

Imageability of a Historic Street and Its Influence on People Preference

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ABSTRACT

The local community's opinions play an essential role in conserving a historic area, such as historic streets because the existence of a historic street depends on the appreciation of the local community. People's preferences will provide valuable consideration in conserving the heritage area. Therefore, this study meant to explore the dimensions underlying imageability of a historic street and its influence on people's preferences. The study applied a survey method using a questionnaire with a Likert Scale technique. One hundred and ten respondents participated in the research. This study applied statistical analysis, such as descriptive statistics, factor analysis, and multiple regression analysis. Results indicated, three dimensions are underlying a historic street image, i.e., Sense of Place, Attractiveness, and Place Identity. Multiple regression analysis results show that the three aspects have a significant influence on people's preferences. Among the three factors, the most influencing factor on people's preference is the Attractiveness dimension, followed by Sense of Place and then Place Identity.

Keywords: *Historic street, people preference, imageability, Malang-Indonesia*

1. INTRODUCTION

A heritage area is one part of the city that contributes to the urban quality of life because it is crucial for the sustainability of the community's culture. Unfortunately, many historic areas lost their existence and were destroyed and replaced by new and more modern functions to accommodate the present needs. One significant way to overcome this is to pay attention to the local people's opinions because the existence of a historic area depends on the community's appreciation. Knowing the people's views and preferences will provide valuable input in conserving the heritage area.

A literature study conducted by Ewing & Handy [1] found 51 perceptual qualities of the urban environment. Of those 51 perceptual qualities, eight design qualities are essential in urban design, namely Imageability, Enclosure, Human Scale, Transparency, Complexity, Coherence, Legibility, and Linkage (Ewing [2]; Ewing & Handy [1]). Of the eight design qualities mentioned, imageability is considered as having the most crucial role in urban design. However, the seven other attributes of urban design discussed above influence the imageability quality. Sometimes even imageability becomes an impact of those design qualities. Typically, highly rated places on the seven design qualities are also highly rated for their imageability (Ewing [2]).

A critical concept of urban design qualities in the historic area is its image. According to the Oxford Living Dictionary [3], the image is defined as a representation of a thing or person's external form in art. It is also described as the general impression that a person, organization, or product presents to the public. In the context of a street, a

historic street with a high-quality of imageability provides a good image for the people experiencing it. The place that has the quality of imageability has the characteristics of recognizable, distinct, and memorable (Ewing [2]; Ernawati et al. [4]). Furthermore, previous studies show a place that has particular physical elements and its organization evokes a certain feeling, attracts attention, and creates a deep impression becomes a place with a high imageability quality (Ewing [2]; Ernawati et al. [4]). However, an imageable street is formed not only by a single element but rather by a combination of various features.

According to Lynch [5], in an imageable city or place, people can quickly identify and group elements of the area to form a clear pattern. People can recognize the various aspects of the sites directly when they visit the site. When all factors are well managed, it will make sense that the place as a whole is a pleasant place (Ewing & Clamete [6]). The visual characteristics of an imageable area will, in turn, attract people to enter the space and stay in it. Gehl [7] [8] mentioned the squares in cities in Italy, where life in an area and architectural quality support the formation of an unforgettable impression.

Imageability can be measured objectively or subjectively. Measurement is carried out objectively by measuring the physical environment's quality in association with some design criteria in shaping the image of a place. In contrast, subjective measurement uses the user's perception. The user's perception of the physical environment is a central issue in classic works in the urban design realm (Badawi & Farag [9]). Although opinions are individual, perceptions of the place can be obtained based on the level

of objectivity of a particular physical environment of the area (Ewing & Handy [1]).

Furthermore, Ewing & Handy [1] revealed that the characteristics of the individual environment might not tell us much about user experience in the street. It is the perceptions that have a complicated relationship with the place's characteristics. Therefore, imageability in this study was assessed through community's perceptions.

According to Lynch [5], streets are the city elements that strongly influence the formation of an image of a city. From this street, people can enjoy other parts of the city. A pleasant street is an imageable street, which can represent the character of the place or even represent the character of the town as a whole (Jacobs [10], Jacobs [11]). Therefore, the case study site in this study chose within the scope of the historic street.

An image of a place can be a negative image or a positive image. Unfavorable environmental conditions can form the image of an area. Some sites are rated as low quality in urban design but have a sharp image. However, urban designers focus on the strength of a positive image when discussing imageability. Therefore, it is necessary to examine the dimensions underlying the imageability of a place, in this case, a historic street.

People's preference is also an essential key in environmental design (Ernawati et al. [4]). Preference is simply something that is liked. In the context of this study, preference refers to a tendency to choose the quality of an imageability of a place to be enjoyed, both passively and actively, for activities in that place. Although the studies of urban environment preferences still mix between physical environmental attributes and the urban perceptual quality (Ernawati et al. [4]), this study emphasizes people's choice for environmental perceptual quality, especially for walking in a historic street. The literature studies highlight the importance of the perceptual quality of a place in urban design (Ernawati [12]; Ernawati et al. [4]; Ewing [2]; Ewing et al. [13]).

Therefore, it is necessary to explore the dimensions underlying imageability and their relations to people's preferences for walking on a historic street.

2. METHODS

This study of the imageability of a historic street in community perceptions and its influence on people's preferences employed a quantitative approach. This research applied a survey method using a questionnaire to collect the data from the participants.

The survey conducts on-site visits to avoid bias in evaluating perceptual aspects of imageability. Respondents were selected when they were in the study area. However, considering the length of the street, to recall people's memory about each section of the street, the questionnaire was equipped with stimuli consisting of eight photos of the place, with two pictures for each part of the road and two prominent landmarks photos in the area.

2.1. The Case Study Site

Basuki Rahmat Street, known as Kayutangan Street, as the case study site, is one of the main historic commercial streets in the town of Malang, East Java, Indonesia. Its location is in the town center. Business activities and buildings such as retails stores and shops dominate the street. This area has developed as a commercial neighborhood since the Dutch colonial era.



Figure 1 Case Study Site: Kayutangan Street

2.2. Population and Samples

Pedestrians on Kayutangan street were chosen randomly to participate in the survey. Following the procedure of Ernawati and Moore [14], but with a little modification, the researchers went to Kayutangan Street at a variety of random times, and the five persons met were chosen as respondents. One hundred and ten respondents participated in the research, and the analysis of this study uses all of the data collected from the respondents.

2.3. Instrument and Variables

The primary tool used in this research is a self-administered questionnaire, which consists of three parts. The first section of the questionnaire means recording respondents' socio-demographic data (such as gender, ethnicity, length of stay in Malang). The second part of the questionnaire means to explore people's perception of the image of Kayutangan historic street. Meanwhile, the third part of the questionnaire means to identify people's preference for the historic street. The historic street image evaluated in this study uses ten variables from the previous researches of Ernawati & Moore [14], Ewing et al. [13], Ewing & Clemente [6], Purciel & Marrone [15], i.e., (1) pleasantness, (2) clarity, (3) impressiveness, (4) remembrance of the past, (5) unforgettable memory, (6) uniqueness, (7) attractiveness, (8) distinctiveness, (9) recognizable quality, and (10) memorableness. The researcher photographed the street's physical environment indicating the characteristics of the Kayutangan historic street to recall the people's memory about the historic street's appearance. Eight pictures then included in the questionnaire as stimuli to help respondents in evaluating the image quality of the historic street.



Figure 2 Stimuli of the appearance of Kayutangan historic street

This study used a five-point Likert Scale ranging from strongly disagree (value=1) to strongly agree (value=5) to measure people's perceptions of the historic street's imageability. Meanwhile, to measure people's preference of the historic street, the study employed seven-point multiple rating scales ranging from "least preferred" (value=1) to "most preferred" (value=7).

2.4. Methods of Analysis

Descriptive statistics were employed to identify the respondents' socio-demographic data and people's preferences on the imageability quality of the historic street. In determining dimensions underlying the image of the historic street, this study applied factor analysis. This study conducted further analysis to reveal the influence of underlying factors of the historic street's imageability quality on people's preference for the place. For this purpose, this research employed multiple simple regression analysis. In conducting the regression analysis, variables of imageability of the historic street were treated as independent variables while people's preference as the dependent variable. All of the data analyses conducted using SPSS software.

3. RESULTS AND DISCUSSIONS

This study's respondents consisted of 60.91% male and 39.09% female, with the majority (90%) aged below 35 years old, and 81.82% of them are Javanese. Most of the respondents (63.64%) have been living in Malang for more than 15 years, and most of them (76.36%) is in the range of middle-low socioeconomic conditions. The situations show the community that participated in this study is relatively homogenous and has been quite familiar with each part of the city, including the case study site, the Kayutangan street.

This study applied Principal Component Analysis with Varimax rotation to ten variables of the historic street imageability. This analysis means to explore the factors that underlie the community's perceptions of the imageability of the historic street. Table 1 shows the results of the factor analysis of those variables.

Table 1 Result of principal component Analysis

Variables	Component		
	1	2	3
Impressiveness	.769		
Remembrance of the Past	.754		
Unforgettable Memory	.691		
Uniqueness	.594		
Clarity		.764	
Attractiveness		.731	
Pleasantness		.502	
Distinctiveness			.797
Recognizableness			.779
Memorableness			.658
Extraction Method: Principal Component Analysis; Rotation Method: Varimax with Kaiser Normalization; Rotation converged in 6 iterations.			

As seen in Table 1, there are three significant dimensions underlying people's perception of the historic street's imageability. The first factor consists of the variables: impressiveness, remembrance of the past, unforgettable memory, and uniqueness. All of these variables relate to the sense of place quality. The factor can, therefore, be named as Sense of Place. The second factor consists of the variables: clarity, attractiveness, and pleasantness. This factor is related to the attractiveness quality of the environment and is named Attractiveness. The third factor consists of the variables: distinctiveness, recognizable

quality, and memorableness. This third dimension shows the characteristic that this area is different from other places and therefore refers to Place Identity. The reliability test for assessing the internal consistency of the three factors yielded a Cronbach's alpha of .81 for Sense of Place (four items), .87 for Attractiveness (three items), and .82 for Place Identity (three items), indicating that all three factors were internally consistent.

These research findings are in line with the previous studies, which found that Sense of Place is related closely to imageability quality. A sense of place is a concept that includes a reasonably broad understanding, depending on the scientific point of view. In the context of this study, the sense of place is more viewed from the perspective of urban design, which describes the relationship between a person and a place. This concept also refers to how we see the site. A sense of place can occur due to the complete sensing of an environment that makes a person have an attachment to the area [17]. Gehl [7] [8] explains that life in a public space and the quality of architecture will complement each other to form or create an unforgettable impression. Thus, the feeling of a place as an unforgettable memory, and the area's impression and uniqueness form the sense of place.

Attractiveness is considered one of the underlying dimensions of Imageability. This scale consists of the qualities of clarity, attractiveness, and pleasantness. The Attractiveness dimension is somehow in line with the findings of Ernawati & Moore's [14] study, which mentioned that pleasant and attractive are the perceptual qualities of a historic area that shapes the attractiveness of the place to users. Meanwhile, the clarity, which refers to legibility, is the level of the street elements clarity felt by the user. This notion relates to visibility, which is the visual quality that users can understand by studying mental images as a result of memory attached to it [5]. The quality of the site's clarity, which makes it easy for users in environmental orientation, causes the attractiveness of a place that determines imageability [16]. Clarity of the layout of the area that makes each part of the elements of the street can be easily identified and intertwined in a precise pattern provides an Attraction for users in their activities in that place. Thus, a street that has the quality of clarity, attractive and pleasant, will offer a high level of Attractiveness for users that affect the quality of the place's imageability.

One other factor of the place's imageability is Place Identity, which is the historic street's identity in this study.

This research finding is in line with the results of previous studies (e.g., Ewing & Handy [1], Evans et al. [18]). In their research, Ewing & Handy [1] found that imageable areas consist of different parts, and are easily recognized instantly for anyone who visits the place or lives there. Thus, the imageable area provides an opportunity for someone to remember the area's visual quality easily. One crucial component forming the identity of a place that affects the formation of imageability is a landmark. Buildings that have distinctiveness qualities are one of the most common types of landmarks. In historic areas, the landmarks are displayed by historic buildings that have distinctiveness quality because of the uniqueness of their architectural styles. This study's finding supports the notion that Ewing & Handy [1] said that imageability is the quality of an area that makes it distinct, recognizable, and memorable. The three variables in this study are grouped in one dimension, namely Place Identity. A place with an identity, that is, has a specific physical element (different from other sites), usually has a high-quality imageability. The distinctiveness quality possessed by the historic street causes the area to have an identity, which is easily remembered by users. The quality of distinctiveness of a place makes the place easy to recognize, which in turn will invite people's attention, and consequently, the area becomes easy to remember.

Further research findings show that the three factors of people's perceptions of the historic street's imageability explain 62.8% of society's variance. This situation means that 62.8% of the population has the same evaluation of the historic street's imageability, determined by those three factors, i.e., Sense of Place, Attractiveness, and Place Identity.

In revealing the influence factors of the historic street's imageability on people's preference of the place, the study applied multiple simple regressions analysis. In the regression analysis, the three underlying dimensions of the historic street imageability (i.e., Sense of Place, Attractiveness, and Place Identity) were treated as independent variables, and people's preference was treated as the dependent variable. The regression analysis based on factors scores of the three dimensions of the historic street's image can reveal the factors that influence people's preferences for walking on the street. Table 2 and Table 3 show the results of the analysis.

Table 2 Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	,543 ^a	,295	,275	,75113	,057	8,593	1	106	,004	1,720

a. Predictors: (Constant), Sense of Place, Attractiveness, Place Identity
 b. Dependent Variable: People Preference

Table 3 ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	25,067	3	8,356	14,810	,000 ^b
	Residual	59,805	106	,564		
	Total	84,873	109			
a. Dependent Variable: People Preference b. Predictors: (Constant), Sense of Place, Attractiveness, Place Identity						

Results indicated that all three factors (Sense of Place, Attractiveness, and Place Identity) significantly influence people's preference ($p < 0.01$). However, among the three dimensions, Attractiveness affects people's likability the most, followed by Sense of Place and then Place Identity. The research findings are in line with previous studies (e.g., Ernawati [12], Ernawati and Moore [14], Ernawati et al. [16], Ernawati et al. [4], Ewing [2], Ewing & Handy [1]). Previous studies show that the image of a place is an essential aspect of people's preference. Furthermore, this study's findings confirm the results of previous studies (e.g., Ernawati et al. [4]). The results of the previous study found that the imageability of a commercial area affects people's preferences. The results of this research show a similar finding in a historic street. Therefore, the imageability of a place affects not only people's preferences in commercial areas but also historic sites. Meanwhile, the research finding that Attractiveness is the dimension of imageability that most influences people's preferences in walking on a historical street is also in line with previous studies (e.g., Ernawati et al. [16]). The previous research found that clarity refers to legibility, as one of the variables forming Attractiveness dimension influences people's preferences for walking. However, the results of this study, as seen in Table 2, shows that imageability is accounted for only 29.5% as the influence factor of people's preference. It means around 70,5% of influencing factors other than the imageability quality of a historic street not revealed in this study affect people's liking. Those other influencing factors on people's preference for the historical street should explain by further studies.

In conclusion, there are three factors underlying people's perception of the historic streets' image, i.e., Sense of Place, Attractiveness, and Place Identity. Results indicated those three factors of imageability (Sense of Place, Attractiveness, and Place Identity) significantly influence people's preference for walking on the street. However, among the three dimensions, the Attractiveness of the area affects people's likability the most, followed by Sense of Place and then Place Identity. However, this study is still in the early part of a series of on-going research. It is necessary to do similar research on other streets to establish the results of this study.

4. CONCLUSION

This research found three dimensions underlying a historic street's imageability: Sense of Place, Attractiveness, and Place Identity dimensions. All three factors significantly influence people's preferences ($p < 0.01$). The research findings are in line with previous studies. However, since people's choice is a subjective response, further studies should be done elsewhere to establish the consistency of the findings.

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