that the excessive price of the property makes it tougher to rent or sell? ❑ Yes ❑ No

In your opinion, does the BTS sky train line has any impact on the business/living quality of your property?

- ❑ Yes. Why?
- ❑ No

In your opinion, renovation/repair work is…

- ❑ Complicated (there are some legal issues, expensive, I cannot supervise the repairing work)
- ❑ Easy
- ❑ I have no idea about it

If you would like the property to be occupied, are any of the following preventing you from doing so?

- ❑ I am not sure how to renovate it. (No idea about financial support, construction work)
- ❑ Renovation work would cost me too much money
- ❑ There are legal reasons why renovation is not possible
- ❑ Difficult to find tenants (poor ventilation, no parking facility, old design)
- ❑ Since the market price is high, nobody wants to buy/rent
- ❑ I do not have any plans for it

In your opinion what impact does the empty property/ properties have on your community?

- ❑ Reduced market price of property
- ❑ Reduced attractiveness of business/neighborhood area
- ❑ Crime/unhealthy environment
- ❑ It does not have any impact

Have you been given any support, information, and advice to bring your empty property back into use?

- ❑ Yes. What?
- ❑ No

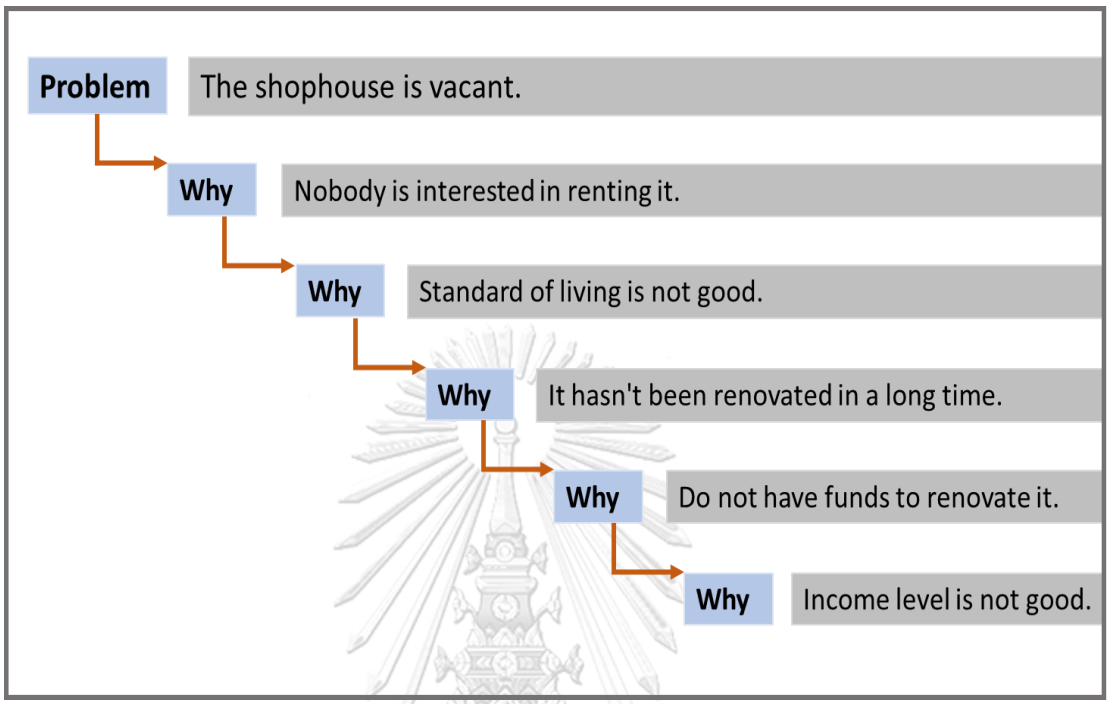
Section 4: Future Aspiration and Support
What are your long-term ambitions for the property? ❑ Want to sell or rent ❑ Repair and use it for own needs ❑ Keep empty as it is now (how long you want to keep it empty?)
Have you received any assistance, advice, or guidance in order to reuse your vacant property? ❑ Yes. What? ❑ No
Do you believe that imposing a tax on vacant homes will contribute to encourage people to repair/reuse their properties? ❑ Yes ❑ No ❑ I have no idea
Which of the following changes, including new incentives or assistance from your local government, would enable you to bring the property back into use? [Please tick all that apply] ❑ Providing grants for improvements and repairs ❑ Make grants easier to apply for ❑ Advice on how to let the property and the income that you could earn from it ❑ Help with selling or renting the property ❑ Affordable organization for renovation ❑ Advice on organizing renovations and repairs

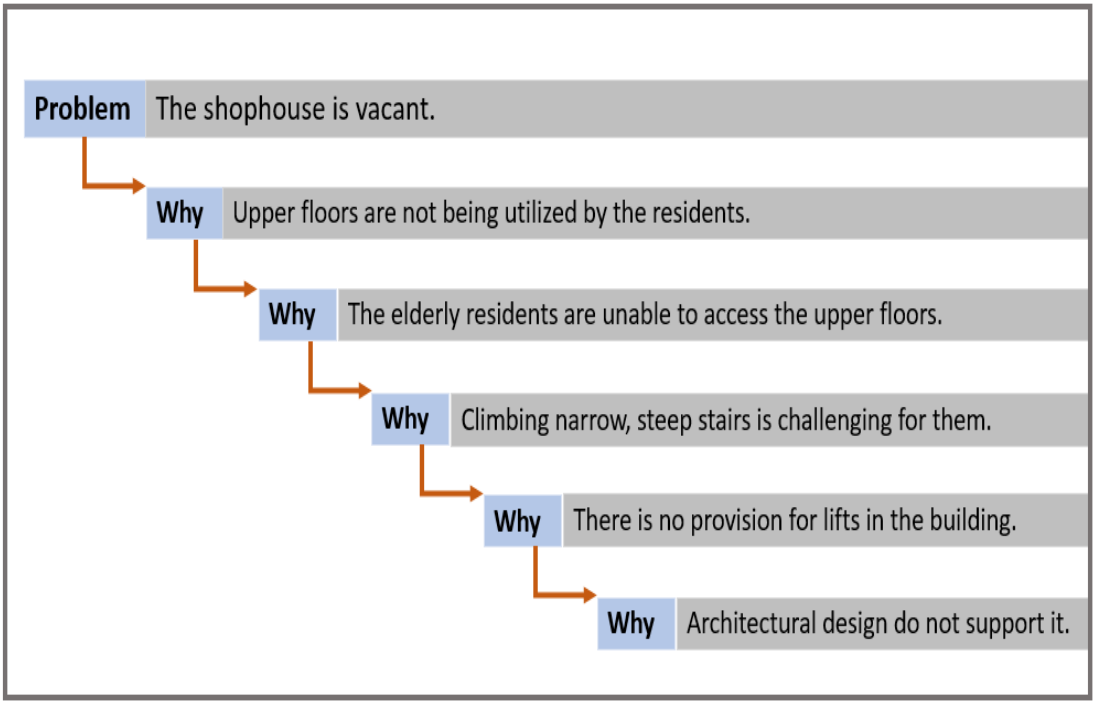
Note: Though all of the questions appeared to be closed-ended, each of the shophouse owners was asked questions in a conversational manner. Interviewees were encouraged to express thoughts and feelings relating to the questions, which offered more detail on the research.

Appendix D: Example of Coded Analysis of First Interview

Question: Why is your property unoccupied, in your opinion?
Answer: Here, I run a small business. I do not have enough money saved or earned to renovate the upper floors and rent it out. It would be really beneficial if the government or another organization assisted me in completing the renovation.
Coding: Financial
Question: Why is your property unoccupied, in your opinion?
Answer: My wife and I are the only ones that live here now. Our kids are living in another city for work. We don't use the upper floors since we don't need this much space for two persons. And renovation is also a hassle for us.
Coding: People's behavior and culture
Question: Why is your property unoccupied, in your opinion?
Answer: The living environment is not so good in the upper floors. It needs extensive renovations. Tenants require car parking space and a modern outlook.
Coding: Architectural design and quality of life
Question: Why is your property unoccupied, in your opinion?
Answer: As I do not live here or conduct my business anymore, I do not have any plans for the property at this time. Renovation or reuse will not generate any money for me. I would want to keep it as is for the time being, maybe I would sell it at a greater price later, I am not sure yet.
Coding: Laws and regulations
Question: Why is your property unoccupied, in your opinion?
Answer: I would want to rent my shophouse building, but renters aren't interested in renting it because it's so close to the BTS sky train line. They don't want to be surrounded by noise or have their privacy invaded.
Coding: Urbanization

Appendix E: An Example of Completed 5-Whys Analysis





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