



Journal of Architectural Research and Education

Journal homepage:

<https://ejournal.upi.edu/index.php/JARE/index>



Analyzing Public Perception and Preferences Regarding Vacant Shophouse Facade in Batam City

Devi Fevita ^{1*}, Jeanny Laurens Pinassang ²

¹ Universitas Internasional Batam, Indonesia

*Correspondence: devifevita@gmail.com

ABSTRACT

City's image plays an important role in sustainable economic growth, particularly in attracting investors and visitors. In Batam city, issues related to non-operational commercial spaces have become a significant concern, resulting in a negative impact on the city's image. The facade of these commercial spaces, as the primary visual elements, significantly influences first impressions and the overall city image. The study employed two survey techniques: a primary survey through field observation and analysis of non-operational commercial facades, and a secondary survey using a Google Form based questionnaire. The collected data encompasses public perceptions of vacant shophouses, their impact on the city's image, and preferences for shophouse facades. The applied analytical method was quantitative description analysis. Collected data were organized, processed, and analyzed to provide a comprehensive overview of patterns and trends in public perceptions and preference. This research aims to provide guidance for property developers, local governments, and other stakeholders in Batam city to restore commercial areas and create a more sustainable business environment. Other than guidance, this research also presents a visualization as a recommendation design that adheres to the guidelines identified in the study, which were applied to the commercial complex area of Batamas Puri Permasi.

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ARTICLE INFO

Article History:

Submitted/Received 1 Dec 2023

First Revised 26 December 2024

Accepted 11 March 2025

First Available online 1 April 2025

Publication Date 1 April 2025

Keyword:

city's image,
perception and preference,
facade,
shophouse

1. INTRODUCTION

A positive city image plays a pivotal role in sustainable economic growth. According to the Kamus Besar Bahasa Indonesia (KBBI), a city's image reflects an individual's perception of that city. In an economic context, a good city image is a contributing factor in attracting an influx of investors and visitors, potentially creating a thriving economic environment in Batam City. Located in the Riau Islands, Batam has experienced rapid economic growth over the past few decades. According to the data from Badan Pusat Statistik (BPS), Batam's economy surged by 6.84% in 2022 after the COVID-19 pandemic subsided. With its status as a free trade and port zone, Batam's economy flourished with a substantial amount of foreign investment and the industrial revolution, revamping the city to be known as the industrial city.

During the economic growth period, the trend involves converting empty land for the redevelopment of commercial and business entities, particularly in the form of shophouse buildings. Shophouses are a type of building constructed along the streets with various applications. However, the unrestricted construction along the streets resulted in the surge of vacant shophouses in Batam, particularly in the city center of Batam. The surge in the number of vacant and abandoned shophouses in Batam proves to be a negative factor for the city's image. The widespread presence of vacant shophouses jeopardized the security and aesthetics of the city. The facade of the shophouse serves as a visual representation of the building's function, influencing the first impressions of visitors and city residents. Abandoned shophouse facades tend to create an impression of an unkempt city. The phenomenon of abandoned and vacant shophouses gives individuals the impression of an underdeveloped and sluggish economy. This issue could adversely affect the strategic economic redevelopment plan by investing entities in certain parts of the city with the fear of backfiring in the development.

The concern of vacant shophouses is one of the many challenges that need to be addressed while reshaping the city's image. As a form of support to transform the image of Batam City into a modernized city, this research is conducted to trim down the number of vacant and abandoned shophouses in Batam City. The focal point of this research is to recognize and concede the public's perceptions and preferences on how shophouse facades could potentially attract interest in the usage of shophouses. In this context, a shophouse's facades encompass visuals and functional aspects that could impact a buyer's decision. With a deeper understanding of the buyer's standpoint. This research is expected to provide valuable guidance for property developers, local government, and other stakeholders in Batam city for planning the reuse of vacant shophouse. The product of this research could offer better insights to meet buyer requirements and build a sustainable business environment in Batam's city.

2. LITERATURE REVIEW

2.1. Building Facade as City Image

In the ever-changing dynamics of city development, through the practice of "city branding", strategic efforts are made to build a positive city image for a city. A good perception can create strong attractiveness, drawing interest in investments, tourism, and local business development. When a city exhibits an appealing city image, it can open broader opportunities for economic growth, attract new investors, boost the tourism sector, and encourage the growth of local business (Luthfi & Widyaningrat, 2018).

According to the Kamus Besar Bahasa Indonesia (KBBI), "image" refers to the picture held by individuals about something while "city" is defined as a residential area for various levels

of society to live in. Referring to KBBI definition, the city image can be interpreted as a picture formed by society about a residential area. The city image itself plays a role in shaping the city's identity. A clear and strong city image makes a city more interesting and attractive (Lynch, 1960). Based on Lynch's theory reinterpreted by Wally, identity is defined as a condition when someone can remember and recognize a place. This definition points to the perception that understanding a city's identity depends on a clear, readable, and understandable visual impression of the area's identity (Wally, 2015).

In terms of architecture, buildings play a significant role in shaping the visual identity of an area. According to the research by Prasetyo from Setiadi's study, a building facade is one of the most recognizable components of an area's identity. The facade is not just a physical element of a building but also a prominent expression in providing a rich first visual experience for observers (Prasetyo, 2018). In Lynch's theory, he emphasizes that understanding a city's identity relies on a clear, understandable, and memorable visual impression of the identity of an area (Lynch, 1960). With its distinctive characteristics, a building's facade not only reflects physical elements but also serves as a visual representation of an area's identity and culture (Khasbi & Susanti, 2022). Additionally, the facade can be used as a reference when asked about the location of a specific building (Pattileamonia, 2016).

2.2. Elements Forming Facade Characteristics

The facade is a crucial element in architecture that could express the function and meaning of a building. Every building encompasses facade elements that give the building architectural distinctiveness. Elements of the facade are vital aspects in the design planning, with proper design of the building's elements can ensure the aesthetic and functionality for the building. In Pattileamonia studies (Pattileamonia, 2016), Suparno identifies several facade elements that shape the building image:

1. Openings, such as windows, doors, and aesthetic opening elements.
2. Shapes, solid form on solid planes, or transparent shapes on void.
3. Material, the dominant usage of material such as glass, wood, etc. to make a distinct impression on the facade.
4. Finishing methods utilize finishing material with a more dominant texture to create a distinct impression compared to the painting method.
5. Color

Several researchers have researched public preferences regarding facades in different cases and focus. A study examining buildings and street scenery in New Zealand found that construction materials create an appealing aesthetic impression for pedestrian observers. Implementing monolithic construction materials such as concrete, plaster, and brick can create varied visual impressions on the facade (Gjerde & Vale, 2022). In a case study "Exploring Public Perception and Preferences Towards Building Facades along Ki Samuan Street Corridor in Tangerang City", building colors is one of the aspects that is easily distinguished by the public (Suri & Sugiri, 2015). Building colors play a vital role in society's perception of urban facades, thus rendering urban facade color scheme planning and design highly significant (Zabetian Targhi & Razi, 2022).

2.3. Perception and Preference in Design

According to Bently's theory, the visual appearance of an urban environment significantly impacts how people interpret a place. Bently emphasizes that the environment is only determined by the physical design but also influenced by individual perceptions and interpretations of the area. A precise understanding of the true meaning of an environment creates an appropriate visual quality. When the meanings support responsiveness, the place has a quality called visual appropriateness. Considering the diverse backgrounds of

individuals, interpretations of the environment also tend to be varied. Therefore, adjusting visual appearance according to the public preferences becomes crucial (Bently et al., 1985). The psychological process of perception precedes sensory perception, also known as sensory process, which is how a person takes in information through sense organs (Saleh, 2018). Wirawan perception as an individual's ability to organize their observations, including their ability to distinguish, classify, and focus. Therefore, a person may perceive an object differently even while they are staring at the same one. This is brought about by the differences in value systems and personality features (Sarwono, 2000).

Preferences are a tendency for respondents to choose something they like over others and are part of the factors influencing respondent's decisions (Nurrohimah & Sitti Fatimah, 2022). Perception is a physical process used by humans to obtain information about a specific environment (Saleh, 2018). Previous research on environmental preferences proves that preference is a practical, valid, reliable, and systematic approach to measuring people's preferences (Utaberta et al., 2016). Thus, we need to look at society's possible interpretations of relevant visual signals for each user group in order to build an aesthetically pleasing facade that uses signals that can be welcomed by different user groups and supports readability, variety, and resilience (Bently et al., 1985).

3. RESEARCH METHOD

The analysis of Batam city shophouse facade preferences and public opinion is the main goal of this study. This study's primary goal is to determine how the public views and prefers the shophouses facades in Batam city, particularly those that are not currently occupied. The goal of this study is to understand the viewpoints of people who have lived in Batam city for a long time or the community by applying a quantitative method with a random sampling methodology for respondents. The main object of this research is Batamas Puri Permasi shophouse that is facing the road.

Primary and secondary surveys were the two survey approaches that were employed to collect data for this investigation. Field observations were used in the main study to collect precise information about the condition of abandoned business houses in the center of Batam City. Assessing the unique characteristics of the existing shophouses of the architectural style, color, shape, opening size, and finishing technique was part of the facade study. Conversely, the secondary survey made use of a Google Form questionnaire. This technique was used to find out what the public thought about abandoned store buildings in Batam City and how they affected the city's reputation. It was also used to find out what the public thought about visually appealing shop facades. The secondary research aimed to find patterns in the public's evaluation of the building's appealing facade.

This study employed quantitative descriptive analysis as its analysis method. Descriptive involved in gathering data based on real situations. After that, the gathered data is sorted, handled, and examined to offer a thorough direction for designing Batam City shophouse facades.

4. RESEARCH FINDINGS AND RESULT

The results from the study "Analyzing Public Perception and Preferences Regarding Vacant Shophouse Facades in Batam City" are expected to provide valuable insight and preferences from various segments of the society. These data will help in grasping the desired directions of development by public opinion. It will facilitate better decision-making in the development and improvement of shophouse building facades that are not operational in

Batam City. Based on the collected data through questionnaires, it appears that the public perception on the increasing number of non-operational shophouses in Batam City in recent are around 32.2% reflecting 'Not Good', while approximately 46.6% of respondents indicated that they 'Often' spotted vacant or non-operational shophouses in Batam City. This strongly portrays the public's response to this issue. In addition, it reflects on how the building's facade has an impact on the public's perception of shophouses.

4.1. Perception of Non-Operational ShopHouses Facades

Shophouses are one of the buildings that is frequently visited by the population daily. The result from the questionnaire indicate that around 32,9% of respondents responded that they 'Frequently' interact or visit shophouses building, while 28,1% responded 'Neutral', 19,2% answered 'Very Frequently', 14,4% said 'Rarely' and only about 5,5% responded 'very Rarely' regarding the frequency of interaction with shophouse buildings.

The building facade is the frontispiece of a building, playing a vital role in defining the function and assessment of the building. According to survey results, majority of respondents agreed on the importance of a façade in evaluating a building, with about 56,2% responding 'Strongly Agree', while 36,3% answered 'Agree', and 7,5% were 'Neutral'. On the other hand, building facades are compelling with the city's image, with approximately 66,4% of respondents indicating 'Highly Important', 29,5% 'Important', and 4,1% 'Neutral' in their perception of the façade's influence on the city image. These findings depict that the public pays significant attention to the role of building facades in determining their assessment of both a building's aesthetic and the city's image overall.

Regarding the issue of the number of non-operational shophouses in Batam City, the public impression of non-operational shophouse facades varies considerably, as seen in the following photo of one of the non-operational shophouses in Batam City as reference for the question.



Picture 1. Batamas Puri Permasi Commercial Complex
(Research Document, 2023)

About 52.1% of respondents indicated 'Poorly Maintained', 25.3% felt 'Feels Empty and Desolate', 5.5% responded with 'Feel unsafe'. Additionally, responses from the participants regarding the impression of empty shophouses, such as suboptimal design appearance and lack of initiative by developers to maintain buildings were one of the contributing factors.

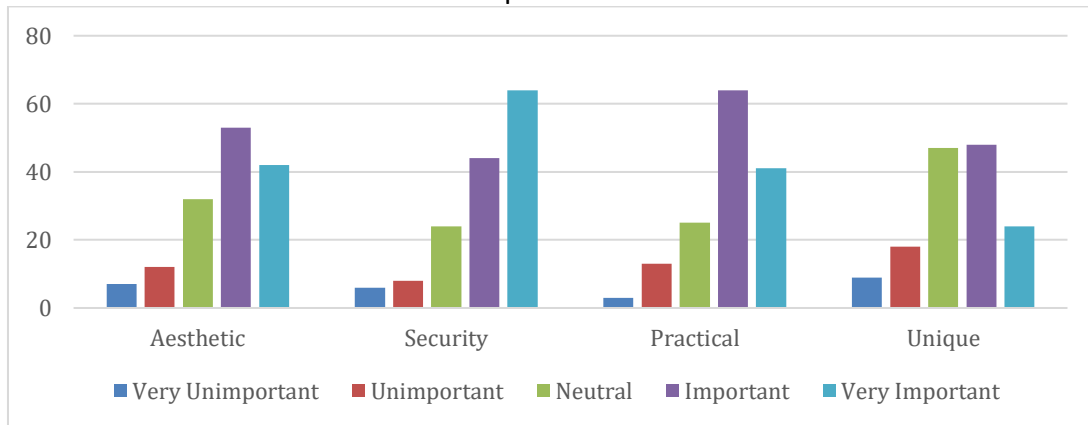
Non-operational shophouse facades have a significant impact on the shophouse and its surrounding environment. The questionnaire result showed that the population believes that non-operational shophouses affect the appeal of their surrounding buildings in that area.

59.6% of respondents answered ‘Highly affecting’, 32.2% responded with ‘Affecting’, 6.8% answered ‘Neutral’, and only 0.7% stated ‘Not Affecting’ or ‘Not Affecting at all’. Other than that, the non-operational shophouse facades create an impression of negligence and a sluggish economy in that area. Approximately 53.4% of respondents ‘Strongly agree’ that non-operational shophouse facades reflect negligence. 34.9% ‘Agreed’, 9.6% ‘Neutral’, and 2.1% ‘Disagreed’ with that statement.

4.2. Preferences Related to Attractive Shophouse Facade

The assessment of a building facade reflects the preferences of the community regarding the important elements expected to create an appealing exterior appearance. In the context of this study, researchers identified and evaluated the level of importance of four main factors in a building facade according to response. These factors consist of aesthetic, referring to visual and aesthetic aspects of the facade; security, which is related to the level of security provided by the building facade; practically, encompassing affordability and user-friendliness of the facade; and uniqueness, depicting the level of distinctiveness of the facade.

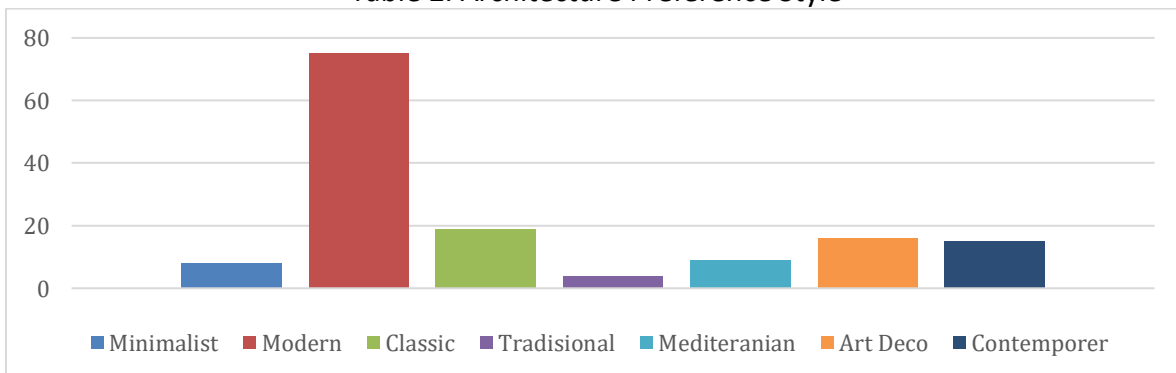
Table 1. Level of Importance of Facade Factors



(Research Document, 2023)

The research results indicate that aesthetics, security, practicality, and unique elements have varying levels of importance for respondents. Aesthetics and security are considered highly important factors by the majority of the respondents, while practically also garner a significant amount of attention. Although most respondents view the unique factors as important, some remain neutral about the importance of uniqueness in the shophouse facade. The following diagram illustrates the level of importance of building facade factors from the respondent’s perspective.

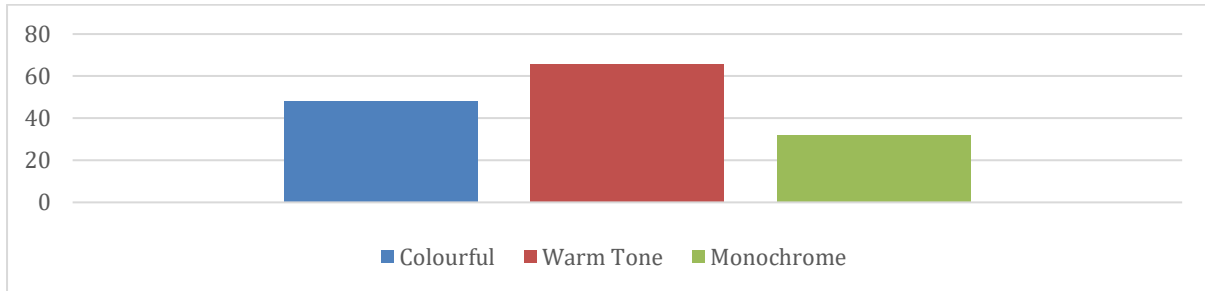
Table 2. Architecture Preference Style



(Research Document, 2023)

As depicted in the diagram, the dominant preference among the respondents for shophouse facade design is modern style, with 51.4% indicating the preference of this style. Other architectural styles had a lower preference but received some interest: classic style at 13%, art deco at 11%, contemporary at 10.3%, mediterranean at 6.2%, minimalist at 5.5%, and traditional at 2.7%.

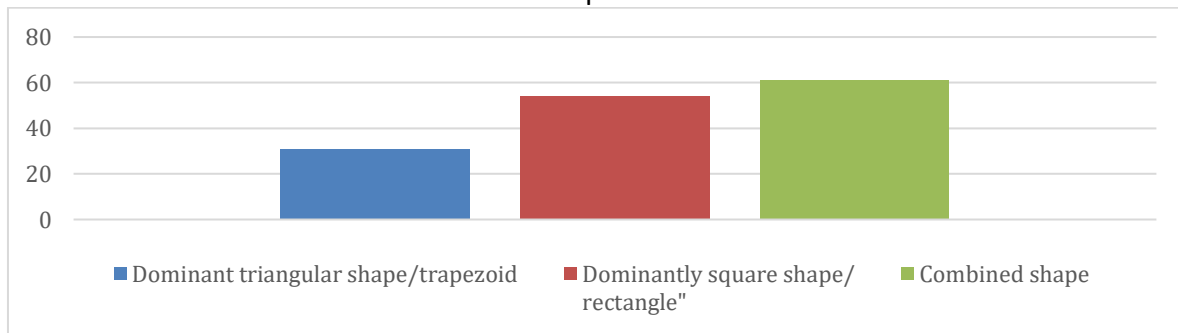
Table 3. Colors Preference



(Research Document, 2023)

In terms of color selection, the survey highlights a preference for warm toned colors, as indicated by 42.5% of respondents. This inclination towards warm hues suggests a desire for visually inviting and welcoming facades among the majority of those surveyed. As for the other, 32.9% of respondents showed a preference for colorful, while 21.9% lean towards monochrome as their preference.

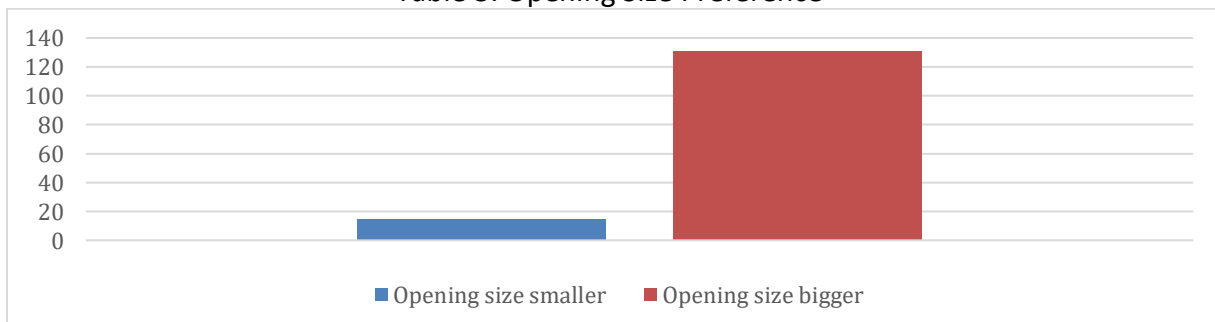
Table 4. Shape Preference



(Research Document, 2023)

The survey results indicate a distinct preference among respondents for specific facade shapes, with the combination of triangular and square shapes emerging as the most attractive option, garnering the highest preference at 41.8%. Examining the individual shapes, the dominant triangular/trapezoid shape accounted for around 21.2% of preference, while the dominants on square/rectangle shape around 37%.

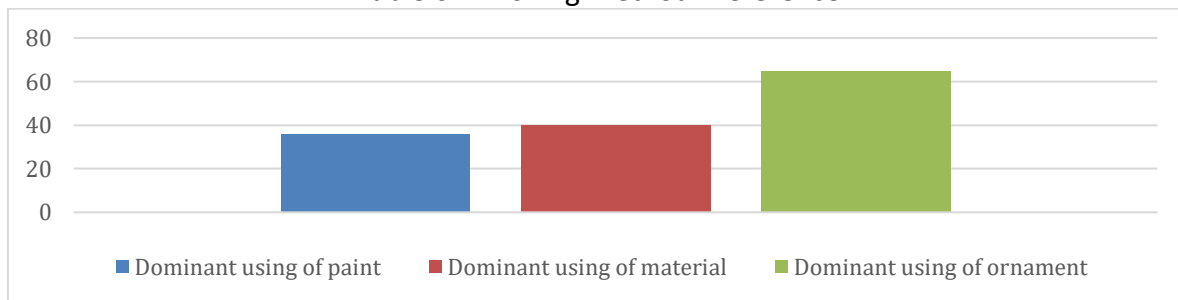
Table 5. Opening Size Preference



(Research Document, 2023)

The size of the facade opening emerged as a crucial aspect, with around 89.7% majority of respondents prefer larger openings rather than smaller openings with 10.3%. This inclination emphasized the community's desire for enhanced visibility and accessibility in shophouse design.

Table 6. Finishing Method Preference



(Research Document, 2023)

As for the finishing method, the survey shows that 45.1% of the respondents prefer usage of ornament with 46.1% over usage of material with 28.4% and paint over 25.5%.

In conclusion, the community's preference for the design of shophouse building facades becomes clearer. Modern architecture style dominates, with 51.4% of respondents indicating a preference for this style. In terms of color selection, 42.5% of respondents prefer warm-toned colors. The facade shapes, a combination of triangular/parallelogram and square/rectangle forms garnered favors over 41.8%. The size of the facade opening also plays an important role, with 89.7% of respondents favoring larger openings. Lastly, in the finishing method, approximately 45.1% of respondents lean towards methods involving the use of dominant ornaments in the facade.

4.3. Suggestions and Efforts for Vacant Shophouse Improvement Based on Public Perspective






An essay questionnaire is being utilized in this study to get public opinions and suggestions about visually appealing shophouse building facades. It also suggests actions that developers or owners can take to lower the number of vacant shophouses in Batam City. The results of the study indicate that the look of the facades has a significant role in creating an appealing and favorable perception of the city and its surroundings. To maintain contemporary design aesthetics, the shophouse facade must adjust to the changing times and consumer preferences, including current design trends. A straightforward architectural design makes upkeep easier, yet maintaining the quality of a structure requires regular care and beautiful color choices.

The public's response shows that efforts to reduce the number of abandoned shophouses in Batam to rehabilitate and sell them at a fair price are valued. It is believed that a few minor aesthetic adjustments to the shophouse front and an increase in surrounding activities will help to draw people to the neighborhood and revitalize it. It is advised that local government support and encourage business owners to occupy vacant shophouses. It's important to note that among the suggestions offered, some respondents emphasized the needs and nature of the neighborhood. Accessibility is a crucial factor to consider when attempting to draw human traffic to a specific area of interest.

4.4. Observation of Vacant Shophouse in Batam City

Shophouse buildings that have been abandoned might damage the city’s image. When developers or owners of shophouses fail to maintain these properties because they are unable to attract tenants or buyers, abandonment rates happen. Major costs involved in renovating a historic house include fixing the exterior, upgrading interior systems, and fixing the structure. Ignoring maintenance will increase the expense of renovation and refurbishment in the future. With careful attention, renovation costs can be lowered, giving unsold houses some leeway in negotiations over price. In other words, investing in preventative maintenance now can save larger losses later. The parts of Batam City’s downtown that are devoid of shophouses are displayed below; they were evaluated using the components that are supposed to have a facade.

Table 7. Analysis of Non-Operating Shophouse Building Facades

Complex Name	Picture	Architectural Style	Color	Shape	Opening Size	Finishing Method
Batamas Puri Permasi Commercial Complex		Modern	Warm Tone	Square Shape Dominant	Big	Paint
Orchid Park Bussiness Centre Commercial Complex		Modern	Colourful	Square Shape Dominant	Big	Material
Lucky Permai Commercial Complex		Minimalist	Warm Tone	Square Shape Dominant	Big	Paint
Sinar Penuin Commercial Complex		Minimalist	Colourful	Square Shape Dominant	Small	Paint
Grand Orchid Commercial Complex		Modern	Warm Tone	Square Shape Dominant	Big	Material

(Research Document, 2023)

Based on the analysis results from the table above, it appears that these shophouses have elements that don’t align with the public’s preferences for facade design. This research focuses on the Batamas Puri Permasi shophouse commercial complex located in Pasir Putih, Batam City. Through field observations, it was found that out of a total of 90 shophouse units facing the road, about 52 units are in operational and well-maintained condition, while the remaining 38 units showed signs of damage such as broken glass, absence of doors, fading colors, and others miscellaneous.



Picture 2. Well Maintained Batamas Puri Permasi Shophouse
(Research Document, 2023)



Picture 3. Unmaintained Batamas Puri Permasi Shophouse
(Research Document, 2023)

The high number of non-operational units compared to the other commercial areas downtown caused the Batamas Puri Permasi complex to be the primary focus of this study. Analysis of the facades characteristic elements revealed that this complex only meets about 3/5 of the preferred facade design from public preferences.

4.5. Design Visualization Based on Public Preferences for Facades

There is a trend in the data gathered on public preferences for facade elements that indicates the community's top priority when choosing a shophouse building's preferred facade design. The factors that draw the public's attention when assessing a building facade are explained below:

1. Architectural style: with the current emphasis on modernization in this era, the trending architecture style is modern architecture. According to Prasetyo's interpretation from

Kamus Besar Bahasa Indonesia (KBBI), modern architecture is defined as the art and science of designing and construction that embraces new technologies. According to Tandajaj in Prasetyo's study, the distinctive characteristics of modern architecture include uniformity, functionality, simple building forms typically based on squares, emphasis on construction structures, use of a factory-made building material, exteriors appearance with vertical and horizontal lines, and application of open plan concepts (Prasetyo, 2015). Although modern architecture dominates, research also shows that other architectural styles are garnering attention as well, such as classical, art deco, and contemporary. These styles can be considered alongside modern architecture or even combined to create a unique blend, like modern classical.

2. Colors: warm tones are the most popular hues for facades. According to psychology, colors have a big impact on how people feel and perceive things. Warm hues include undertones of yellow, olive, and gold. Apart from that, earth tones like peach, orange, and brown, as well as other subdued warm tones, are associated with warm tone colors (Putri & Darmayanti, 2023). In addition to people's inclination for warm tones, vibrant colors draw more attention from the public than monochrome ones.
3. Shape: the public is interested in a combination of facade shapes involving triangles/parallelograms and rectangle/squares. This indicates a preference for facades with their own uniqueness. However, even though combination shapes have the highest percentage, squares/rectangles also attract public attention.
4. Opening size: opening allows light to enter and provides views from inside the building outwards (Candra, 2020). Large sized openings currently attract public attention.
5. Finishing method: one dominant finishing method for building facades according to public preference is the use of ornaments. Ornaments primarily serve as an enhancement to facade appearance, as they are evolving ornaments that can function beyond aesthetics. However, although ornaments have the highest percentage, public attention is also drawn to materials and paint as a finishing method.

In the effort to create a building that aligns with the tastes and desires of the public, understanding design visualization has become crucial. Here's an overview of the design visualization that reflects that community's desire for the facade of shophouse building applied to the Batamas Puri Permasi commercial complex.



Picture 4. Site Plan
(Research Document, 2023)



Picture 5. Front View After Design
(Research Document, 2023)



Picture 6. Side View After Design
(Research Document, 2023)

The design outcome follows the trend preference of the public based on the survey result. The shophouse design adopts a modern architecture style characterized by simplicity, a rectangular shape, clean lines, and minimal ornamentation. The facade of the shophouse is primarily rectangular, but there's an addition of a large inverted triangular ornament. The design incorporates large windows and doors, ensuring maximum visibility and accessibility for shophouse owners. The color scheme involves white paint with brown-colored ornaments, creating a warm tone that contributes to making a clean and bright appearance in the commercial area. The finishing method for the facades includes a prominent inverted triangular ornament that can also function as secondary skin, featuring both straight and curved lines.

5. CONCLUSION

The aim of this research is to gain more insight into the public's opinion of the city's buildings to respond to, acknowledge, and actively engage in Batam's development as a modern metropolis. The primary concern is Batam city's high concentration of abandoned shophouses, which draw undesirable attention from the public because facades are crucial to a building's evaluation and shape public opinion of the city. A vacant building facade usually conveys a feeling of negligence and inactivity, adversely affecting the surrounding environment as well.

In Batam City, abandoned shophouses is a problem that are addressed based on the population's impressions and opinions. These include altering the structures and reducing the selling prices. Initiatives for improvements as well as new advancements may have a small hint for aesthetics. When designing or renovating a shophouse, modern architecture, warm colors, unique facade designs, large openings, and decoration using ornaments in the finishing process ought to be considered. It is hoped that this research will assist developers and property owners of shophouse buildings with property modifications and the reduction of non-operational shophouses, thus creating a more dynamic environment, all of which would support Batam City's goal of establishing a rapidly developing urban environment.

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