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Original Article

Traditional Market Building Design Strategy in Post-Pandemic Era: Perspective from The Ageing Society

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ABSTRACT

This research examines post-pandemic strategies for designing traditional market buildings in Indonesia to accommodate the needs of older adult. The pandemic has impacted their physical and mental vulnerabilities, necessitating increased inclusive design standards. Previous research has not captured the importance of older adult preferences for post-pandemic design strategies, especially in local market buildings in Java. This research aims to provide an overview of how traditional market building designs can accommodate their preferences. This research used mixed methods, starting with a survey of 121 respondents aged 50 years and over, followed by in-depth interviews with 20 participants. Quantitative data highlights design gaps, such as a lack of greenery, inadequate parking and circulation space, and limited senior-friendly features, such as non-slip floors, seating, and ramps. The interview further detailed the older adult's needs and preferences, such as material selection, seating distribution, minimizing stairs, adding ramps and handrails, and circulation. The findings show that the current design is not sufficient to meet post-pandemic and older adult's needs. The provision of building interior cleanliness

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meets minimum standards, but inclusivity is still neglected, with more than 83% of respondents stating that the design is not responsive to them. Moreover, participants emphasized the importance of reorganizing the spatial layout, including widening paths, seating for resting (or waiting), and zoning for certain commodities. The research contribution is to provide recommendations for post-pandemic traditional market designs that are responsive to the needs of the older adult. Findings advocate for traditional market spaces that are resilient and inclusive, prioritizing health and community.

Keywords: design strategy, post-pandemic, public facilities, traditional markets, older adult

ABSTRAK

Penelitian ini mengkaji strategi pasca pandemi dalam merancang bangunan pasar tradisional di Indonesia untuk mengakomodasi kebutuhan lansia. Pandemi telah berdampak pada kerentanan fisik dan mental mereka, sehingga memerlukan peningkatan standar desain yang inklusif. Penelitian sebelumnya belum menangkap pentingnya preferensi lanjut usia terhadap strategi desain pasca pandemi, khususnya di bangunan pasar lokal di Jawa. Penelitian ini bertujuan untuk memberikan gambaran bagaimana desain bangunan pasar tradisional dapat mengakomodasi preferensi lansia. Penelitian ini menggunakan metode campuran, dimulai dengan survei terhadap 121 responden berusia 50 tahun ke atas, dilanjutkan dengan wawancara mendalam terhadap 20

partisipan. Data kuantitatif menyoroti kesenjangan desain, seperti kurangnya penghijauan, ruang parkir dan sirkulasi yang tidak memadai, hingga terbatasnya fitur ramah lansia seperti lantai anti selip, tempat duduk, dan jalur ramp. Wawancara lebih jauh merinci preferensi kebutuhan lansia, seperti pemilihan material, sebaran tempat duduk, meminimalisir tangga, menambahkan ramp, dan pegangan tangan. Kata yang paling sering muncul dalam hasil wawancara adalah aspek sirkulasi. Temuan menunjukkan bahwa desain yang ada saat ini belum cukup untuk memenuhi kebutuhan pasca pandemi dan kebutuhan para lansia. Penyediaan kebersihan interior bangunan telah memenuhi standar minimum, namun inklusivitas masih terabaikan, dengan lebih dari 83% responden menyatakan bahwa desain tidak responsif terhadap lansia. Terlebih, partisipan menekankan pentingnya menata kembali tata ruang, termasuk memperlebar jalur, tempat duduk untuk beristirahat atau menunggu, dan zonasi komoditas tertentu. Kontribusi penelitian adalah memberikan rekomendasi desain pasar tradisional pasca pandemi yang responsif terhadap kebutuhan lansia. Temuan menganjurkan ruang pasar tradisional yang tangguh dan inklusif, dengan memprioritaskan kesehatan dan komunitas.

Kata Kunci: strategi desain, pasca pandemi, fasilitas publik, pasar tradisional, lansia

INTRODUCTION

Post-pandemic life is an adaptive condition that is felt by almost the entire world. This condition illustrates various anticipations and adjustments that may be made in public spaces. In addition, new habits can be interpreted as our way of changing behavior and lifestyle. Based on a statement from the Ministry of Health, the purpose of 'adapting new habits' is so that we can study, do activities, and work productively during the pandemic (Kurniawan, 2022). The pandemic has caused and paralyzed aspects of society's life structure that have been institutionalized through patterned and repetitive routines (Hidayah, 2021). The impact of the pandemic on society as a whole will be long-lasting and usher in permanent changes in the fields of public health and architectural design (Han *et al.*, 2022).

In the chaotic conditions, the only public facilities that must remain open are food sources such as traditional markets. Data from 2005 shows that 60% of Indonesians obtain food and other daily necessities from traditional markets (Ministry of Health Indonesia, 2011). In the middle of 2020, the Indonesian wet market phenomenon was reported to be the epicenter with a high risk of virus transmission. Among 12.3 million traders at 13,450 traditional markets across Indonesia, the

association has recorded 535 vendors in 20 provinces contracting the virus. The highest number of cases was recorded in East Java (The Jakarta Post, 2020). The existence of traditional markets, which are the center of the community's socioeconomic life, is the object that needs to be observed in sustainability.

In this unprecedented pandemic scenario, anyone involved in design is called upon to act to envision potential solutions from the short-term to a long-term legacy (Galluzo & Borin, 2021). Also, the post-pandemic has become a momentum to accelerate innovation changes for shopping centers regarding tenant organization, interactions between visitors, payments, and delivery of goods (Mahfudz & Ischak, 2023). As society recovers from the pandemic in the last two years, there will likely be increased awareness of the importance of social relationships and local community ties. Traditional markets, which emphasize social interaction and community involvement, can be a focal point for rebuilding those relationships.

Traditional markets are third-place in the city and are always connected to commercial or trade activities (Bataric & Komala, 2023). Also, the traditional market is a cultural gathering of people who visit to make transactions or just for recreation, especially as the levels of society merge into one in bustling conditions (Adu, 2023). Moreover, traditional markets are not just places for buying and selling but are also related to life and socio-cultural interactions (Aliyah, 2017; Nugroho & Kamajaya, 2019; Sepe, 2021). Thus, traditional markets as part of urban public space belong to all groups, including the older adult.

The number of Indonesian residents aged 50 years and over has increased from 4.48% of the population in 1971 to 7.97% of the older adult population in 2000 (ADB¹, 2004, p. 47). The older adult welfare policy in Indonesia is based on the older adult commission (2010), Article 5 of Law Number 13 of 1998 concerning the welfare of the older adult, which states that the older adult have the same rights in society, nation, and state. Moreover, the same rights in society include using public facilities, one of which is the existence of traditional markets.

The older adult are one of the clusters most vulnerable to COVID-19, which impacts their quality of life in terms of health, social interactions, economics, lifestyle, and spirituality (Nadzir *et al.*, 2022). In Indonesia, this pandemic has highlighted the vulnerability of the older adult group, where the majority of deaths related to COVID-19 occurred in this group (UNFPA, 2020). Additionally, the pandemic has exacerbated physical health challenges for seniors, especially those with comorbid conditions. In addition, social isolation due to reduced use of public facilities has caused mental health problems, including depression and anxiety for the older adult (Cocuzzo, 2022). The findings highlight the importance of protective interventions targeting older adults, especially in their interactions with public facilities after health crises.

Designing resilient cities in the future requires thinking about how to ensure that cities and the living environment within them remain safe and livable, making the outdoors not a transmission zone for the epicenter of viruses but a livable space to connect humans and nature, supporting human activities to maximize its potential (Hermaputi & Chen, 2022). The adjustment strategy includes using masks, washing hands regularly or using hand sanitizer, and limiting interaction and distance, which is still relatively rare. However, after the pandemic, it has become standard (Komariah *et al.*, 2021). Moreover, the pandemic has made people anxious and prefer not to leave their houses. According to the fruit trader's statement, during the pandemic, fewer consumers bought fruit at the market compared to before the pandemic (Hermawan *et al.*, 2022).

The collaboration between the Ministry of Home Affairs and the Ministry of Public Works in implementing community infrastructure development in 2021 focuses on adaptive design and tightening health protocols in traditional markets during and after the pandemic. In this study, it will be widely discussed that the post-pandemic conditions highlight the importance of traditional markets as community spaces for socializing, as as Prasetya (2022) mentioned. This research also focuses on the older adult's response to adaptive design in the post-pandemic era. Several publications have previously discussed 'adaptive design' strategies in the post-pandemic era, as seen in the following table:

¹ Asian Development Bank

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Table 1. Previous studies

Author, Year	Aims	Methods	Findings
Camerin (2022)	To explore the creation of post-COVID cities, emphasizing the need to plan public spaces that prioritize health and sustainability.	Literature review	Reconfiguring squares and parks can improve quality of life and increase urban resilience.
Akkurt & Gündüz (2022)	To assess the flexibility and resiliency of dormitory buildings in response to pandemic conditions.	Conceptual framework analysis	Flexible design, flexible use, and pandemic-resilient space arrangements are crucial for healthy public spaces post-pandemic.
Bahador & Zarandi, (2024)	To propose biophilic design as an effective approach to provide a secure connection with nature in residential complexes and high-rise apartments.	Questionnaire survey	Applying biophilic design in residential complexes can help residents endure pandemics by relieving anxiety and stress through a connection with nature.
Messinger & Habib (2024)	To consider the implications of the emerging post-pandemic reality for public spaces and the built environment.	Descriptive	Emphasizes design flexibility, repurposed cities, building standards, virtual connectedness, environmental vigilance, refocus on wellness and green space, gender perspectives, and community organization.

Source: Camerin (2022); Akkurt & Gündüz (2022); Bahador & Zarandi, (2024); Messinger & Habib (2024)

From the prior study above, there has been no discussion regarding older adults' preferences for post-pandemic design strategies, especially in Asian traditional market buildings (local Javanese markets). Furthermore, previous studies have not captured the importance of traditional markets' other roles, such as socio-space, which can be linked to the purpose of older adults visiting the market. Other parameters, such as cleanliness, older adult-friendly materials, green areas, traffic, and parking management, could be potential new discourses. The research methods that have been carried out by previous studies also mostly use surveys, conceptual framework, and descriptive and literature reviews, where in-depth interviews use an 'explanatory sequence' starting from quantitative data with sharpening of qualitative surveys are needed to see older adult preferences so that design strategies can be proposed on target. The research aims to provide an overview of how traditional market-building designs can accommodate the preferences of older adults. The research contribution is to provide recommendations for the design of post-pandemic traditional markets that are responsive to the needs of the older adult.

RESEARCH METHOD

This research uses mixed methods, involving respondents in determining building elements that will be studied more deeply in determining design strategies. The mixed-methods research applied is explained by Creswell: *"involves the collection or analysis of both quantitative and qualitative data in a single study in which the data are collected concurrently or sequentially (Creswell et al., 2003).* Moreover, the intended mixing of research data, quantitative and qualitative data, is genuinely merged at the end of the continuum or with a two-stage project starting with the quantitative stage and continuing with the next stage: analyzing respondent data qualitatively (Creswell, 2009). In this study, the authors will conduct a two-stage research project, starting with quantitative data and strengthening with qualitative data. The sequential explanatory strategy notation is as follows (see Figure 1 below):

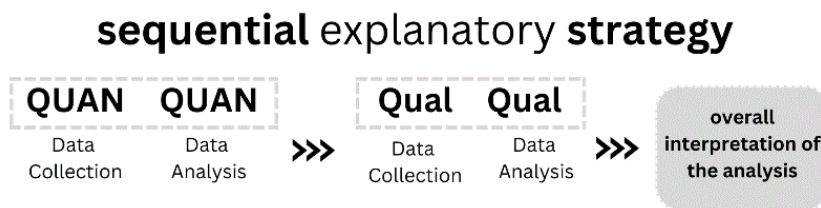


Figure 1. Sequential Strategy in mixed methods research
Source: Adapted from Creswell *et al.*, (2003)

This research consists of collecting data in the field, distributing questionnaires to respondents, selecting indicators to be discussed according to the results of the responses, and conducting an in-depth analysis. The analysis method begins by uncovering the variables asked of respondents through socio-demographics such as age, gender, and purpose of visit. The following questionnaire asks about aspects of adaptive design itself, which can be seen from the table below (see Table 2):

Table 2. Design aspects examined in the research

Section	Aspect	Question	Total Respondent
Interior	Sink, toilet, trash-hygiene aspects	Do you find it easy to find sinks and toilets in the markets you visit?	Nmax: 121
	Lot expansion to outside	Do you still often encounter expansion of sales lots outside market buildings?	
	Sosial distance	Do you still often see social distancing (marking walls/signs)?	
Exterior	Greenery	Is the vegetation enough to make the air cool/reduce pollution?	
	Traffic around the building	Do you often encounter traffic jams around the building?	
	Parking management	Is parking management is good enough?	
Inclusive	Responsive to the older adult	Is the building you frequently visit responsive to the needs of the older adult?	

Source: Authors, 2024

Data collection in the field includes: 1) taking photos of building elements to see the actual phenomenon; 2) direct examination of the object to feel the atmosphere and make a sketch for interpretation purposes; 3) distributing questionnaires to elderly adult respondents using a hybrid technique (G-form and face-to-face). The sampling of respondents in this research was purposive. In the first stage (quantitative), the sample of respondents that will be used is older adults aged 50 years and over who often visit traditional markets as part of their daily activities after the pandemic, totaling 121 respondents. Next, a sample of 20 elderly informants was selected to obtain design strategy preferences in in-depth interview techniques. The respondents live in Yogyakarta City and Semarang City, meaning they both visit local markets in traditional Javanese style.

For the qualitative stage (2nd stage), informants were selected based on people who visited traditional markets and mentioned 'post-pandemic' and 'elderly needs' in their comments and suggestions. Other socio-demographic data, such as gender dominance in this study, is 61% female and the remaining 39% male. This indicates that women still dominate market visits, which we often see daily. Furthermore, the average age is older adults born in 1966, meaning that in 2024, they will be 58. Their living conditions are also necessary, as is observing the psychological background of their loneliness in making recommendations about social interactions or hobbies. As many as 33.1% of respondents lived with their families, and the remaining 66.9% lived alone.

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Reasons that make you go to the Traditional market
119 responses

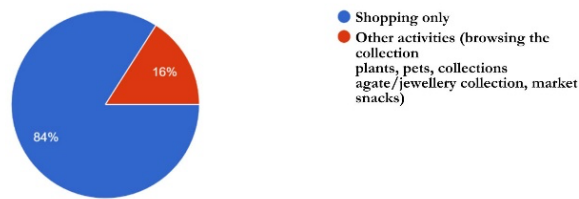


Figure 2. The purpose of visiting
Source: Survey, 2024

The purpose of older adults visiting the market after the pandemic is important in this study, as it aims to discover several roles of socio-activities inside and outside the building (Figure 2). As many as 84% said that they go to the market to shop for essential needs. However, some older adults have other desires, which lead to hobbies and recreational activities. As many as 16% carry out other activities such as hobbies (animal petting, seed sales and gardening, culinary events, and jewelry collection). Some markets in Java have market days called *pasaran*, during which people with the same hobby gather to share their hobbies.



Figure 3. The existing condition of the building
Source: Survey, 2024

The justification for determining the research location was to look at a sample of traditional markets with various activities ranging from buying and selling activities to social spaces that accommodate hobbies for the older adult. The sample used is the Kotagede market in Yogyakarta (Figure 3). The figure above shows the actual conditions of daily activities between 6 - 10 AM. The substantial scope limits that will be observed include (1) Economic and social activities dominated by the older adult, (2) Informal spaces that appear around traditional markets, and (3) Post-pandemic adaptation in building areas. Furthermore, after obtaining data on older adult preferences in their visits, this data is expected to become the basis for design considerations.

RESULT AND DISCUSSION

Considering user behavior in architectural design decisions is essential to creating functional, comfortable, and attractive spaces. Architects can design spaces that increase well-being, productivity, and overall satisfaction by understanding how humans interact with their environment. Human behavior has adapted and adjusted to accommodate new activities due to the pandemic (Sholahuddin, 2022). In addition, the physical environment can influence behavior by limiting what humans do (Mahusfah *et al.*, 2024). This research will produce two findings, which consist of older adult preferences from quantitative and qualitative data. The first stage of the quantitative research starts with the socio-demographic aspects and their preferences on aspects

that have been determined. Next, the second stage is to deepen the research results with in-depth interviews to see other possible preferences that the informant wants to express.

Abel (2021) mentioned that architecture has always been created for people and, therefore, has its own culture and tradition of knowledge about human nature. Based on the analysis of answers from respondents, the current condition of traditional markets still does not fully pay attention to the needs of the older adult and post-pandemic conditions. This research section consists of interior, exterior, and inclusiveness. From a survey conducted on 121 respondents, which consisted of socio-demographic questions and continued with older adult preferences, the following results were obtained:

Tabel 3. Respondent's answer about adaptive design aspects

Section	Aspect	Respondent Answer	
		Yes	No
Interior	hygiene (sink, toilet, trash)	73.7 %	26.3 %
	lots expansion (inside to outside)	47.5 %	52.5 %
	sosial distance (sign, marking)	31.4 %	68.6 %
Exterior	enough greenery/vegetation	23.7 %	76.3 %
	traffic jam around the building	72.9 %	27.1 %
	parking is well managed	41.0 %	59.0 %
Inclusivity	utility; materials; older adult needs	16.8 %	83.2 %

Source: survey, 2024

According to Eltarabily & Elgheznavy (2020) the optimal design for cities, especially during the current crisis, is based on three main pillars, which consider the city to be intelligent, sustainable, and comprehensive, considering societal design. This research found that the only aspect that had been fulfilled was the hygiene conditions in the interior, which included sinks, toilets, and trash, as much as 73.7% (see Table 3). Another aspect, namely lot expansion and social distance, has disappeared in this post-pandemic condition. In the exterior section, the three observation aspects, less vegetation, traffic jamming, and parking, still do not meet preferences. In the inclusivity aspect, 83.2% stated that the market buildings they encountered were not friendly to the older adult.

Public facilities such as markets have regulated minimum service standards based on the normative reference from SNI² 8152:2015 regarding market building. In determining specific criteria for community services in public market facilities, there are several criteria, such as energy, water, material efficiency, and waste management. The implementation of these minimum service standards can be collaborated with technical standards in the field of public works and housing for the completeness of public building infrastructure and facilities as regulated in PUPR³ Ministerial Decree Number 14/PRT/M/2017 concerning building convenience requirements. However, how should these regulations be able to meet post-pandemic conditions? This is interesting to observe. The following is a tabulation of the comments and suggestions of 20 informants selected according to those who specifically mentioned 'older adult' and 'post pandemic' in their answers (see Table 4 below):

Table 4. Informan's preferences

Respondent (age)	Comment and suggestions	terms
R1 (60)	<i>Please provide rest seating, please organize sales</i>	sitting point
R2 (60)	<i>There should be hand-washing places, special handles for the older adult, special roads for people with disabilities, non-slip floors, and parking spaces that do not disturb road users.</i>	hygiene; materials; parking
R3 (60)	<i>Hand-washing places, special handles for the older adult, special</i>	Hygiene;

² Standar Nasional Indonesia (Indonesian National Standards)

³ Kementerian Pekerjaan Umum dan Perumahan (The Ministry of Public Works and Housing)

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Respondent (age)	Comment and suggestions	terms
R4 (61)	<i>roads for people with disabilities, non-slip floors, and parking spaces that do not disturb road users should be provided. Please increase the number of ramps, place hygiene facilities before entering and after leaving the market that is strategic and affordable given the limited mobility of the older adult, and wide circulation paths that can facilitate space for pulling bags to make it easier for the older adult to carry their shopping, connectivity from the parking lot to the entry/exit market</i>	materials; parking ramps; hygiene; circulation; parking
R5 (61)	<i>It is necessary to pay attention to access for the older adult, including service facilities such as disabled/older adult toilets</i>	toilet
R6 (61)	<i>A waiting room for the older adult and good toilets have been created</i>	sitting; toilet
R7 (63)	<i>No loss of familiarity/social interaction between users</i>	interaction
R8	<i>One floor market, provided with a waiting/rest area, non-slip floor and adequate toilets</i>	sitting; materials; toilet
R9 (63)	<i>Pedestrian paths, motorbike users, are still one with car users/vegetable/fruit transport is still chaotic, and causes traffic jams</i>	circulation; traffic
R10 (67)	<i>Do not make design that have too many stairs to access the market and make the floor non-slip and clean</i>	avoid too much stairs, materials
R11 (57)	<i>The floor must be flat and not slippery, the corridor must be vast enough for two streams, sunlight can enter inside the building, it should be clean, there be places to sit when waiting in line for buyers, there is healthy drinking water available</i>	materials; sunlight; drinking water
R12 (59)	<i>For the older adult market, the floor is made non-slip, and each corridor is relatively wide. Moreover, cleanliness is maintained so the air can be kept fresh.</i>	Materials; circulation
R13 (57)	<i>The design of traditional markets in the post-pandemic should use materials that are easy to clean and widen the stall distances so that the corridors are wide and people can walk at a greater distance from each other. The toilet is being renovated and must always be clean, and user capacity requirements are enforced at half of the old normal</i>	Material; circulation; toilet
R14 (61)	<i>A waiting room for the older adult and good toilets have been created</i>	sitting; toilet
R15 (54)	<i>The atmosphere should not be hot; air circulation must be good so that entering the market is not like 'entering a microwave'; the stalls must be arranged, and the product specifications must be grouped</i>	Air circulation; zone
R16 (70)	<i>The division of zones based on commodities is critical, and basic material needs should be on the ground floor so that it is easier for the elder</i>	zone
R17 (70)	<i>We should be more responsive to the older adult and new normal conditions during the pandemic and as a long-lasting habit, especially regarding human and environmental health issues.</i>	long-lasting habit consider health issues
R18 (71)	<i>Nice design. What is terrible is the management of occupancy by market authorities.</i>	good design, bad management
R19 (72)	<i>Strict functional groupings and different designs and provision of facilities; for example, in the meat group, the floor is not slippery, easy to clean, has good air circulation and good light, and there is</i>	zone; air circulation; health

Respondent (age)	Comment and suggestions	terms
	<i>hand washing and hand sanitiser. The market area is sufficient, but the merchandise is complete. There is a clean, fresh and comfortable place to rest or sit. Can carry a trolley comfortably</i>	protocol
R20 (72)	<i>The older adult shop at the end of market operating hours so that the market is quiet, they can keep their distance</i>	time management

Source: interview, 2024

Respondents suggest that the building situation is less concerned with older adult needs, such as slippery floors, seating distribution, the number of stairs, ramps, and hand railings, and what appears most is the terms of "circulation" as mentioned by R4, R9, R12, R13, R15, R19. According to Dewar and Watson, an ideal market has circulation, with the main (primary) circulation dimensions being 3-4 meters and secondary circulation being 1-1.5 meters. Moreover, the trading area should ideally be 10-15 meters long for stalls and 20-30 meters long for stalls (Al Batul *et al.*, 2022).

Determining the distance between lots post-pandemic is a form of reducing crowds and ensuring each visitor has sufficient space to move safely. The terms of circulation are not only about movement but also air circulation. The design of public buildings, especially traditional markets, must have good air ventilation to reduce the transmission of viruses through the air (Navaratnam *et al.*, 2022). Also, the informant highlighted the terms related to designs that lack stairs, the distribution of seating or waiting areas, and older adult-friendly materials. This means that older adult visitors who generally cannot stand for too long end up being 'forced' to sit where they should not, such as on the stairs or corridors. This condition adds to the crowds in the corridors and creates uncomfortable 'jamming.' Additional seating or waiting areas are needed, at least in areas outside traditional market buildings.

Furthermore, implementing healthy traditional markets can be viewed from the zoning of trading areas divided based on the type of commodity, such as dry market areas, wet market areas, types of goods sold, etc (Bachrie, 2021). In addition, the separation of the zoning system in the trading area aims to prevent disruption to cleanliness and comfort and become an imaginary barrier for the open market area (Kusuma, 2021). From the interviews, the informants also suggested that the areas that could be reached by the older adult should be placed close to the main entrance and on the ground floor. Another unique finding that the author highlights is that R7's view on socio-interaction and R17's view on design post-pandemic should be long-lasting habits. This is in line with previous research regarding the statement that traditional markets must emphasize socio-space and arguments by Galluzo & Borin (2021), Kurniawan (2022), and Han *et al.* (2022) concerning adapting habits through strategy design to anticipate the next pandemic.

CONCLUSION

This study found that traditional markets still do not fully provide access to older adult needs and are not responsive to post-pandemic conditions. In the interior, only the hygiene aspect is felt to represent the preferences of the older adult adequately, but not the aspect of the lot expansion and social distance. These two aspects have disappeared in post-pandemic conditions and must be considered to prepare for the prevention of the next pandemic. Considering that the market has been the epicenter of the spread of the previous pandemic, three aspects of the exterior section are also discussed: vegetation, traffic, and parking management. It was found that the existence of vegetation, traffic, and parking management also did not meet the preferences of the older adult. Another finding was that the need for air circulation and proper human movement, distribution of sitting points, and the selection of older adult-friendly materials were the most often mentioned preferences for design strategy direction.

Other findings in this study are that most older adults prefer older adult-friendly adaptive design strategies in the post-pandemic era and that they are a form of long-lasting habit. Apart from that, the discussion regarding socio-space in the market building needs to be studied in depth as a

potential space for recreation for the older adult amidst their loneliness. The limitation of this study is that it is not easy to conduct in-depth interviews with older adults, so questions were not conveyed to the specific target, as problems with the local language are challenging to interpret. Also, research is limited to the preferences of older adults and cannot capture further details regarding the exact design recommendations that can be offered. Further research can provide an in-depth study of the meaning of post-pandemic design for the older adult as a form of sustainable and long-lasting habit.

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