The Role of Artificial Lighting in the Commercial Heritage Buildings: Restaurant

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Abstract. The facade of the building is the first thing that is visible to potential visitors. In case of restaurants, the facade of the building will give an impression of service, quality, and atmosphere of the restaurant in it so that a restaurant needs something that could represent the concept of the restaurant to be displayed [1]. Restaurants that use heritage buildings as their trading places can be very commercially unique. Generally, they already have concepts that are related to culture and creativity [2]. However, the regulations regarding the adaptation of building functions will still apply to them. For example, the prohibitions in changing the physical structure of buildings which affect the applications of the facade lighting designs, so that artificial lighting in commercial heritage buildings requires special treatment as it must follow the preservation rules. This study aims to analyze the principles and techniques of lighting in restaurant facades of heritage buildings which also accommodate the commercial facade elements. This is a qualitative study based on the survey and interviews with the potential customers. This study uses Café Batavia in Kota Tua area and Tugu Kunstkring Paleis located in Menteng as case studies.

1. Introduction

To create a successful restaurant business, a restaurant needs a concept. The concept is very important to target which market and give an image of the restaurant. A concept consists quality, food, service, menu, location, price, management, and atmosphere [3]. A way to deliver those values to the consumer of the restaurant is called branding. Branding is a variety of communication activities carried out by a company with the aim of building and making a brand to be recognized by the public [4]. Branding also means everything related to tangible or visible things from a brand; starting from trade names, logos, visual features, images, credibility, character, until impressions, perceptions, and assumptions that exist in the consumers’ minds [5]. Architectural design is a significant component in the creation of a strong brand as it sets the stage for the dining experience [6].

A component of the branding that can be created by a restaurant through architecture is the image of a restaurant through building facades. Building facades are the first things that are visible to potential visitors so that a restaurant needs a 'differentiator' that contrasts its buildings to other buildings so that it attracts the attention of the prospective visitors. Facades are also very instrumental in determining the perceptions of visitors to the restaurant so that the restaurant needs something that is very representative of the restaurant concept that they want to display. The question is: what about restaurants that use cultural heritage buildings? Listed buildings limit the restaurant’s rights to the architectural changes of the building. A restaurant that uses listed building can be commercially unique and have important role because the building itself has historical, science, education, religion, and /or cultural value through a process of preservation.
1.1. Lighting for Commercial Heritage Buildings

However, despite the limitations as mentioned above, in order to support the restaurant’s operation and concept through day and night, facades should be illuminated. The lighting concept must have the character to effectively support the overall identity of the brand [7]. Subtle external lighting, when designed with caution and sensitivity, can bring life and additional space to landmarks. This is an extension for architecture, enhancing the quality of views and perfecting the shape of the structure, color and shape of the building. Lighting can also add dynamics to facades such as ‘spirit’ to a place and can be compared to ‘painting with light’ [8].

In the principle of lighting facade of cultural heritage buildings, a good lighting design ideally highlights the features of structure, roof scape, surface texture [7] and decorations/sculpture such as pediments, columns, porticos or niches [9]. Meanwhile, to set a certain ‘mood’ in lighting, there are several aspects to those matters. There are (1) surrounding brightness, (2) color, (3) contrast [10], (4) color rendering, and (5) temperature [8]. These aspects can enhance performance of the façade at night to promote the mood when the façade exposing the beauty of its architectural elements. The mood effect of lighting can also build certain perceptions of the consumers towards the restaurants. Therefore, lighting has a role to communicate various concepts of the restaurant, romantic, fun, etc. without changing any existed elements of the façade.

Signage is an additional element in commercial cultural heritage buildings to communicate restaurant identity. Signage, in general is logos on canopies, signboards, and highlighting display windows. Text signage attached to building facades is usually spotlight. Backlit or spotlight techniques are usually used on signboards. However, the use of sign boxes with lighting from within is not recommended because it is not in harmony with the image of a historic building and considered as less respecting the building value [11].

1.2. Consumer’s Perception

Light becomes the emotional driver when the perceiver understands and interprets the lit environment. Light as a stimulus can guide, direct, excite, inform, and communicate with us. On the other hand, using light to create emotional states involves the manipulation of light through techniques. Light is manipulated in an attempt to affect the perceiver’s mood. Light can create and increase visual satisfaction within a given environment through changes in its color, brightness, contrast and intensity. As an example, low light levels and uneven distribution of light can be used to create an intimate atmosphere. Bright levels of light and even lighting conditions attract attention and create a feeling of space [12]. Meanwhile the ambiance of a restaurant works simultaneously with the quality of service and the quality of food [11]. This can be achieved when a consumer makes a perception towards a façade, he/she simultaneously has an image of the interior ambiance, as well as the service and other attributes of the restaurant.

So it can be summarized that lighting has three general roles in lighting up the facades of commercial buildings: architectural, emotional and promotional [9] role. Something is called architectural lighting when it has a function to emphasize the building features and help humans carry out their activities (task lighting). Emotionally, lighting can affect human emotions through tone, brightness, contrast and temperature. While on a promotional basis, lighting can “advertise” a building by illuminating signage that contains the company’s identity. This promotional lighting can affect the perception of potential consumers of the company and restaurant quality. In heritage buildings, the three lighting roles must follow the building’s facade first and enhancing the beauty of the facade and its elements.

2. Methods

The methods used in this writing are theoretical studies and observations in the field. To see the tangible factors of facade lighting, the author will observe the lamps layout and the technique of illumination used in building facades. Whereas to measure the visual perception of prospective visitors, the author will conduct a survey of visitors who are outside the building and provide a questionnaire about visual perception and consumers' personal perceptions as well as their expectations towards restaurants.

There are two buildings that will be the object of this study, Tugu Kunstkring Paleis located in Menteng, and Cafe Batavia located in Kota Tua. Both are located in Jakarta and are listed as heritage buildings (Figure 1). Tugu Kunstkring has "art, soul, romance" as their concept meanwhile Cafe Batavia has "late-night, nostalgic, and authentic". Each building has its own characteristics based on its architectural style (Table 1).
Table 1. Studied buildings and their facade characteristics

| Studied Buildings            | Façade Characteristics                                                                                                                                 |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tugu Kunstkring Paleis      | The initial function of this building was art center and exhibition space. This building has neoclassical, art deco and a bit of art nouveau style. It can be seen from the symmetric façade and rhythmic elements [13]. The façade has several architectural elements such as arc-canopy, pilasters, glazed doors and windows, and ornaments like balcony, fabric canopy, and yellow small tiles on the wall. |
| Café Batavia                | The initial function of this building in 1993 was a restaurant. This building is an art-deco style building with large openings all around its façade, rhythmic windows frame, and minimalist geometric shape [14]. |

3. Results and Discussions

3.1. Surrounding Brightness

The facade of Tugu Kunstkring Paleis building at night had a lack of contrast with its environment due to the large trees growing that are almost covering the view from the outside to the facade. Although the facade of the building did not look intact, the lights from the facade and the yard were still visible from the road because the yellow color bursts between the trees. This is also caused by significant difference of temperature between the façade’s light (2,300 K-warm) and the road’s light (5,800 K-white). The advantages of this fact is that the restaurant may look "mysterious" somewhat, yet creating "romantic and intimate" perception because the facade is rather hidden from the road and it has a warm hint from the view. Meanwhile, Café Batavia building can be easily recognized due to its contrast effect with the surrounding environment at night as it is located in Taman Fatahillah, an open space surrounded by other historical buildings. This contrast can be seen from the temperature difference between the restaurant and the building or the plaza lights around it. The plaza’s light ranges from 5,400 K to neutral, and the restaurant’s temperature ranges from 2,700 K or warm. This contrast is also caused by transparent glass material that build 70% of the facade which exposes the brightness of the interior lights to the outside. This contrast effect helps consumer to easily recognize the existence of the restaurant meanwhile Tugu Kunstkring has less exposed facade in its surrounding environment.

3.2. Illuminated Architectural Features

Tugu Kunstkring has their arc canopy and pilasters as the emphasis of the whole facade. This is caused by the technique that uses two wall lamps: uplight and downlight. Other than emphasizing, this lighting also has a functional purpose. First, the uplight will help visitors to find the location of the main entrance,
while the downlight illuminates the floor as a task lighting for visitors to walk and step the stairs. Cafe Batavia has a signage element in canopy form. This green canopy has their logo printed on the canopy which is illuminated at night but once it’s illuminated, the canopy will just remain a silhouette with a bright white logo on it. The lighting technique uses direct spotlight to the logo, so that the focus on signage is only focused on the logo. 20 of 30 people said that the first thing they recognized is the logo of the restaurant. This trick really helps passers-by to get the name of the restaurant easily.

3.3. Consumer Perception

Based on the survey, consumers who look towards Tugu Kunstkring said the restaurant looks expensive, has high-quality service with cozy and warm ambiance. Meanwhile the consumers who look towards Cafe Batavia catch a perception of a night-life and nostalgic feelings. The complete attributes comparison (Table 2).

| No. | Attributes          | Restaurant Tugu Kunstkring Paleis | Restaurant Cafe Batavia |
|-----|---------------------|-----------------------------------|--------------------------|
| 1   | Architectural       | Yes                               | Yes                      |
| 2   | Promotional         | No                                | Yes                      |
| 3   | Emotional           | Yes                               | Yes                      |
| 7   | Daytime             | Arc canopy                        | Window frame             |
| 8   | Night               | Arc canopy                        | Cafe Batavia logo        |
| 9   | Food quality        | Fine                              | Fine                     |
| 10  | Service quality     | Excellent                         | Excellent                |
| 11  | Environment         | Easy access, parking lot, popular environment. | Easy access, parking lot, popular environment. |
| 12  | Ambience            | Jazz live music. Interior style has antique furniture and decorations. | Jazz live music. |
| 13  | Daytime             | 17%                               | 20%                      |
| 14  | Night               | 83%                               | 80%                      |

*Based on the field survey between March-April 2019

Based on the survey above, both restaurants have their respective concern about facade lighting. Tugu Kunstkring with neo-classical and art deco style building tends to set subtle lighting to their facade because they already have numerous architectural elements than Cafe Batavia. The subtle lighting makes the architecture elements more stand out than their identity as a restaurant. This drives the consumers’ perception into romantic and classy perception. Unfortunately, this kind of perception towards the building is created without knowing what kind of activity is happening behind the facade, which is good for the heritage building imaging. Meanwhile Cafe Batavia facade consists of large openings that expose interior of the restaurant. They use this as a trick to expose their activity outwards so the consumers’ will assume that this restaurant is more alive at night.
4. Conclusion
Apart from being functional, artificial lighting on facades provides an overview of the atmosphere that lead prospective customers to get in. The arrangement of light in the facade has advantages over sunlight because restaurants can manipulate the perceptions of prospective customers through the arrangement of light on the facade of the building. The use of glazing and interior lighting is also one of the tricks to display the restaurant interior [15], so that prospective customers can connect and put perceptions on service, atmosphere, and the quality of the food offered from the outside.

Technically, the lamp position must not damage the physical and view of the building as a main consideration in installing the lighting in heritage building[8]. Based on the survey of the building facade of Tugu Kunstkring Paleis and Café Batavia, lights on the facade of the building has not changed from the previous design so that the image of the present facade may not differ much from the image of the facade before it became a restaurant. In Tugu Kunstkring facade, the lamp fixture seen in the facade is part of a decorative element while the lamps in Café Batavia which are mostly floodlights, the lamp body is hidden in a recess between the walls. At Café Batavia, the affirmation of the logo is created through a floodlight whose pole is also obscured when viewed from the front. Lighting on commercial facade elements must respect the overall façade [16].

From the results of studies and literature, it can be concluded that the role of lighting in architectural aspects is that it should highlight the facade features of buildings that looked flat during the day. This function is to beautify the building and its environment at night. This architectural lighting could also help humans to map building facades included the entrance, stairs, windows, etc. Interior lighting also played a role in shaping the perception of prospective customers such as how the atmosphere of the restaurant is and whether the restaurant is crowded.

Emotionally, humans could feel emotions when looking at building facades with a certain tone, brightness, contrast and temperature because psychologically, color play can affect one's mood. This could be used by restaurants to make an 'image' of it. Café Batavia, for example, which used yellow lights. Other than creating contrast with the environment, this color also created a warm feeling so that consumers felt more welcomed and cozy.

Promotionally, lighting could help illuminate signage on the building's facade. Signage could be in the form of signboards, display windows and additional awnings such as in Café Batavia case. Signage illumination was very helpful for consumers to recognize and distinguish the restaurant building from other buildings. Signage lighting between neon and subtle colors would also create different impressions. Subtle color lighting would create a calm, serious and classy impression. Those kinds of color were also commonly found in heritage building facades as they mostly did not overpower the facade features. After all, restaurant and heritage buildings have variety styles of architecture and images that must to be maintained so those aspects will determine the lighting design and technique.

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