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CHANGES FOLLOWING THE NEW NORMAL IN THE PASSENGER FLOW SYSTEM AND SIGNAGES AT JAKARTA MRT STATION

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ABSTRACT

The new normal is an adaptation to the Covid-19 pandemic that bring significant changes to ones' behavior, even to architectural design. Changes in the architectural design include the addition of signage of the Jakarta MRT station building which changed the circulation design and individuals' behaviors. This study examined the change in the desgin of circulation and signage in Jakarta MRT station building following the new normal era. A descriptive qualitative apporach was employed to explain the situation in the field based oj empirical facts. This study identified the changes in the forms and pattern of the existing circulation and the addition of signage elements in the building. These changes require Jakarta MRT passengers to adjust and adapt to the new normal.

KEYWORDS: Circulation, covid-19, new normal, signage.

INTRODUCTION

The Covid-19 pandemic has had far-reaching consequences across various domains of life due to various restrictions on social activities (Fariyanti, 2021). The "new normal" concept has been used as a key requirement in urban planning (Saputra, 2021) with significant emphasis on health aspects in the construction and architectural design of public places. This requirement can lead to changes in the existing building designs as well as changes in individuals' behavior (Prasetudia et al., 2022; Rahim, 2021). Puradian Wiryadigda (2020) identified changes in human behavior following the pandemic and the new normal era, where

people rather restrict themsevels from making physical contants and they maintain the distance from others. The regulation number HK.02.01/MENKES/335/2020 requires all public facilities ti adhere to the new normal guidelines, emphasizing the health protocol complience, air circulation and physical distancing of at least 1 meter (WHO, 2020).

The new normal era has created changes in Jakarta MRT building, particularly in the shape and passenger flow. The building has added signage elements, such as foot drawings, yellow lines, and cross signs on the seats to minimize physical contact between passengers in order to keep the transmission of the Covid-19 virus low. The passenger flow patterns use linear and spiral shapes with multiple corridors to avoid overcrowding and confusion (Syoufa & Hapsari, 2014). Hadi et al. (2020) also identified similar changes in the passenger flow design at the Beachwalk mall building, Bali, in response to the new normal. Hadi et al. also examined the changes in individual behavior in public spaces after the implementation of the new normal.

Based on the aforementioned background, this study investigated how new normal changed the passenger flow design and signages at Jakarta MRT stations and how the changes affected ones' behavior in responding to the new normal guidelines. This study provides insights to the integration of interior elements that can be applied to promote passengers' health, comfort, and safety in the building. The findings of this study can be used as a reference in future urban planning and architectural design practices in the post-pandemic era.

RESEARCH METHOD

This qualitative descriptive study provides a comprehensive understanding of the physical settings in the Jakarta MRT station building and how adjustments on signages following the new normal have changed passengers' behaviors and activities in the building. This study was specifically carried out to MRT station route from Bundaran HI MRT station, Menteng, Central Jakarta to Lebak Bulus MRT station, Kebayoran Lama, South Jakarta (Fig. 1). Empirical data were obtained from field observations and interviews with relevant stakeholders, including station managers and passengers. The findings of this study are expected to positively contribute to the development of effective design strategies that promote passengers' health, safety, and comfort in public spaces based on the new normal guidelines.

Fig. 1: Jakarta MRT station network Line map.

The data of this study were collected from direct field observations and a literature study, where researchers acted as the data collection instrument. Primary data were collected by observing the new normal facilities, changes in passenger flow and signage design arrangements, as well as changes in individual behavior at Jakarta MRT station. Whereas, secondary data were gained from a literature review to done to gain deeper understanding of the forms and patterns of passenger flow, signage, and behavior.

This study was conducted through several steps: problem identification, grand tour observation, research implementation/data collection, data processing and interpretation, and conclusion drawing. Qualitative descriptive analysis was applied by comapring the forms and patterns of passenger flow and signages before and after the pandemic. The data included the signages inside the station, passenger flow system and passengers' behaviors before and after the new normal. The results of the data analysis are presented in figures and tables. This study provides valuable insights into how adjustments to the implementation of the new normal have changed ones' behaviors and activities in public spaces, particularly in Jakarta MRT station.

RESULTS AND DISCUSSIONS

Application of new normal space circulation shape and pattern

Table 1 shows the space circulation or passenger flow at Jakarta MRT station. An open circulation system with numerous corridors were applied before the new normal and were then changed to a closed circulation with linear and spiral patterns to limit the physical movement of MRT passengers in the new normal.

Table 1: the circulation system before and after the New Normal.

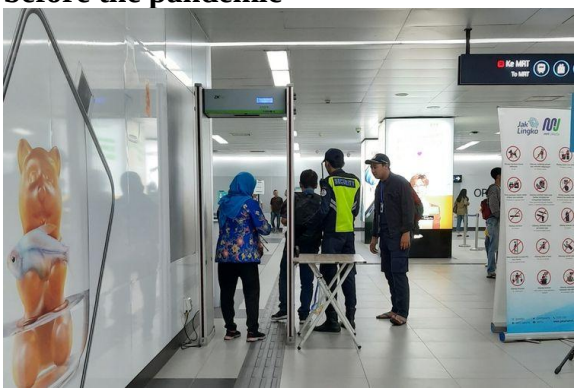
<table>
<tr><th>No</th><th>Passenger Flow System before the Pandemic</th><th>Passenger Flow System after the New Normal</th></tr>
<tr><td>1</td><td>Open flow was applied, such as in the counter area and entrance area of the building (Fig. 2 & Fig. 3). This system optimized the use of space and created corridors pattern where passengers freely moved around and interacted.
 
Fig. 2: open flow in the counter area before the pandemic
 
Fig. 3: one-sided open flow in the main entrance area before the pandemic</td><td>A closed flow system is applied, such as in the counter area and the entrance that are arranged in a spiral and linear pattern with limiting poles (Fig. 4 & Fig.5). This system creates a boundary and distance between passengers to avoid physical touch and limit the physical movement.
 
Fig. 4: the closed flow system in the counter area after the new normal
 
Fig. 5: closed flow system in the main entrance area after the new normal</td></tr>
</table>

Table 1 Fig. 2 and Fig. 3 present the open linear flow system without any display case or pole *signages* before the pandemic. Such design allowed the passengers to freely go anywhere which then caused crowd and chaos at the station. Whereas, Table 1 presents the changes in

the design to a closed circulation pattern with a linear pattern and a spiral pattern (Fig. 4 & Fig. 5) to minimize the physical contacts among MRT passengers and to direct the passengers to follow the flow system, In addition, guardrails were also applied to minimize the transmission of the Covid-19 virus (Fig. 4 & Fig. 5).

Application of signage in the interior and passenger flow system

The use of signage in The Jakarta MRT station ensures that passengers are aware of and comply with health protocols during the new normal. Signages are applied in strategic positions (Fig. 6), including signages that remind the passengers to wear masks and use hand sanitizers. In addition, signages also direct the guide the passengers in moving and applying the physical distancing. These signs are visible on all storeys and walls to constantly remind the passengers to comply to the health protocols during the new normal. Signages applied to the MRT station can help minimize the spread of the Covid-19 virus by promoting good hygiene and safe physical distancing practices.

Fig. 6: Signages as information display media that remind the passengers to comply with the new normal protocols.

Signages are prominently displayed at strategic areas of the building, making them easy to find in both the vertical and horizontal circulation areas. Vertical signages are put on elevator doors (Fig. 7), stairs (Fig. 8), and escalators (Fig. 9) in the forms of arrows that show the direction of entry and exit. The colors of the arrows were made different. Yellow arrows show the entry, while the blue ones are for the exit. Additionally, feet symbols are put on escalator signage on the where to stand (Fig. 9) which was created to remind passengers to maintain a safe distance on the escalators.

Fig. 7: signage on the elevator.

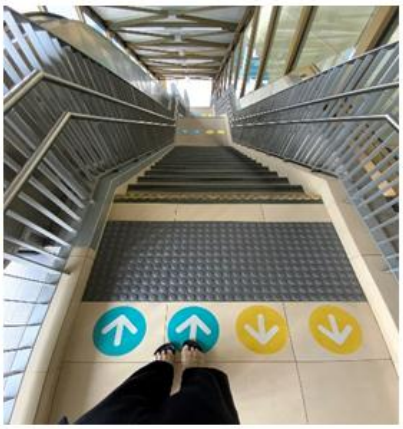


Fig. 8: signage on the stairs.

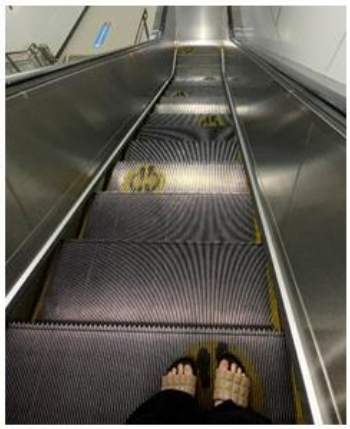


Fig. 9: signage on the escalators.

Signage indicating horizontal circulation patterns can be found on every storey of the building (Fig. 10). Prior to the pandemic, passengers could access the station building from any direction. However, following the pandemic, inbound and outbound circulation flows were separated by implementing blue, yellow, green, and red arrow signage (Fig. 8 and Fig. 10) to clearly indicate the flow of traffic into and out of the building.

Fig. 10: signage on the floor.

Passengers' behavior before and after the new normal

In the new normal, passengers adhere to the health protocols by wearing masks and maintaining safe distance. Table 2 shows that the "new normal" adjustments made in Jakarta MRT station have resulted in changes in passengers' behavior.

Table 2: Passengers' behavior before the pandemic and after the new normal

No	Behavior Before the Pandemic	Behavior After the New Normal
1	Before the pandemic, Jakarta MRT passengers did not wear masks and did not keep the distance between users (Fig. 11)  **Fig. 11: no masks and no physical distancing before the pandemic**	After the new normal, Jakarta MRT passengers comply with the health protocols including wearing masks, making no interaction with other passengers and applying physical distancing (Fig. 12). These behaviors are done to avoid physical contact and transmission of Covid-19 virus  **Fig. 12: mandatory use of masks and physical distancing after the new normal**
2	No hand washing facilities in the entrance, no hand sanitizer avaiable.	Hand sanitizers are provided to prevent the transmission of the virus (Fig. 13)  **Fig. 13: mandatory use of hand sanitizer** Hand washing facilities are also provided in the entrance area. Passengers are required to wash their hands using soap (Fig. 14)

No	Behavior Before the Pandemic	Behavior After the New Normal
		 **Fig. 14: mandatory hand washing**
3	No temperature checking, no scanning for pedulilindung application (Fig. 15)  **Figure 15: luggage checking before the pandemic**	pedulilindungi application is mandaroty in check-in (Fig. 16) to monitor, process and analyze personal data for *contact tracing* to control the spread of COVID-19 and other diseases in Indonesia  **Fig. 16: mandatory check-in using pedulilindungi application** There are also facilities for body temperature checks (Fig. 17) since the major symtomp of Covid-19 virus infection is fever.  **Fig. 17: mandatory body temperature checking**
4	No cross *signage* on the seats. Passengers were allowed to make social interaction and communicate with each other (Fig. 18)	The design of the seat was changed, where only two individuals are allowed to sit within a distance of 1 meter due to the placement of signage cross. Passengers are no longer allowed to interact with each others. This also prevent high passenger density from occuring (Fig. 20)

No	Behavior Before the Pandemic	Behavior After the New Normal
	 **Fig. 18: not yet available signage keep your distance and free users in social interaction** Passengers freely interacted to each other, causing noises and overcrowding users (Fig. 19)  **Fig. 19: free activity**	  **Fig. 20: complying with the physical distancing rules and avoid making social interaction**

Changes in user behavior in the new normal

Notoatmodjo (2012) views behavior as the outcome of external stimuli processing. Behavior encompasses all human activities, including interactions with others and with the physical activities. Sarwono (1995) identified two types of self-adjustment behavior related to the adaptation to a new environment, including behavior modification made to fit the environment. The adjustment of the design and its implications to behavior change as carried out four (4) areas that were mostly occupied by Jakarta MRT passengers.

Table 3: changes in user behavior in response to the new normal.

No	New Normal Facilities	Changes in user behavior in response to the new Normal
1	Availability of hand washing facility & handsanitizer	Handwashing and handsanitizer facilities are provided to prevent the virus transmission. Jakarta MRT passengers need to adapt to the design (→adaptation). Passengers become accustomed to doing hand washing and using hand sanitizer before entering the station.
2	The addition of a body temperature check	Before entering the station, passengers are obliged to have their body temperature checked to ensure that they do not have fever which is the major symptom of Covid-19 virus. Passengers need to adapt to this change (→adaptation).
3	Addition of signage on	Passengers are required to stay distant to each others when

No	New Normal Facilities	Changes in user behavior in response to the new Normal
	building circulation and station seating	sitting and when moving around. They are also banned from making social interaction (→adaptation).
4	The addition of signage how to use a good mask on the interior of the building	Signages are meant to encourage passengers to comply with the health protocols: wearing masks (→ adaptation). Passengers become accustomed to wearing masks.

Observations conducted at four key locations showed that passengers adapted well to the new normal protocols (Table 3). The new normal signages were made to direct the passengers to apply the health protocols. Therefore, public spaces that are frequently occupied by passengers should be made upon the awareness of this issue. Changes in the design can be implemented in such a way that directs user behavior to align with the expected norms, safety regulation and and comfort.

CONCLUSIONS

The new normal protocols at Jakarta MRT station building have been carried out effectively based on the HK circular number regulation guidelines.02.01/MENKES/335/2020 including health promotion, physical protocols and social distancing protocols. Adjustments were made to the flow and signage of the building, including changes to the shape, flow patterns, and the addition of new signage throughout the interior. These changes prevent passenger density and crowd which ultimately reduce risk of getting contracted Covid-19 virus. As a result, the behaviors of MRT passengers have changed, where users regularly wear masks, use hand sanitizers, before signage was applied by maintaining distance, avoiding physical touch, and minimizing social interaction with others.

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