A Comparison Review of Kevin Lynch’s Urban Theory with the Chinese Cosmography of Feng Shui in the Heritage Area, Case Study: Pasar Baru, Jakarta

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Abstract. Jakarta is facing the reality of becoming one of the megacities in the world. As a megacity, Jakarta will continue to face critical problems, including environmental issues that occur not only in Jakarta but also in the surrounding areas. The research area is Pasar Baru, the oldest shopping area in Central Jakarta established in 1820. Naturally, this area should have a high historical value for the development of the City of Jakarta. This study explored the "shopping arcade" corridor from Kevin Lynch's urban theory of "The Image of The City" to strengthen the implementation of re-planning the Pasar Baru in the future. This study aims to find how the view of The Image of The City can support the idea of re-planning the Pasar Baru from a tangible point of view, physically visible, and an intangible point of view through the spiritual approach of Feng Shui cosmography. The research uses qualitative methods supported by collecting data in literature reviews, surveys and analyzing them. The study found that the concept given by Kevin Lynch can help decision-makers of a city to be more responsible in making policies in designing a sustainable city to carry out conservation actions, not only political goals.

1. Introduction
The growth of the city of Jakarta, Daerah Khusus Ibukota (DKI) Jakarta, in terms of the number of people who do urban migration, urbanization, and the density is increasing. Jakarta, the capital city of Indonesia and a never-ending development city in Indonesia, is a historic mix of cultures where Javanese, Malay, Chinese, Arab, Indian and European exist and live in. Those have given influence to the architecture, language, and cuisine. With over 10.56 million people living in Jakarta in the 3,540 km² urban area, the population density increasingly created urban problems, such as the value of life. In connection with this research, there is an Initial Plan of Work Plan for the Provincial Government of DKI Jakarta in 2021, which states that the vision, mission, and objectives of regional development stated, "Jakarta is a developed, sustainable and cultured city whose citizens are involved in realizing civility, justice, and prosperity for all" [1].

Today, the policy direction shown for the development of the city of DKI Jakarta is "Consolidating Quality Growth for Development Stability that Focuses on Economic Recovery and People's Lives." Based on the policy direction, this research will look at the conditions seen in the research area, the Pasar Baru, located in Jalan Pasar Baru, Sawah Besar District, DKI Jakarta. In 2000, The Pasar Baru area, which has historical value, was designated as an international standard shopping area through the Decree of the Governor of DKI Jakarta Province No. 3048 of 2000. In the 2010-2030 DKI Jakarta
RTRW (Rencana Tata Ruang Wilayah), the government designated the Pasar Baru area as a center for city-scale trade activities or a tertiary activity center (trade and service center) in the 2030 DKI Jakarta Provincial RTRW as a center for shopping and culinary tourism. The solution for the structuring of the Pasar Baru area are still general plans. In this condition, the involvement of urban planners and the government certainly needs to look back at the history of the formation of zoning since the mayor of DKI Jakarta, Sudiro (1953-1959), is based on citizen's and society's needs, not political interests.

Urban design is essentially about place-making, where places are not just a specific space, but all the activities and events which made it possible. Successful urban places must combine quality in three essential elements: physical space, the sensory experience, and activity. The life of streets and urban areas is longer than the life of individual buildings, while the life of buildings is longer than the life of their original function [2]. Kevin Lynch, urban form theorist once said, “What interchange between people and their environment encourages them to grow into fully realized persons?” [3]. As Shirvani stated from Lynch’s essay: what constitutes a good city, can be a meaningless question, a relationship between human values and city form, and finds existing ideas on good city form missing in creating the linkage [4]. Lynch's human approach to good city form is exemplified by his use of human settlement. Humans are forced to live and work in cities. That dedication is reflected in the performance criteria and two meta-criteria. Vitality, Sense, Fit, Access, Control, Efficiency, and Justice are all words that come to mind when thinking about vitality, sense, fit, access, control, and efficiency [4]. “The Image of the City” categorizes how individuals perceive and remember city elements in city space. There are five categories, paths, nodes, edges, districts, and landmarks. The five components of the city elements can form a mental representation of a city [5]. The importance of urban form is insufficient to elevate it to the same level as planning process theories. The importance of social, economic, and cultural factors in determining a good city outweighs any choice of spatial layouts [6].

In general, many heritage buildings are found uninhabited, neglected, not maintained so that many ends up endangering the surrounding environment. As Eryudawan mentioned, there is increasing evidence suggesting that some elements in the decision-making system have not focused on supporting the idea of making urban conservation a complementary force concerning new developments. Conservation areas are always weaker to negotiate for better solutions that secure their existence [7]. Environmental problems, such as the annual flooding that hit cities, are exacerbated by excessive groundwater extraction, clearing of forests, and inappropriate construction types on agricultural land [8].

This investigation aims further to understand the relationship between design theory and visitor experience, focusing on the physical attributes of design. More specifically, this research determines which physical design characteristics should be applied to the Pasar Baru area and how evident they are to maximize visitor experience using Kevin Lynch’s urban theory of The Image of the City. Expected and actual outcomes may vary, leading research in other directions. The practical purpose behind the immediate findings is to conclude if certain physical forms are evident in the design and how they affect the heritage area. Is the visual result in a place only a physical form or can other elements be found in things that are intangible? These two attributes are interesting things to be found in this research.
2. Materials and Methods
The Kevin Lynch’s city image is a fascinating subject to be studied further as literature material in this research case study. Data collection using literature studies to support the need for the theory in case studies is supported by direct data collection through observation to the location, Pasar Baru. The framework flow used in this study is shown in the following scheme.

![Figure 2. Research framework](image)

Using qualitative methods with literature studies and direct site observations is expected to help find the relationship between the physical conditions of the urban and regional environment and the study area in Pasar Baru. Physical form and review of Chinese ethnic cosmographic beliefs that have been known for centuries, Feng Shui, are part of the review that will be highlighted in the research. The purpose of the review of the urban theory presented by Kevin Lynch and Chinese ethnic cosmography in the case study is expected to find valuable conclusions and suggestions in the study location related to the revitalization plan in Pasar Baru.

3. Results and Discussion
Jakarta still has many remarkable places, which are an essential part of the history of Jakarta's growth. Jakarta has many historical areas with various conditions. Some areas have the historical value that is well-maintained, but some are untouched and even neglected. This research will take the boundaries of the study area in the unique Pasar Baru area. It is unique in the ethnic diversity that coexists in it during trading activities. The significance of the study is to further the field of design themed in the Pasar Baru area and the application of theory. More specifically the study will compare completed research on the physical attributes of these environments in order to identify design strengths and weaknesses so that those visiting the destinations can have unique experiences. The importance of improving themed environments is increasingly significant due to visitor experience. It is important as it has an effect on people’s lives whether they are searching for an urban relaxing escape or more active pursuits.

Kevin Lynch evokes a feeling of nostalgia. Lynch's research studies on how people view the cityscape has become a masterpiece in the field of urban planning [9]. The historical record of urban planning demonstrates that one generation's "solution" to the problem of metropolitan form frequently becomes the next generation's "problem" (for example, modernism's prescribing of freeways, austere high rises, rigorous zoning, and so on) [6]. People view a city primarily as a built image, according to Lynch's research. The residents' mental maps were made up of five separate built-environment elements: paths, edges, districts, nodes, and landmarks [9]. Lynch also analyzed two qualities of the built
environment were legibility and imageability. The legible city consists of informative and significant urban artefacts or configurations. City nodes, paths, or districts are 'information carriers' that form mental images [10]. As Hospers described the five elements of Lynch’s, [9]:

- Paths are the roadways, rail tracks, trails, and other channels that people use to get about.
- Edges: distinct transition zones and linear borders between two places, such as water, walls, and nature vs the city.
- Quarters, neighborhoods, and other parts of the city with distinct personalities are referred to as districts.
- Strategic meeting locations in a city, such as squares, intersections, or stations, are known as nodes.
- Landmarks are therefore objects that serve as public reference points. Some are far away (towers and spires), while others, such as sculptures and signs, are close by.

Lynch noted, “Districts are made up of nodes, edges, paths and landmarks. These elements can be structured regularly or overlap. In the city that Lynch observed, there is a difference in the image of the city. A city for the middle and lower classes, a city filled with natives and non-natives, young and old” [10]. Jiang tested his hypothesis on paths by performing axial transformations and categorizing these lines by looking at the scale of the relationship of these paths. The result shows that the consistency of the connection between a path and other paths, when viewed from its morphology, does not show a well-connected path and does not give a memorable impression of the city [11]. But, city elements can be considered as a symbolic and social symbolic meaning, as well as a pragmatic function [5].

The future of Jakarta will remain a long commitment not just between the government and the rest of society, privates and individuals, but also among the governments itself. If the concept was agreed by all stakeholders through mutual understanding, then it seems that the journey ahead to protect, develop and use cultural heritage for the benefit of all, as mandated by the Law, would be much easier [7]. Lynch asserted that normative theorizing should not be limited to architects and landscape architects, and that "city design" was more than just "big architecture." Indeed, an academic program in city design should "be centered in city planning" to benefit from planning's broader view on urban matters and diverse set of skills [6]. Different “identifiable neighbourhoods” can be one of the foundations of a great city form philosophy. It appears that achieving some kind of "unity-within-diversity" goal, incorporating "baseline" principles for neighborhood structure while still allowing for the expression of diverse local cultures and historical vernaculars, would be the proper goal [6]. The result often is a regulatory infrastructure that is out of touch or inconsistent with a community’s vision. Comprehensive rewrites allow local governments and citizens to contemplate the community at large and how the interrelated set of rules that comprise the development management framework can support the community’s overall vision [12].

In the early days of its former glory, Pasar Baru, known by the name "Passer Baroe," was built during the Verenigde Oost Indische Compagnie (VOC) era. At the beginning of the establishment of Pasar Baru, this area became an elite shopping center because of its location close to the Rijswijk (Veteran Street) area, which was an area for the rich people in Batavia at that time. During the Dutch rule, the city, which was the business center of Europeans, turned out to be a dusty city with badly damaged streets, mud-filled canals, unkempt harbors, and dusty buildings [13]. The existence of European ethnicity, primarily the Dutch period, China, India, Pakistan, Malay, showed the diversity of culture and diversity of social life. The population data showed the presence of ethnic Chinese whose population was very high in Batavia (Jakarta). Since ancient times, ethnic Chinese carried out the trade and business activities that supported the monopolistic activities of Dutch agricultural products. In line with the continued development of trade and business in Batavia, ethnic Chinese opened up trading areas that eventually grew very crowded. According to Kurnia's records, this ethnic Chinese trading area formed a road where both sides were built houses that functioned as well as shops, which was found in Passer Baroe [14]. A survey conducted during the Covid-19 pandemic in June 2021 shows that the government's existing idea of area revitalization seems to have not been fully realized. A question arises, what can be done in this heritage area so that the initial idea to make it an urban escape in this area can be implemented more efficiently.
Table 1. Findings Five Elements of Lynch’s Built Environment in Pasar Baru

| Five Elements | Theory | Pasar Baru |
|---------------|--------|------------|
| **PATH**      | ![Path](image) | ![Path](image) |
| **EDGE**      | ![Edge](image) | ![Edge](image) |
| **DISTRICT**  | ![District](image) | ![District](image) |
| **NODE**      | ![Node](image) | ![Node](image) |
| **LANDMARK**  | ![Landmark](image) | ![Landmark](image) |

Left: The old path of the Pasar Baru [15]

Left: One edge line in the old of Pasar Baru [16], Right: The Pasar Baru in 1930 [17]

https: Sky view of the Pasar Baru district in 1941 [18]

Left: A node along the Pasar Baru [19]

Left: The old main gate [20]

Five basic dimensions in a good city performance: fit, vitality, sense, access, and control. Fit is an excellent spatial indicator of a city's pattern in the context of the surrounding community's behavior, which allows changes to the place or actor or eliminates it. A place can achieve high quality if it can adapt to existing changes [21]. Adaptability is an adaptation that takes into account the morphological, social, and economic capacity of an area to be able to respond to existing changes. Montgomery considered that to become a successful urban area, a great city is created, developed, and managed over
a long period of time. There are many good places to learn from, but there are also a vast and growing number of new developments that have failed to achieve a feeling of place [2].

Figure 3. Components of a sense of place [2]

Cities and urban areas must also give room for social and cultural exchanges. However, creating a great urban place will be impossible without a transaction foundation of economic activity at many different levels and layers. Cities have long provided room for transactions at all periods of the day and night [2]. According to Sholihah, the case study's heterogeneity is influenced by four factors: land usage, retail use, ethnic group variety, and specific talents diversity. It is also demonstrated that ethnic diversity has influenced not only the variability of retail use, but also contributes to product creation as a result of a hybrid culture, such as culinary or artistic items [22]. The mixing of various ethnicities in the Pasar Baru area affects the development of architectural buildings in the area. Buildings that have historical value from time to time should be the attraction of an area to increase the value and image of a city. Visually, the current building has undergone physical changes that have removed the character from the original building styles. Only a few buildings have been preserved. Uniquely, from a spiritual point of view, there are buildings of worship that are close together. The existence of mosques, churches, monasteries, or temples in this area shows that there is harmony in the activities of different religions and beliefs. This condition reflects the existence of a peaceful and harmonious life between religious communities, which deserves to be a "magnet" for the condition of pluralism, diversity.

In relating Pasar Baru with the spiritual context, the axis orientation of Pasar Baru is facing North-South. Furthermore, the physical buildings are facing West-East. The analysis was based on five geographical factors: dragon, sand, water, cave, and orientation, as defined by Mak and Ng [23]. Moreover, Mak and Ng [23] also asserted that they merged geographical considerations with Qi, Wind-Water, Four Symbols, Form, and Direction theories. One of the four possible symbols is Dragon, which signifies terrain and means mountains. Mountains place a premium on a location with a "Dragon" mountain ridge. The mountain ridge will come to an end in a cave. "Cave" is a "armchair" in the row of East and West winds in the theory of four symbols [23]. Furthermore, according to Mak and Ng [23] these forms are in the Azure Dragon crest on the East, the White Tiger on the West, the Black Tortoise on the North, and the Red Bird on the front, namely the South. This Red Bird acts as a "Front Hill" or Table Hill, facing the mountain and the river's flow at all times. The river in issue flows through a locality or site in the southern part of the country [23]. Instead of being rapid or straight, the flow should be tranquil and flowing. The flow of water, according to modern Feng Shui theory, also includes streets that run parallel to the river's flow [23].
Figure 4. A. The four emblems: Azure Dragon, Red Bird, White Tiger and Black Tortoise, B. A 3-D representation of the ancient Feng Shui model.
The Four Symbols and Geographical Factors in Chinese Cosmography [23]

If we observe the landscape of the Pasar Baru area which is close to the water, the Ciliwung River and the coast in the north, the Java Sea. According to Shannon and Yiyong, that water in China represents a symbol of position, both symbolically and physically. The existence of water in the form of a river is believed to bring good luck, profit and power. In the ancient tradition, belief in the existence of rivers and mountains has magical powers that are mythologically connected to one another, mountains, rivers and the sea [24].

Figure 5. Feng Shui Idealization. The North is the highest mountain. The South is the river or sea. The living habitants placed in the utmost important space of the axis [24]

Pasar Baru, whose axis is oriented North-South, shows the strength of belief in Qi Theory, where the location or site is firm in principle on Chinese ethnic beliefs. North orientation facing the Java Sea, southern orientation towards Mount Pangrango. The location of Pasar Baru is also crossed by the Ciliwung River, making this location considered a solid location having a strategic position and considered profitable. The four symbols in the cardinal directions are spiritually and intangible; on the Northside is the Black Tortoise, South with the Red Bird, East is the position of the Azure Dragon, and in the West is the position of the White Tiger. Axis that is physically very clearly visible on Jalan Pasar Baru is exciting with a close relationship to Feng Shui analysis that has grown over the past centuries.

Figure 6. A. A Schematic: The axis of Pasar Baru toward the city geography, B. The Pasar Baru Area
It appears that the area formed in Pasar Baru is an area that is rich in spiritual meaning. The intangible spiritual meaning of ancestral beliefs. While the meaning of tangible objects, physically visible, is an approach from modern urban theory by Kevin Lynch. Perception and memory of the two implementations of the theory are fascinating that two things with different theoretical approaches can be brought together in one area here. Each of the characteristics in the two comparisons is a finding in this research that shows the true wealth of the sense of the place of the heritage area, the Pasar Baru, to be part of the city’s image.

Table 2. Findings The Comparison of Lynch’s Elements and The Cosmology of Feng Shui

| Kevin Lynch’s Elements | The Cosmography of Feng Shui |
|------------------------|------------------------------|
| Tangible               | Intangible                   |
| Physical               | Spiritual                    |

The “Main Gate” as a landmark is facing to the Mountain (Southern)

From 1820 until the present, the axis of the mainline that divides Pasar Baru is visible. The corridor, which is the axis, has survived to this day. The existence of the axis shows that the rapid changes in the city of Jakarta have not changed the axis in this area. The axis itself witnesses history and needs to preserve the growth of Jakarta that continues to survive. The triumph of the Pasar Baru in the past can be seen physically and spiritually, although not entirely now. The spirit can still be felt to become a foothold for the government in redefining the direction of its vision and mission of revitalization. The uniqueness of the Pasar Baru character, which turns out to have the potential for sound urban...
development elements based on Kevin Lynch's theory, needs to be considered, and the emergence of spiritual meanings from Chinese ethnic beliefs has existed since the beginning of this area's establishment.

4. Conclusions

Kevin Lynch has provided the way to assess the physical elements of a themed city landscape, paths, edges, districts, nodes, and landmarks. The concept can help decision-makers of a city to be more responsible in making policies in designing a sustainable city. A sustainable city can be seen if the city can understand the community's activities that live in the area that is formed, a city that pays attention to the long-term impact on its built environment, a city that has physical characteristics that are formed from the city environment itself. Policymakers of a city or area design, especially areas that have historical value, should conduct comparative studies and collect physical evidence as well as the possibility of spiritual meaning in an area so that the policies taken during revitalization can see aspects that have high value and enable the creation of a sustainable environment and form a good image of the city.

The advantage of considering Kevin Lynch's theory in Pasar Baru is that the approach taken in revitalization can identify and have an actual physical character for the area. Existing landmarks can be touched, existing nodes in the area can be preserved, physically visible edge edges can be maintained as a strong character of the area, nostalgia in the Pasar Baru district can be a foothold to maintain this historical area to strengthen memories and memories or markers in the area as one of the themed regional images. The revitalization should consider the elements of physical and spiritual perception that are formed intentionally or unintentionally by the community because that has been inhabiting and operating in the area since the beginning. The existence of a very ancient spiritual relationship between physical evidence and the cosmology of Feng Shui beliefs in the research area proves that the formation of this area is the result of the wise thoughts of the ancestors of the founder of the area.

A strong axis proves that Kevin Lynch's modern theory has become part of the ancestors' thinking with cosmography Feng Shui. The strong axis in the Pasar Baru should be preserved as a sustainable wise thought in the built environment. Maintaining what was once the ancestral belief of its founder and combining it with urban planning theories that humanize an area will be highly anticipated. The changes that occur are expected to leave no trace of the area's uniqueness while still considering the five elements of city design, path, edge, district, node, and landmarks in Pasar Baru.

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