

To cite this article: Marisa Kristin Caronina Sitepu, Morida Siagian and Dwira Nirfalini Aulia (2026). STREET VENDOR SPACE IN LAPANGAN MERDEKA, PEMATANGSIANTAR, International Journal of Education and Social Science Research (IJESSR) 9 (5): 01-17 Article No. 1282, Sub Id 1968

STREET VENDOR SPACE IN LAPANGAN MERDEKA, PEMATANGSIANTAR

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DOI : <https://doi.org/10.37500/IJESSR.2026.9501>

ABSTRACT

The existence of street vendors in public open spaces affects the character of space utilization and the dynamics of urban activities. This study aims to analyze the characteristics and patterns of street vendor space utilization in Pematangsiantar Merdeka Square based on variations in observation time on weekdays, weekends, and holidays. The research uses quantitative descriptive methods through field observation, spatial mapping, and documentation. The results of the study show that the pattern of street vendor space utilization is dynamic and changes according to the intensity of community activities. During the day, trade activities expand to utilize road corridors, pedestrian paths, areas around public facilities, and open spaces in the interior of the area. Meanwhile, at night, street vendor activities are more concentrated in corridors that have better accessibility, visibility, and lighting. The distribution pattern of street vendors forms a combination of linear and grouping patterns that are influenced by the characteristics of the space and the level of activity of the users of the area. The findings of the study show that the use of space by street vendors is a form of adaptation to the dynamics of public space use, so that area management needs to consider the balance between informal economic activities and the main functions of public open space.

KEYWORDS: Street Vendors, Space Utilization, Distribution Patterns, Public Open Spaces, Social Gatherings

1. INTRODUCTION

Public open space is one of the important elements in the urban structure that functions as a forum for various community activities, such as social interaction, recreation, sports, culture, and economic activities. The existence of public open space not only plays a role as a physical space, but also as a space that is able to improve the quality of life of urban communities through the provision of comfortable, easily accessible, and supportive spaces for various public activities. In the development of modern cities, public open spaces are required to be able to accommodate the increasingly diverse needs of society so that the use of space continues to change following the dynamics of urban activities (Carmona, 2021; Mehta, 2014; Mouratidis, 2024; John et al., 2025). [1,2,3,4] In a social-spatial perspective, space is also formed through the relationship between users and the activities that take place within it. Continuous interaction can form a dynamic character of space utilization and adjust to the needs of its users (Siagian, 2023). [5]

One form of public open space that has an important function in the urban system is the city square. In addition to functioning as a recreation and sports space, the field has also developed into a social interaction space that is able to attract various community activities. The high intensity of these activities causes the field to no longer function as a space with one specific function, but develops into a multifunctional space that is used simultaneously by various groups of users. In these conditions, public spaces can be a meeting space for community groups with diverse backgrounds and interests in activities. Thus, the diversity of users not only increases the variety of activities, but also shapes patterns of space utilization through the interactions that take place within it (Siagian, 2023). [5] This condition shows that the character of a public open space is greatly influenced by the activities that take place in it so that changes in community activities will have an impact on changes in the pattern of regional space use (Carmona, 2021; John et al., 2025). [1,4]

Pematangsiantar Merdeka Square is one of the public open spaces that has an important role in the city of Pematangsiantar. Located in the old city center area, Merdeka Square is used by the community as a space for recreation, sports, gatherings, and various informal economic activities. Its strategic location and high accessibility cause this area to become one of the centers of community activities with a relatively high level of visits throughout the day. This condition encourages the development of street vendor activities who use the spaces around the field as trading locations. According to (Gehl, 2011) [6], the quality of public space is formed through the activities that take place in it, so that the more diverse the activities that occur, the higher the intensity of space utilization. This is also strengthened by Madanipour who stated that public space is a dynamic space and continues to develop according to changing community needs. [7]

The existence of street vendors is part of the dynamics of urban space that cannot be separated from community activities. Street vendors take advantage of spaces that have high movement intensity, good accessibility, and great economic opportunities so that their existence is generally concentrated in crowded public spaces. According to Gandhi and Nurhadi, the existence of street vendors is not only seen as an informal economic activity, but also as a supporting activity that is able to increase the intensity of the use of public space if managed appropriately [8]. On the one hand, street vendor activities are able to increase the vitality of the region through the provision of goods and services and strengthen local economic activities. However, on the other hand, the use of space by street vendors also has the potential to affect the function of public open spaces, especially related to circulation, accessibility, comfort, and visual character of the area if not managed properly (Roever & Skinner, 2024; Bailey & Kamalipour, 2025; Soja, 2010; Yatmo, 2021). [9, 10, 11, 12]

Various studies on street vendors have discussed many economic, social, and policy aspects of their arrangement. However, studies that specifically analyze the characteristics of street vendor spaces based on the pattern of space utilization in public open spaces, especially in urban fields that have historical value such as Pematangsiantar Merdeka Square, are still relatively limited. Most of the

research focuses more on space use conflicts or informal economic activities, while studies on how street vendor activities shape spatial character and spatial spatial use patterns are still not widely done. This condition shows the need for research that focuses on the characteristics of street vendor spaces as part of the dynamics of urban public open spaces.

Based on these conditions, this study aims to analyze the characteristics and patterns of use of street vendor spaces in Pematangsiantar Merdeka Square and analyze the implications of their existence on the use of regional space. The results of the research are expected to contribute to the development of studies on the space of street vendors in public open spaces as well as input for local governments in developing spatial planning strategies that are able to accommodate informal economic activities without reducing the main function of Merdeka Square as a public open space.

2. RESEARCH METHODOLOGY

This study uses a descriptive quantitative approach to analyze the characteristics and patterns of use of street vendor space in Merdeka Pematangsiantar Square. The quantitative method is a research method that produces data in the form of numbers or categories that can be calculated and analyzed systematically to obtain an objective picture of a phenomenon (Creswell and Creswell, 2018) [13]. Meanwhile, descriptive research aims to describe a condition, phenomenon, or event based on facts found in the field systematically and actually (Sugiyono, 2022) [14]. This approach was chosen because it is able to describe existing conditions based on the characteristics of street vendor activities through direct observation of the number of traders, types of goods, trading times, and patterns of space utilization. The analysis was carried out to explain the relationship between street vendor activities and the characteristics of the space formed in the research area.

The location of the research is in the Merdeka Field of Pematangsiantar City, North Sumatra, which is one of the public open spaces with a high intensity of community activities. This area was chosen because it has a function as a space for recreation, sports, social interaction, and informal economic activities that take place every day. The existence of these various activities makes Merdeka Square a representative location to identify the characteristics of the Street Vendor space.

Data collection was carried out through field observation, documentation, spatial mapping, and interviews. Observation was carried out directly to identify trading locations, types of merchandise, trading times, and patterns of street vendor distribution. Documentation was used to record the existing conditions of the area, while spatial mapping was carried out to describe the distribution of street vendor locations based on observation time. Interviews are used as supporting data to obtain information about trade activities and space utilization by street vendors. All data were collected during seven observation days representing weekdays, weekends, and national holidays, then selected one of the most representative days in each category based on the number of street vendors observed for further analysis.

The research variables were compiled based on a theoretical synthesis of street vendor activities which included the type of trade, trading time, distribution pattern, and zoning of space use. These variables are used to explain the characteristics of street vendor space and the relationship between trade activities and space utilization in Pematangsiantar Merdeka Square.

The data obtained were analyzed using frequency tabulation, and spatial interpretation. Frequency tabulation is used to determine the number of street vendors based on the category of observation time, and to compare the characteristics of activities based on the type of trade and the time of trading. Furthermore, spatial interpretation was carried out on the results of mapping the distribution of street vendors to identify the pattern of space utilization formed and its implications for the function of public open space in Lapangan Merdeka Pematangsiantar.

3. RESULTS & DISCUSION

3.1 Pattern of Utilization of Street Vendor Space on Weekdays

The results of observations show that the use of space by street vendors on weekdays is influenced by the intensity of community activities that take place during the day and night. During the day, the number of street vendors is relatively small and tends to occupy road corridors and pedestrian paths adjacent to the entrance and exit areas of visitors. Trade activities are dominated by food and beverage traders who serve the community who carry out sports and recreational activities in the Merdeka Square area. This condition shows that the use of space during the day is still concentrated in locations that have high accessibility so that not all field areas are used as trading locations.

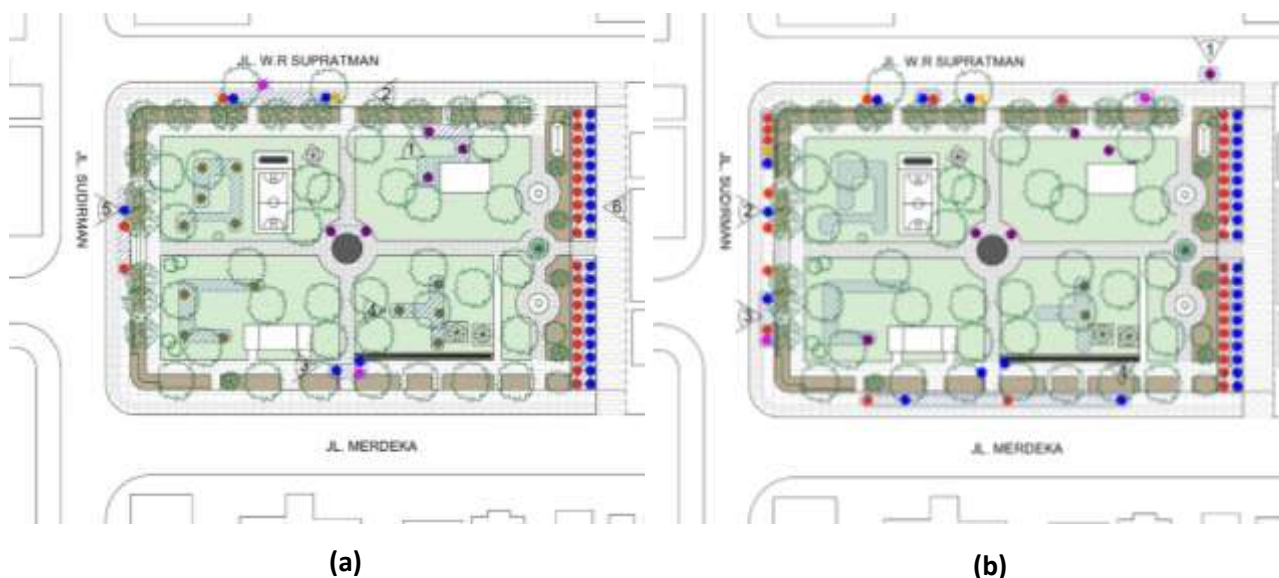


Figure 1: (a) Distribution Pattern Plan on Weekdays in Time; (b) Distribution Pattern Plan on Weekdays at Night

Based on Figure 1a during the day, it shows the pattern of use of the Street Vendor space in Pematangsiantar Merdeka Square on weekdays based on the results of day and night observations. During the day (Figure 1a), 71 street vendor points were identified spread across the corridor of Jalan W.R. Supratman, Jalan Sudirman, pedestrian paths, and areas around public facilities, such as play areas, skateboarding areas, reflection areas, and landmarks. Meanwhile, Figure 1b at night, the number of street vendors increased to 72 points, with the distribution more concentrated in the corridors of Jalan W.R. Supratman, Jalan Sudirman, and Jalan Merdeka, while the use of green areas in the interior of the area began to decrease. These changes show that the use of street vendor space is influenced by accessibility, visibility, and intensity of community activities at the time of observation.

This condition is in line with Peimani and Kamalipour who stated that street vendors tend to choose spaces with a high level of human movement to maximize opportunities for interaction and economic activity [10]. The findings of the study show that on weekdays street vendors form a linear pattern along road corridors and pedestrian paths (Figure 2a), as well as a grouping pattern in spaces around public facilities that have a higher concentration of visitor activity (Figure 2b).



Figure 2a: Linear Patterns Along Road Corridors and Pedestrian Streets During the Day and Night



Figure 2b: Pattern of Grouping in the Spaces Around Public Facilities During the Day

Figure 2a and 2b show documentation of street vendor activities on weekdays that take place side by side with community activities in Merdeka Square as a space for recreation, sports, and social interaction. During the day, trade activities are still taking place with moderate intensity and utilizing the main corridor and several spaces in the interior of the area, so that many use the corridor of roads and pedestrian roads. At night, the interaction between traders and visitors increases so that trade activities are more concentrated on corridor roads that have better accessibility, visibility, and lighting, while there is no pattern of traders grouping in the Merdeka Square area due to the absence of lights provided so they choose to be in the road corridor. So, there is a difference between day and night, where during the day traders form a linear pattern and group them that take advantage of the area in Merdeka Square. Meanwhile, at night traders help with a linear pattern along the road corridor because it is more visible to visitors because of the activities of the community that passes through the main road in the Merdeka Square area and has sufficient lighting in the road corridor compared to the inner area of Merdeka Square.

Therefore, this condition shows that street vendors tend to use spaces that have a higher intensity of community activities without eliminating the main function of Merdeka Square as a public space. These findings are in line with Carmona and Widjajanti who stated that public spaces are able to accommodate various activities simultaneously [1, 15], and support Yatmo's opinion that street vendor activities are part of the dynamics of urban space that develop through the process of adaptation to the social and economic needs of the community [12].

3.2 Pattern of Utilization of Street Vendor Space on Weekends

Street vendor activity on weekends showed a higher increase compared to weekdays. The increasing number of people who use Merdeka Square as a recreational space has led to an increase in the number of traders and variations in the types of goods. The space that was previously only used in the road corridor began to develop into a recreational area that has a high intensity of community activities.



Figure 3: (a) Distribution Pattern Plan on Weekends in Daytime; (b) Distribution Pattern Plan on Weekend Days at Night

Based on Figure 3, it shows the pattern of the use of street vendor space on weekends based on the results of day and night observations. During the day (Figure 3a), 96 street vendor points were identified spread across the Merdeka Square area. The distribution of street vendors is growing not only in the sidewalk corridors of Jalan W.R. Supratman, Jalan Sudirman, and Jalan Merdeka, but also in pedestrian paths, play areas, skateboarding areas, and around landmarks which are used as additional service spaces through mat outlets. Compared to weekdays, the increase in the number of street vendors shows that the high level of community activity on weekends encourages the expansion of space utilization to the interior of the area. So that it forms a linear pattern on the corridor of roads and pedestrian roads and groups in green areas and public facilities in Merdeka Square. (Figure 4a).

At night (Figure 3b), the number of street vendors increased to 100 points with a more dominant concentration of activity in the corridors of Jalan W.R. Supratman, Jalan Sudirman, and Jalan Merdeka. In contrast, the utilization of green areas decreased compared to daytime as trading activities were more oriented towards spaces that had better accessibility, visibility, and lighting. Thus, traders are more in road corridors that form a linear pattern (Figure 4b). These findings show that changes in activity times affect the pattern of street vendor space utilization, where trading locations develop adaptively following changes in the intensity of community activities in Merdeka Square [12].



Figure 4a: Linear Patterns and Grouping Patterns During the Day



Figure 4b: Linear Patterns Along Road Corridors and Pedestrian Walkways at Night

Figures 4a and 4b show documentation of street vendor activities on weekends that take place more intensively than weekdays. During the day, trade activities flourish around sidewalk corridors, pedestrian paths, play areas, and public facilities that have high visitor rates. Meanwhile, at night, street vendor activities continue to be active, but more concentrated in the corridors of Jalan W.R. Supratman, Jalan Sudirman, and Jalan Merdeka, while the use of green areas in the interior of the area begins to decrease. This condition shows that the use of space and the pattern of space formation by street vendors develops following changes in community activities and the characteristics of spaces that have better accessibility, visibility, and lighting. This finding is in line with Widjajanti who stated that street vendors tend to develop in locations with high intensity of visits [16], as well as the existence of teroi who said that street vendor activities are part of the dynamics of urban space that adapt to changes in community activities [12].

3.3 Pattern of Utilization of Street Vendor Space on Holidays

Holidays are the period with the highest intensity of street vendor activities during observation. Almost all of the road corridors around Merdeka Square are used as trading locations, while recreational areas are the center of concentration of community activities. The increase in the number of visitors causes the trade space to develop more widely than weekdays and weekends.



Figure 4: (a) Distribution Pattern Plan on Holidays in Daytime; (b) Distribution Pattern Plan on Holidays at Night

Based on Figure 5, the mapping results show that on holidays there are 71 street vendor points during the day (Figure 5a) and increase to 72 street vendor points at night (Figure 5b). Although the increase in the number of street vendors is relatively small, there is a change in the distribution pattern that forms a combination of linear patterns and clustering patterns. Linear patterns develop along the corridors of Jalan W.R. Supratman, Jalan Sudirman, Jalan Merdeka, as well as pedestrian paths that

have high accessibility, (Figure 6a) while clustering patterns are formed in areas around public facilities such as play areas, skateboard areas, reflection areas, and landmarks (Figure 6b). This condition shows that the choice of trading location is influenced by the level of accessibility of the space, the intensity of visitor activities, and the interaction opportunities created at each location. These findings are in line with the theory that street vendor activities tend to develop in spaces with high human mobility [10]. In addition, there is a theory that explains that corridors with high activity intensity are service locations that are more in demand by informal traders because they provide greater accessibility and interaction opportunities with space users [15].



Figure 6a: Linear patterns and clustered patterns in road corridors and pedestrian walkways during the day and at night

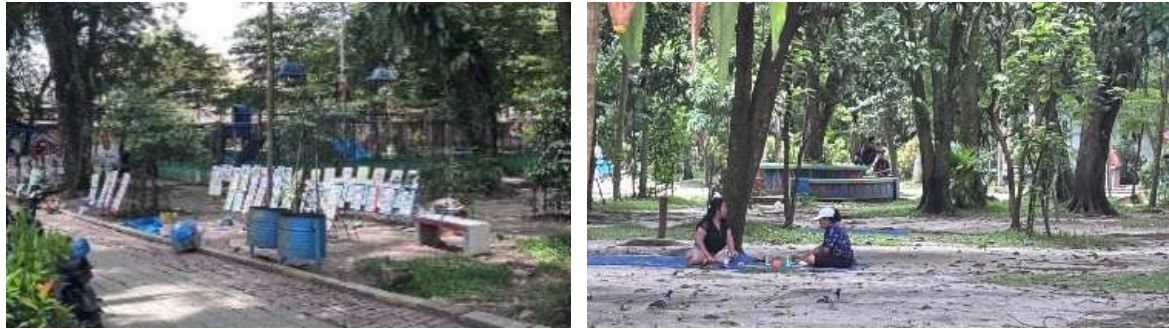


Figure 6b: Pattern Clustering in the spaces around public facilities and green areas during the day

The documentation in Figure 6 shows documentation of the activities of Street Vendors on holidays during the day and night. During the day, trading activities take place with high intensity and develop around road corridors, circulation routes, play areas, landmarks, and open spaces in the interior of the area that is the center of community activities. On the other hand, at night street vendor activities continue to be active, but the distribution is more concentrated in sidewalk corridors and main circulation routes that have better accessibility, visibility, and lighting. This condition shows that changes in activity times affect the pattern of street vendor space utilization, where the increase in community activity on holidays encourages the expansion of commercial spaces during the day, then shifts to the main corridor at night. These findings are in line with the theory that explains that informal traders tend to use corridors with high activity intensity as service spaces because they have greater accessibility and interaction opportunities [15].

3.4 Characteristics of the Existence of Street Vendors Based on the Number of Traders and the Time of Trading Activity

After analyzing the pattern of space utilization of street vendors, the next analysis is focused on the characteristics of the existence of street vendors based on the number of traders, types of goods, and the time of trading activities. The observation data grouped into the categories of weekdays, weekends, and holidays are presented in the form of tables and graphs to show changes in the characteristics of street vendor activities in each category of observation days.

Table 1: Analysis of the Existence of Street Vendors in Merdeka Square by Number, Type, and Time.

Types of street vendors	Trading Time	<i>Number of street vendors on weekdays</i>	<i>Number of street vendors on weekends</i>	<i>Number of street vendors on Holidays</i>
Food	Afternoon	24	30	44
	Night	32	40	58
Drinks	Afternoon	25	29	29
	Night	30	31	36
Children's Clothing	Afternoon	6	11	18
	Night	6	15	20
Accessories	Afternoon	1	4	3
	Night	2	6	7
Children's Toys	Afternoon	2	5	4
	Night	2	8	10
Clothing	Afternoon	-	-	2
	Night	-	-	-
Kiosk Mat	Afternoon	13	17	30
	Night	-	-	-
Total	Afternoon	71	96	130
	Night	72	100	131
Total street vendors		143	198	261

Based on Table 1, the number of Street Vendors at Merdeka Pematangsiantar Square showed an increase in each category of observation days, from 143 street vendors on weekdays to 198 street vendors on weekends and reaching 261 street vendors on holidays. This increase shows that trade activities are growing in line with the increasing intensity of the use of the Merdeka Square by the community. Based on the type of merchandise, food and beverage street vendors are the most dominant type of business in all categories of days, while children's games, children's toys, accessories, and mat stalls have increased, especially on weekends and holidays. This condition shows that the variety of types of merchandise develops according to the needs and characteristics of visitor activities in the region. These findings are in line with the theory that the development of street vendor activities is influenced by the high intensity of community visits and the characteristics of the space that are able to support trade activities [16].

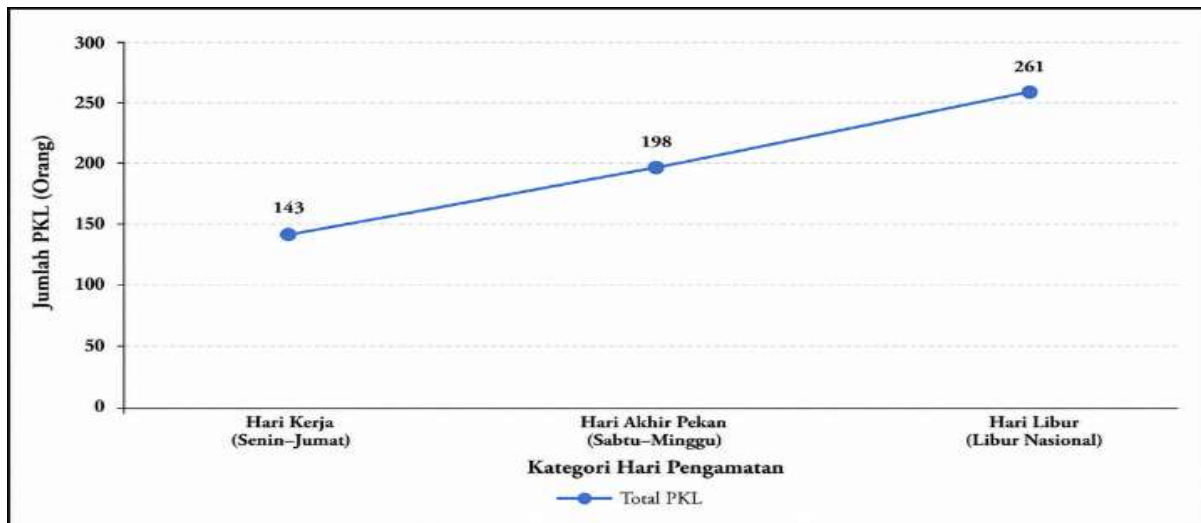


Figure 7: Comparison Chart of the Number of Street Vendors by Observation Day Category

Figure 7. showed an increase in the number of Street Vendors at Merdeka Square, Pematangsiantar from 143 street vendors on weekdays to 198 street vendors on weekends and 261 street vendors on holidays. This increase shows that the high level of community activity encourages an increase in the number of street vendors and the expansion of space utilization in areas that have high accessibility and activity intensity. These findings are in line with the theory that explains that the intensity of life in public spaces is related to the existence and activities of space users. Increasing community activities at a certain time can encourage the development of additional activities that follow the concentration of space users. [6].

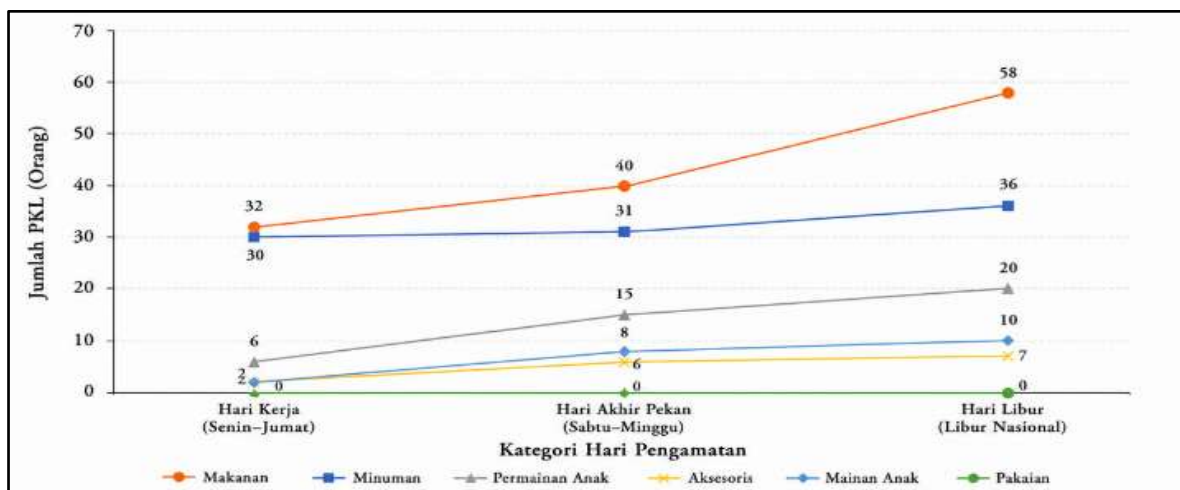


Figure 8: Comparison Chart of the Number of Street Vendors by Observation Day Category

Figure 8 shows that during the day, food street vendors were the most dominant type of merchandise in all categories of observation days, increasing from 24 street vendors on weekdays to 30 street vendors on weekends and 44 street vendors on holidays. Stall mats have also increased from 13 to 17

and 30 street vendors, while beverage street vendors are relatively stable. Meanwhile, children's games, children's toys, and accessories are gradually increasing, while street vendor clothing is only found on holidays in limited quantities. These results show that the diversity of types of merchandise is growing following the increase in visitor activity. This finding is in line with Peimani and Kamalipour (2025) who stated that street vendors tend to develop in spaces with high accessibility and activity intensity.

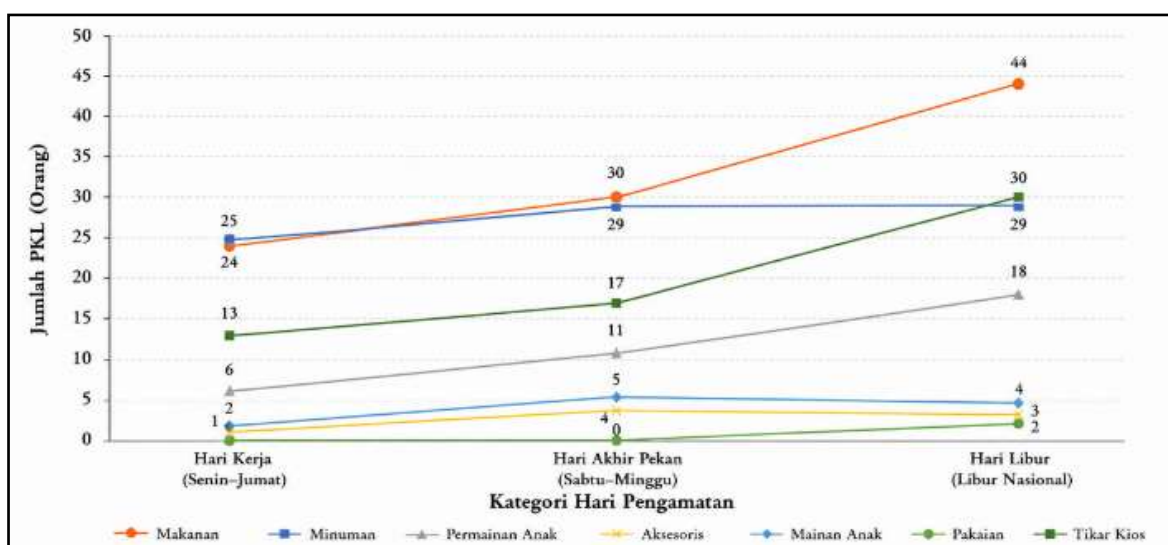


Figure 9: Comparison Chart of Number of Street Vendors Based on Trading Type at Night

Figure 9 shows that at night, food vendors were the most dominant type of merchandise in all categories of observation days. The number increased from 32 street vendors on weekdays to 40 street vendors on weekends and reached 58 street vendors on holidays. Beverage street vendors also showed a relatively high number, increasing from 30 to 31 and 36 street vendors. This condition shows that culinary activities are the main character of the use of the Merdeka Square space at night.

Based on the observation results, food and beverage traders generally use the sidewalk corridors along Jalan W.R. Supratman, Jalan Sudirman, and Jalan Merdeka which have high accessibility. In contrast to during the day where trade activities also develop in green areas, at night street vendor activities are more concentrated in the corridors outside the area. This finding is in line with the theory that the use of public open space is dynamic and develops according to the activities and needs of the community [1].

3.5 Discussion

The results of the study showed that the characteristics of the use of the Street Vendors space in the Pematangsiantar Merdeka Square were related to the intensity of community activities, accessibility, and spatial configuration. The increase in the number of street vendors from 143 street vendors on weekdays to 198 street vendors on weekends and 261 street vendors on holidays shows that the

existence of street vendors follows changes in the intensity of activities in the region. In these conditions, street vendors form a linear pattern on road corridors and pedestrian paths that have a high flow of movement, while the grouping pattern develops in play areas, landmarks, and recreational spaces that are the center of community activities. This finding is in line with Sandhika et al. (2024) theory that the spatial configuration of street vendors is related to the formation of economic and social activities in public spaces [17]. Qardawi et al. (2025) There is also a theory that shows that the pattern of street vendor activity and distribution is related to the characteristics of public spaces and can affect the accessibility and function of space [18]. Thus, the linear pattern and grouping in Merdeka Square shows that street vendors tend to adjust the location of activities to spaces that have higher activity intensity and user interaction opportunities.

In terms of space utilization, the concentration of street vendors around play areas, landmarks, and recreational spaces shows that trade activities develop following spaces that have the attractiveness and intensity of community use. Rahayu et al. (2026) There are indications that street vendors can play a role as activity support that supports the continuity of activities and the livability of public spaces. Meanwhile [19], while Phen et al. (2025) other theories show that street vendors tend to choose strategic locations and have a high flow of users, but the arrangement still needs to pay attention to the function of public spaces and applicable spatial provisions [20]. The findings reinforce that the pattern of street vendor space utilization in Merdeka Square is not formed randomly, but is a form of adaptation to activity intensity, accessibility, and spatial characteristics. Therefore, the arrangement of street vendors needs to consider these three aspects so that informal economic activities can take place without reducing the circulation, recreation, and social functions of Merdeka Square as a public space.

4. CONCLUSION

This study shows that the use of street vendor (PKL) space in Pematangsiantar Merdeka Square forms two main patterns, namely linear patterns along the corridors of Jalan W.R. Supratman, Jalan Sudirman, Jalan Merdeka, as well as pedestrian paths that have high accessibility, and clustering patterns in areas that are the center of community activities, such as play areas, landmarks, and recreational spaces. The increase in the number, type of merchandise, and trading location on weekdays, weekends, and holidays shows that the characteristics of street vendor space utilization are influenced by the intensity of community activities, regional accessibility, and spatial characteristics. Trade activities are dominated by food and beverage traders, while the increase in the number of street vendors on weekends and holidays indicates that the use of space is thriving following locations that have high levels of visits and interaction opportunities.

The existence of street vendors also increases the vitality of Merdeka Square through the provision of goods and services that support recreational activities, social interactions, and community economic activities. However, the increased intensity of trading activities on weekends and holidays also causes the main corridor to be used more intensively, potentially affecting the comfort of pedestrian circulation. Therefore, the arrangement of street vendors needs to consider the characteristics of the

pattern of space utilization, the intensity of community activities, and the main function of Merdeka Square as a public open space so that informal economic activities can run in harmony with the social, recreational, and circulation functions of the region. The results of this study are expected to be a reference in the preparation of a more adaptive and sustainable street vendor arrangement strategy in public open spaces in urban areas.

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