

Inclusive Design Criteria: Traditional Market Design for Social Equality

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Abstract

Nowadays, the traditional market's existence is decreasing. Traditional markets are decreasing because of the old-school either design or system. Those, traditional market should adapt over time, beside that interaction becomes a foundation for daily activities and market activities. This interaction links with the social value, which link to equality understandings. Equality's definition relates to activities and interactions in the traditional market. Indonesian traditional market, in Solo, be an example of diversity in social interaction. Diversity in social interaction links to the architectural approach. Inclusive design in architecture is a form that effectively approaches diversity in social interaction. A Bottom-up method in architecture programming is an appropriate approach that can be used to specify every step used in architecture that can be linked with social equality with interactions as the focus. This article analyzes inclusive design principles and precedents, then can be used as a reference to design somewhere that can be functioned inclusively.

Keywords: Traditional Market, Inclusive, Social Equality, Architecture, Precedent Study

1. Research Background

Different responses from individual social interactions cause social equality. Fourie (2014) explains that personal social values should be understood equally. This statement is valued as equality because it links to social value in daily interaction. Social equality is understood as broad understood with different focuses. Equality statement connected with a variety interaction related to social interaction in everyday life. Indonesia was a nation associated with diverse social interaction. A traditional market can be a discussion focus for diversity. The Indonesian market is traditionally considered unsupported for adequate social interaction to take place. Indonesian market does not provide facilities that meet the principles of inclusive design. For example, traditional market in Kotagede, Solo, the path in the building is not wide enough for users with disability, children and elderly. In general, Indonesian traditional market has not provide facilities such as a

narrow path for users' circulation, furthermore, the hardscape is uneven to be accessible for all-users.

With the diversity term discussed, social value in the traditional market can be the main topic for the design proposal. The social theory that links with the architectural approach are inclusive design. According to Fletcher's (2006) explanation of inclusive architecture, a building should accommodate a variety of social activities and interactions to become social well-being. Fletcher explains that inclusive has five principles to work for the goal. The principle that mentions diversity and difference examines the Indonesian traditional market's lack of facility to accommodate equal social interaction.

Four precedents are discussed in terms principles of inclusive design within market architecture design. Precedents are located outside Indonesia, so the criteria can be applied to fulfil social inclusion value goal. The precedents not only studying about the social space but examine also how far the space applied the inclusive design principles to fulfil the social inclusion value. The precedents are Namdaemun Market District in Seoul, South Korea, in which Yu Jung Nam 2013 proposed to revitalize the market. The result points to circulation to optimize the interaction apart from economic exchange happens. Farmers Market in Los Angeles, analyzed by Claudia Paraschiv (2010), give results in terms of spatial interaction from different interest, movement and activity scale there. Huangchong Market becomes an architectural precedent for market function, located nearby a residential area and a sports field used for basketball. Residential areas make the market visited by different societies. The market is built on a ground floor which supports visitors with a variety of needs to come and makes the market accommodate more than just economic activities. The last is the Manifesto Market which is used to analyze the application of accommodation made for various users. The object was a building with market typology because of the type of user activity. The precedents show circulation path for visitors and users should be upgraded to accommodate more social interaction, such as chatting, meetings, exchanging ideas, and so forth. Compared with traditional markets in Indonesia, access to building site seems more exclusive and reduce social equality in interaction. Exclusivity in the traditional market is more defined to design elements that are required more for abled-body visitors. From the comparison, it concluded how architecture (market) could support social equality for Indonesian.

The design formed an inclusive building and approached inclusive design. Inclusive design defines the design process that can be accessed and used by as many users as possible without any further adaptation (Tanuwidjaja, 2013). This explanation connects to the purpose of architecture design in social life depends on the activities (Ekomadyo, 2012) and inclusive design principles that produce an environment and building to satisfy many people. This research uses a method of an analytical study from literature (theory) and precedents than can be synthesized to be applied in a design process. A bottom-up method in the future will be used to get a specific design for the market building with social interaction equality and an inclusive design approach.

2. Inclusive Design to Meet Social Equality

Theory of social equality, which Fourie (2014) defines that someone should be treated equally according to social aspects of social equality. Then, inclusive design is used to approach the architectural issue by applying some of its formal elements. The inclusive design approach emphasizes understanding the user's response according to a variety of activities in a building. The discussion below is used as an argument and support for how the researchers analyzed.

2.1 Inclusive Design Principles

Architecture, human social interaction, and the response is the primary connection for the inclusive design approach. In inclusive design, the principles consider the equal social degree and are used as the base to design an inclusive building and allow many users without boundaries. According to Fletcher (2006), inclusive design has main principles that are used to design a no-boundary and accessible building, such as:

1. The inclusive design places people at the heart of the design process;
2. The inclusive design acknowledges diversity and difference;
3. The inclusive design offers choice where a single design solution cannot accommodate all users;
4. The inclusive design provides flexibility in use;
5. The inclusive design provides buildings and environments that are convenience (convenient and enjoyable) and enjoyable to use for everyone

Inclusive design directs to remove unneeded boundaries from building and reduce useless force for visitors. Designing a built environment inclusively, challenges for users be least. There are principles and goals in designing a building inclusively (Fletcher, 2006), such as:

1. Design a space that can be used by everyone;
2. Design a barrier-free space that needs no energy from visitors;
3. The user used for design consideration;
4. Acknowledge that differences and variations are possible;
5. Consideration about the solution that won't accommodate all users;
6. Flexibility in daily usage;
7. Accessible and convenient buildings and environments need to be well-designed.

This paper does not use all the principles and challenges mentioned above. The research focuses on places, people, diversity and difference, choice, and convenience.

2.2 Inclusive Site and Building Design Guideline

In implementing and evaluating inclusive design based on universal usage, Maisel (2018) suggests some criteria for a site design that connects the building, such as:

1. Wayfinding

Topography and its elements can direct to the destination or the primary path. This criterion includes path, markers, nodes, edges, and zones for wayfinding elements.

2. Ease of movement

Topography design should ease parts or sections passed by building users.

3. Safety and comfort

Attention to water development and maintenance will establish a sneaky pedestrian way.

Inclusive design is based on the definition of universal design which all kinds of building users are allowed to access the building (Nussbaumer, 2012, p. 49). Building design looks for many different sides of building users by considering many aspects, such as:

1. Anthropometry,
2. Biomechanics,
3. Perception,
4. Cognition

In this Market research, inclusive design aspects that are used are anthropometry, perception and cognition. Biomechanics remains unconsidered because the context design is a traditional market, where high-tech elements give too much cost.

2.3 Market

A market is known as a place for buyers and sellers meet and have an economic transaction that is buying or selling things (Sudirman, 2018). In other words, a market is a place where buyers and sellers meet and have an economic transaction. According to Darwis (1984) (Kusnadi, 1995), the market has many functions in many fields, such as:

1. Economy

A market is a place for transactions between the producer (seller) and customer (buyer).

2. Social

The market is a medium, formally also informally, between individuals.

3. Architecture

The market is a medium to represent local architecture, whole or local ornament.

4. Recreation (Leisure)

Market as a leisure area, some visitors enjoy sightseeing and exploring to fulfil their needs.

The statement supports to argue the market design architecturally and connects to the social purpose that wants to be approached by considering Darwis' (1984 in Kusnadi, 1995).

Table 1. *Relation Between Commodity and Zones.*

	Market Zone(s)		
	Wet Zone(s)	Dry Zone(s)	Semi-Dry Zone(s)
Trade Type	Production	Slaughter place	- Cafeteria Food court
	Food Staples Material	Fish Meat Vegetable Fruits	Basic food Cake Ingredients Spices
	Equipment	-	Kitchen appliances Household appliances
	Clothing	-	Fabrics, Shoes, Textiles, Bags Clothes, Tailors,
	Accessories	-	Jewelry, Cosmetics, Electronics, Printing
	Food	-	Snacks Food

Source: Kusuma, 2020

Table 1 explains the zones according to the commodity sold with each specification. Analysis of zones supports design circulation that links social activity that is seen as an altered activity in a market. The consideration gives a point that this research is meant to analyze inclusive design elements that are known as sustainable to be applied in a market building design. This purpose makes the market live longer or can be operated longer.

a. Social Interaction Space

Interaction space means how space is conceived with the user's consideration. Space that accommodates social interaction is understood as the 'third place. Third place, its existence aimed to support tertiary function from daily activities. There are some elements to arrange third place (Oldenburg, 1989 in Mulyadi, 2020), such as:

1. Visitors and users are unbounded to access the facility of the building
2. Social statue won't attach any bound to the building
3. Individual interaction is the main consideration
4. Accessibility and accommodation should be the main design consideration
5. Different needs of each building user
6. The building should be low profile to persuade more visitors
7. Building ambience should make a pleasing mood
8. Building ambience makes the users feel more at 'home.'

In the discussion of inclusive design, based on the opinion of Steinfeld (2012) to design social buildings that are for the public and with the theme of universal and inclusive design, several strategies can be used as a reference, namely wayfinding. In his opinion, wayfinding itself has several elements that need to be considered in universal design, as follows:

1. Lighting, space design scenarios;

2. Markers (colours, forms of work, material textures, figures, and others);
3. Acoustics.

Discussed aspects used to analyze precedents. Focus of the analysis is to formal elements of a building functioned as a market, specifically, a traditional market. The applications support social equality in the market.

4. Precedent Study and Discussion

Inclusive design is used to analyze the design problems to be solved. The element that becomes one of the special focuses or criteria for analyzing precedent is its accessibility which is related to social equality (Linden, Hua Dong and Heylighen, 2016). Besides being used for social equality, it is also connected to the principle of inclusive design. Building objects are collected for analysis with a focus on the topic of inclusive architecture, where analysis is carried out to obtain several specific criteria that can be used as a focus in designing modern market buildings in the future. The study of precedents is carried out by analyzing the embodiment of inclusive design principles. Analysis was also carried out on aspects of anthropometry, perception, and cognition with the relationship to social space design using inclusive design as an approach. The design of wayfinding is also an approach that can approach the goal of accommodating the variety of social interactions in a market environment. Wayfinding has building design elements that need to be considered, namely artificial lighting to design indoor scenarios, markers, and scenario design with acoustics. The following precedent studies were analyzed with the parameters.

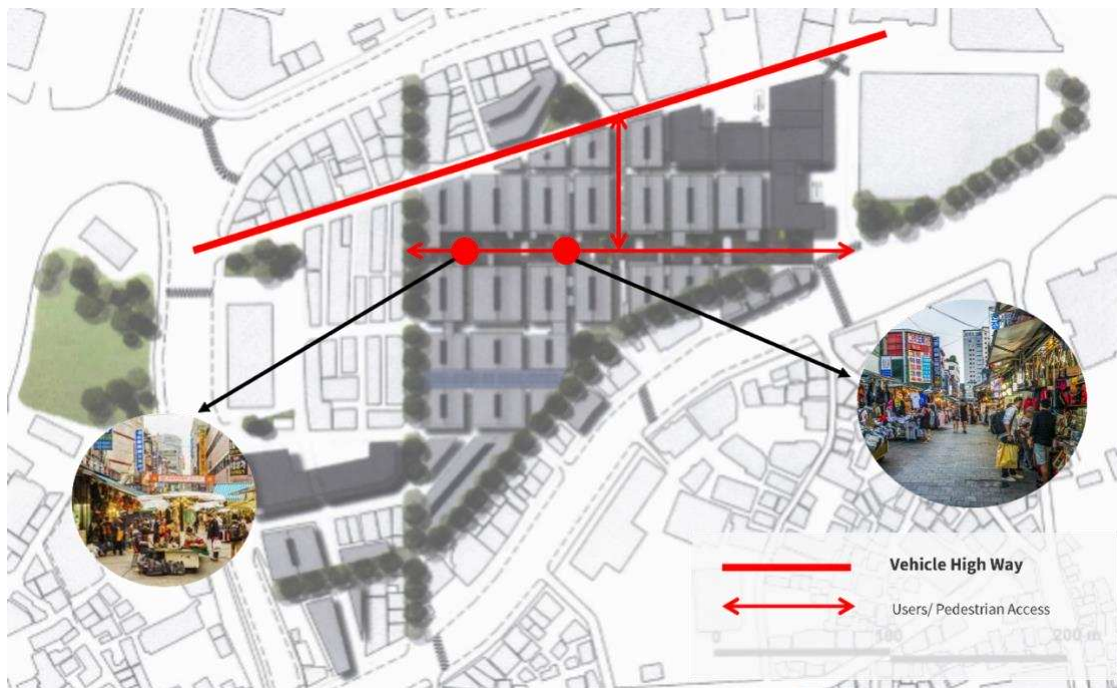


Figure. 1. *Namdaemun Market Plan and Sequences to Describe Wayfinding Aspects within Inclusive Design (Nam, 2013)*

Namdaemun Market in the figure above analyzes two principles based on the people (building user) and convenience. Besides the definition principal analysis, the study provides site principles for wayfinding and ease of movement (refer to figure 1). From figure 1, the meeting point at Namdaemun Market functioned as a form of social space.

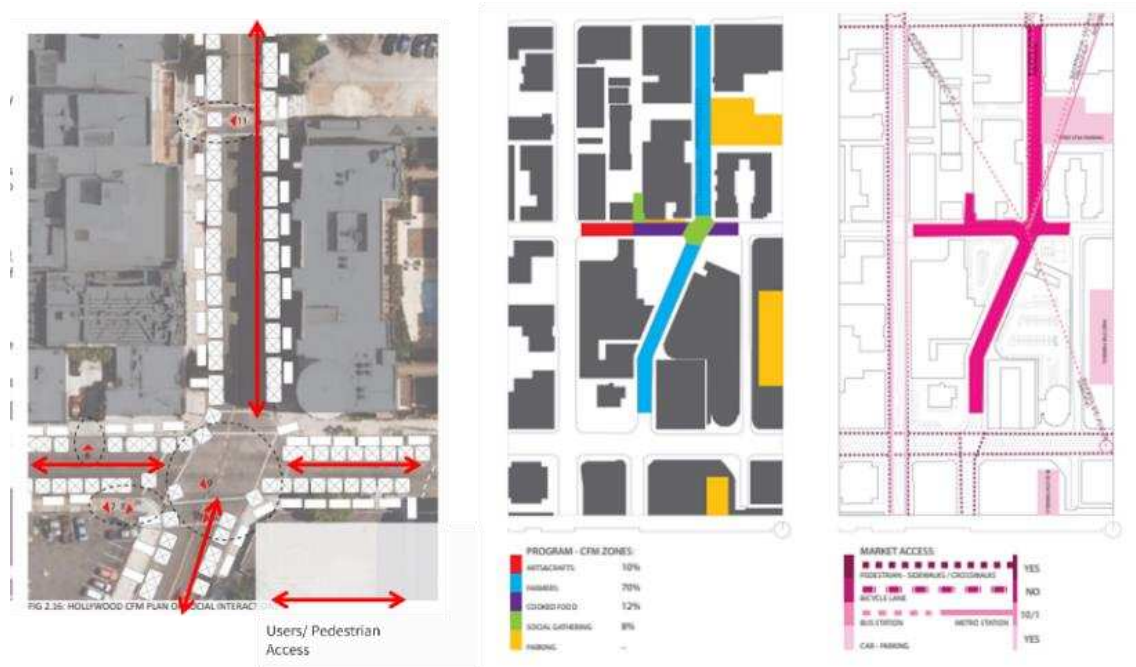


Fig. 2. Farmers Market Plan and Zones (Paraschiv, 2010)

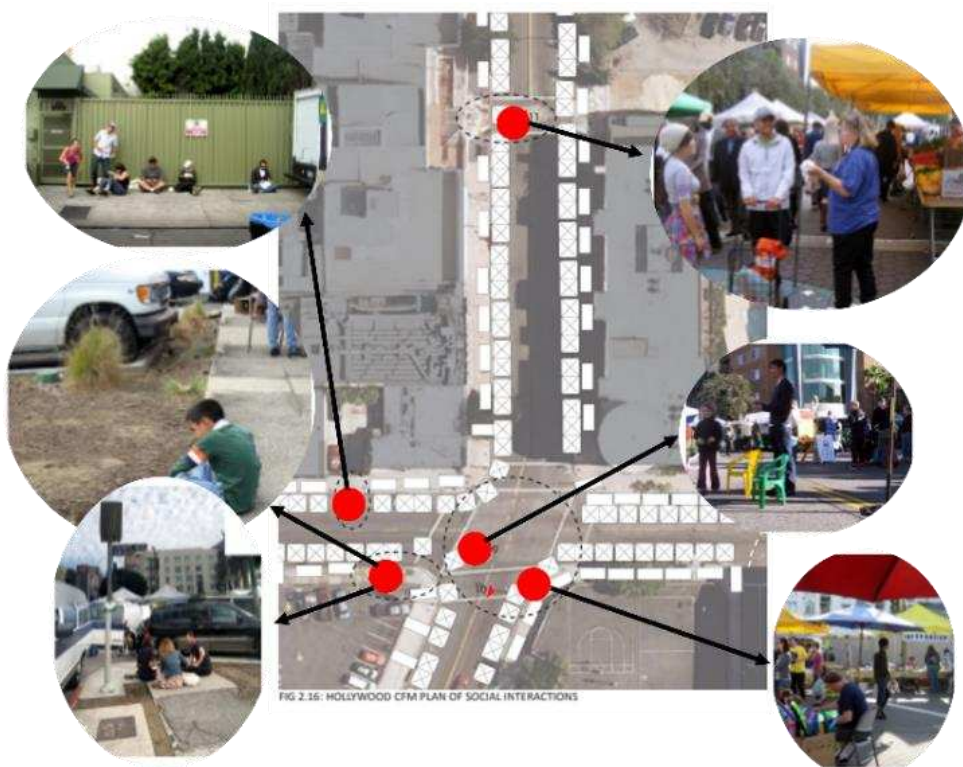


Fig. 3. Sequences in Farmers Market to Point Wayfinding and Social Space (Paraschiv, 2010).

Farmers Market provides much space that is available for social activities. Provide from the figures above, figure 2 explains the information of the zones and access that links to the circulation path by its wayfinding and ease of movement. Figure 3 provides information on spaces that accommodate diverse and social activities. Then from the figures too, the social space that is formed is an open corridor.

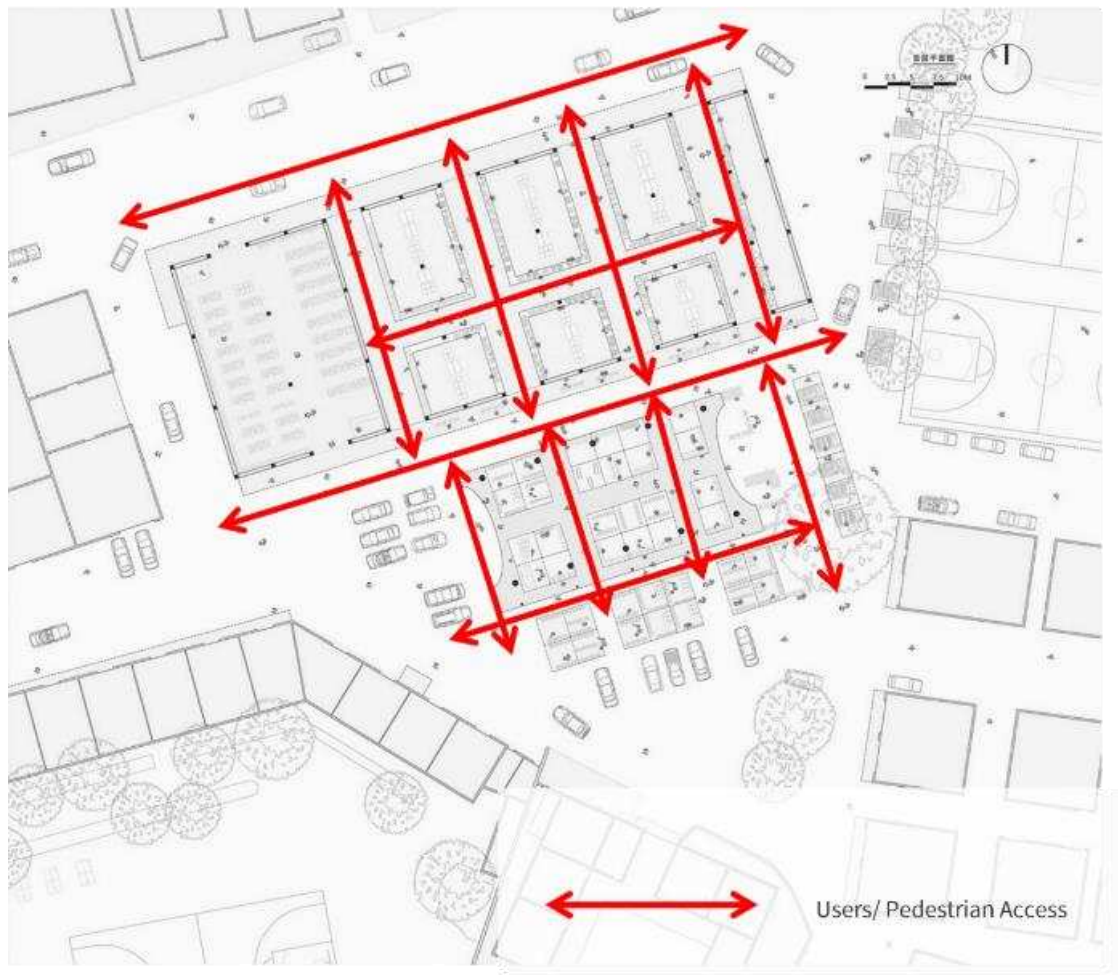


Fig. 4. Huangchong Market Plan (Shuangyu, 2022).

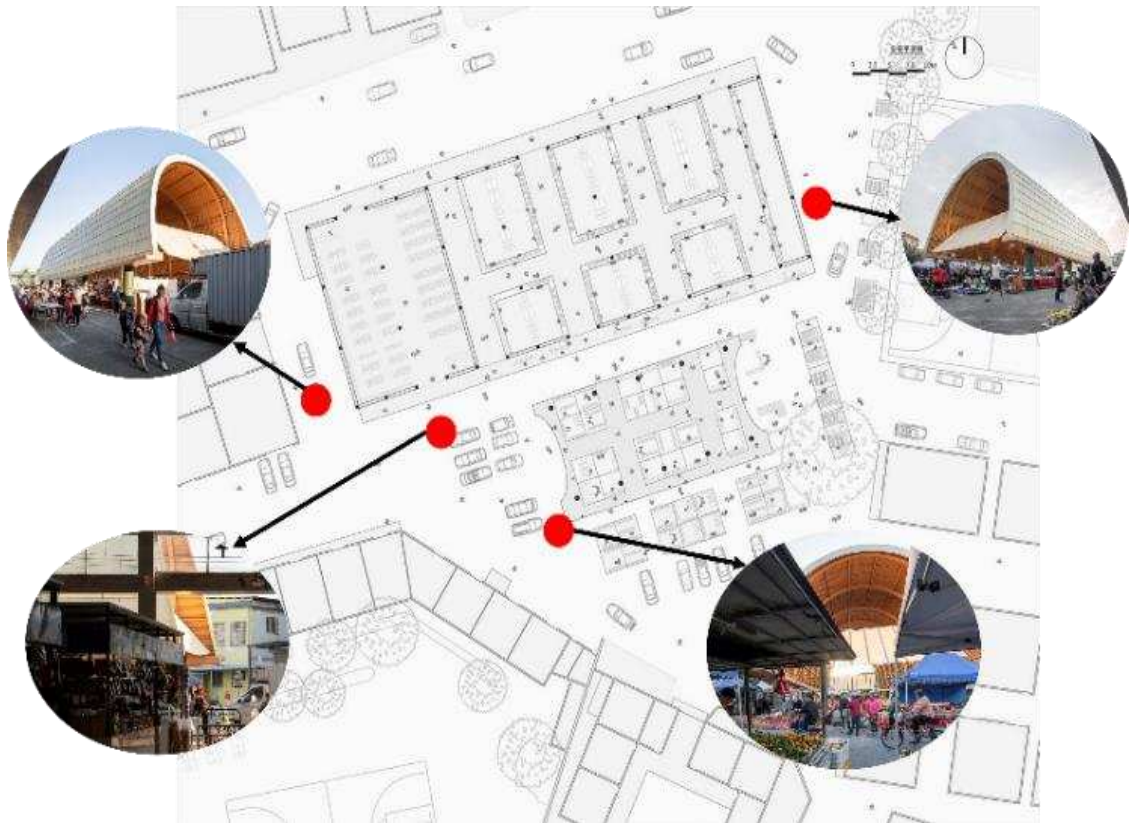


Fig. 5. Sequences in Huangchong Market to Point Wayfinding (Shuangyu, 2022).

Huangchong Market is available for social activities that caused of differ visitors. Provide from the figures above, figure 4 explains the information on the access that links to the circulation path and the ease of movement. Figure 5 provides information on space that accommodate users, diversity, the choice of elements, flexibility in use and social activities. Then from the figures too, the social space that is formed is a market building corridor and its fixed open corridor.

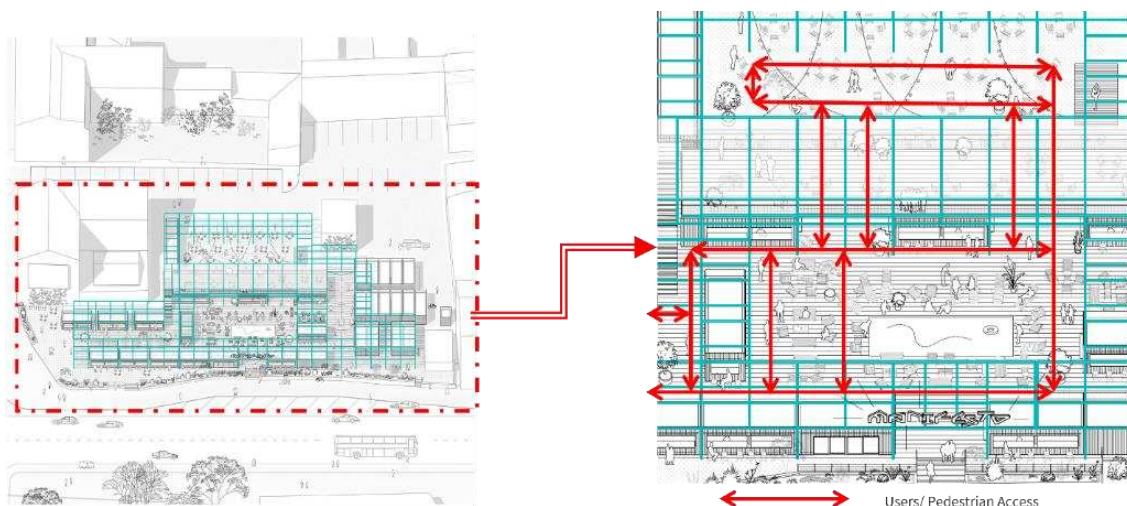


Fig. 6. Manifesto Market Plan (Pintos, 2022).

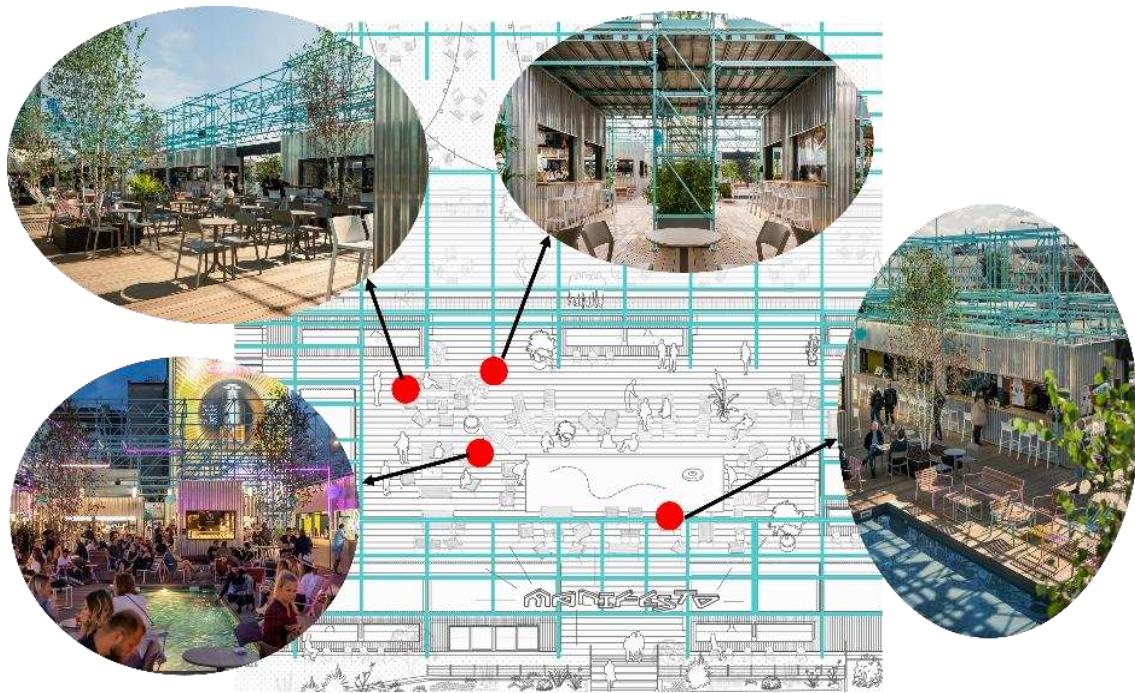


Figure 7 Sequences to Point Wayfinding and social space in Market (Pintos, 2022)

Manifesto Market is available for social activities in the cause of different visitors and its function. Provide from the figures above, figure 6 explains the information on the access that links to the circulation path and the ease of movement. Figure 7 provides information on space that accommodate users, flexibility in use and social activities. Then from the figures, the social space that is formed is a market building corridor and food court.

Study of four architectural works, where the four precedents are market buildings located outside the country of Indonesia, where each market has value in the social community in each country. Parameters are taken from the opinion of Fletcher (2006) and the principle of designing a site by Maisel (2018). A summary of the four precedents above provides in Table 2.

Table 2. Precedent Analysis.

No.	Study Aspect	Namdaemun Market (2013)	Farmer's Market (2010)	Huangchong Market (2021)	Manifesto Market (2021)
1	Purpose	Traditional market with a variety of merchandise including street food, clothing, and kitchen necessities (wet and dry)	The market is a public space to accommodate economic and social activities.	The market is a public space to accommodate economic and social activities.	The market is a public space to accommodate social activities.
2	Principles of Inclusive Design (Fletcher, 2006)	People; Convenience	People	People; Diversity; Choice; Flexibility in use	People; Flexibility in Use
3	Inclusive principles in site design (Maisel, 2018)	Wayfinding; Ease of Movement	Wayfinding; Ease of Movement	Ease of Movement	Ease of Movement
4	The shape of social space (interaction)	Meeting point	Open corridor	Market building corridor; Open corridor (tread)	Market building corridor; Food court

Anthropometry, perception, and cognition become the three points from inclusive design aspects that are considered to maintain the criteria design. Among the principle and aspects, the site design is a vital phase. The site should be designed well to link with the building inclusively. Inclusively the site should be easy to be accessed by a variety of people and convenient to facilitate user movement.

The following paragraph is used to support the following criteria that are proposed. The design criteria in this article are arranged by considering inclusive design more profound, such as:

1. Market designing considers the user's needs to link for wayfinding inclusively.
2. Circulation path design for visitors, buyers, and sellers in the market with ease of movement application from inclusive design.
3. A mass transformation that links inclusive design and social equality with safety and comfort.

The criteria proposed considers social space design, which accommodates social interaction. The first criteria focus on room organization from overall market design (site and building, also the connection) along with the effect of wayfinding (which is related to inclusive design principles. The second design criteria focus on the main topic connected to inclusive design that is directed to the circulation path in an architectural building. The

third criterion provides the overall principles of inclusive design by considering safety and comfort. Safety and comfort in these criteria connect directly to formal design for market design.

4. Conclusion

Social equality can be fulfilled in a traditional market by using an inclusive design approach. Inclusively in a traditional market, users' circulation needs to be considered accessible and able to provide social space. The accessible path should provide variation needs from users, and wayfinding (sign) should consider. In terms of social space in a building, it should occur and blend with formal elements of the traditional market, which support and accommodate social interaction that happens. Social space to accommodate social equality in interaction was discovered from precedents above as an organization that adapts to traditional market-building needs. It is either a meeting point like a garden or landscaping or a room that functions for social interaction, like a food court or a multipurpose room where meetings can be held. Another option provided by the precedents above is an open corridor, which can be an alternate form of architectural choice to accommodate social interaction in a traditional market.

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