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The Influence of Circulation Patterns on Visitor Crossing Patterns at Cihampelas Walk Bandung

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ABSTRACT

This research aims to analyze the relationship between the spatial circulation patterns at Cihampelas Walk Mall (Ciwalk) Bandung and the movement patterns as well as the distribution of visitors within the area. The main issue in this research is how the right circulation pattern can enhance comfort, movement efficiency, and the even distribution of visitors within the shopping center area. The research was conducted using a verifiable qualitative approach through descriptive-analytical and descriptive-comparative methods. Data were collected through direct observation, interviews with managers and visitors, field documentation, and literature review of theories related to spatial circulation. The objects of study include space configuration, circulation paths, and user interactions in the indoor and outdoor areas of Ciwalk. The research results show that the circulation design at Ciwalk is linear-dynamic, formed by the arrangement of building masses that respond to the irregular site shape and the application of the open mall concept. Linear patterns are commonly found in retail areas, while open areas such as plazas and gardens exhibit dynamic circulation patterns that support movement flexibility. The presence of the skywalk, central plaza, and pedestrian pathways surrounding the main building plays a crucial role in creating meeting points for visitors and naturally directing the flow of circulation. The separation of vehicle and pedestrian paths also enhances the comfort and safety of visitors. This study concludes that a well-designed circulation pattern can optimize spatial experience, enhance the area's attractiveness, and support the sustainability of visitor activities comprehensively

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1. INTRODUCTION

Shopping centers are often referred to as malls. Malls are places where people of all ages, from children to the elderly, can spend their weekends with family or relatives (Fauzi & Herindiyati, 2022). Shopping centers serve as venues for buying and selling activities, with the aim of transferring the rights to goods or services (Santarek et al., 2022; Yip & Bocken, 2023). Beyond their commercial function, modern shopping centers also act as Community Centres and Recreational Facilities (Wicaksono et al., 2019). From the Customer Experience Management (CEM) perspective, shopping centers capable of creating a unique and engaging shopping experience can leave a lasting positive impression on visitors. To achieve this, shopping centers are expected to offer a comfortable and attractive spatial environment, excellent customer service, and memorable events or activities for visitors (Kohikoji & Koistinen, 2019; Rohman & Azizah, 2023). An essential element supporting this experience is the circulation flow, which can be interpreted as the "string" that connects different spaces within a building, both indoors and outdoors, ensuring their interrelation. The arrangement of layout and circulation should be adapted to the activity patterns of space users so that both visitors and users can move comfortably and freely (Hidayat & Wibowo, 2022; Utami & Saleh, 2022).

In the context of urban tourism, Bandung City stands out as one of Indonesia's prime destinations, offering diverse attractions including family recreation spots, natural beauty, culinary centers, and fashion hubs (Chan et al., 2019). This appeal draws not only domestic tourists but also opens up investment opportunities for property developers and shopping centers (Auliya & Muis, 2023). In response to these trends, the development of shopping centers is increasingly adopting concepts that combine shopping with recreation and social interaction (Permana et al., 2023). This shift reflects changes in community lifestyles, where activities that traditionally took place in open public spaces like city parks have gradually moved into shopping centers as venues for gathering and socializing. Typically, modern shopping centers comprise multiple tenants rented to entrepreneurs, accompanied by anchor tenants such as supermarkets or department stores (Tan & Aji, 2022).

One of the prominent examples of this concept in Bandung is Cihampelas Walk (Ciwalk) a shopping center located along the Cihampelas road corridor. Initiated in 2002 and operational since 2003, Ciwalk was designed as Bandung's first open mall, emphasizing open public spaces for pedestrians (Asriana et al., 2023). In the management of shopping centers such as Ciwalk, one crucial aspect that must be considered is the spatial circulation pattern (Blazi & Łabuz, 2022). This pattern refers to the flow of movement from one space to another, intended to create visual comfort while maximizing the efficient use of space (Purwaningrum et al., 2024; Pynkyawati et al., 2022). Generally, circulation systems in buildings are classified into horizontal and vertical circulations (Mangkuluhur et al., 2024). Horizontal circulation typically consists of corridors and walkways that connect spaces on the same level, whereas vertical circulation enables movement across different levels of the building through elements such as stairs, ramps, or elevators (Pradini et al., 2022).

The organization of spatial circulation within a shopping center directly impacts visitor mobility, behavior patterns, spatial experiences, and the overall appeal of the space. A well-designed circulation system encourages visitors to stay longer, improves access to various retail and service areas, and supports seamless integration between indoor and outdoor environments (Putra et al., 2023). In open mall concepts like Ciwalk, where pedestrian pathways, green areas, and public interaction spaces are prioritized, the spatial circulation pattern plays a strategic role in directing visitor flow and managing crowd distribution (Wen et al., 2020; Norazman et al., 2023). Given its significance, evaluating the effectiveness of circulation patterns is necessary to optimize spatial functions and enhance visitor comfort. Based on these considerations, this research seeks to examine how circulation patterns in a shopping center can enhance spatial experience while analyzing the relationship between circulation patterns and visitor density

2. METHOD

This study employed a verificative qualitative approach using descriptive-analytical and descriptive-comparative methods. According to (Sukmadinata, 2021), descriptive research aims to systematically describe research objects without manipulating variables, while analytical methods are used to interpret the collected data within its contextual setting (Miles et al., 2020). Primary data were collected through direct field observation in the Cihampelas Walk (Ciwalk) Bandung area to identify patterns of visitor movement and concentration based on spatial configurations and existing circulation paths. Additionally, semi-structured interviews were conducted with site managers and visitors to gather perceptions regarding comfort, accessibility, and activity patterns within the mall environment.

Secondary data were obtained through literature reviews of previous research and theoretical studies related to spatial circulation, open mall concepts, and commercial space design strategies. Based on (Tabina, 2024) emphasizes the importance of combining primary and secondary data collection in order to produce comprehensive findings, utilizing both field documentation and digital data from relevant government and private institutions. The collected data were then analyzed by comparing the actual circulation patterns observed on-site with established theoretical principles. The analysis focused on elements such as building mass configuration, pedestrian pathways, plaza areas, skywalk connections, and vehicular-pedestrian access arrangements to assess their alignment with the expected standards of visitor comfort, movement efficiency, and spatial experience. The findings from this analysis were synthesized to draw conclusions on the effectiveness of the circulation patterns implemented at Ciwalk Bandung and their implications for optimizing visitor experience and supporting sustainable activity distribution within the mall environment.

3. RESULT AND DISCUSSION

Ciwalk is a shopping center located in the city of Bandung and has been established since 2004. Ciwalk has undergone a transformation and has several functions within it,

including as a shopping place, an entertainment venue, a dining area, and one of the tourism icons. Ciwalk also plays a role in making Bandung a Tourist City with its popularity and the uniqueness of the building concept and the mall area itself. The Ciwalk building has a combined mass with a dynamic shape in the site area and a linear shape in the mall building. Several building masses in the Ciwalk area have a dynamic shape, resulting in a site with diverse forms, caused by the site design responding to the building shapes in the Ciwalk Mall Bandung area (Paramita & Zahnd, 2023). The following figures below will explain the spaces of Ciwalk that have a dynamic form, thereby creating a simple circulation pattern for visitors, making it easier for them to reach their destinations. The effect of the dynamic site layout on vehicle circulation is illustrated in **Figure 1**, which shows the traffic flow pattern on the lower ground floor of Ciwalk Mall.

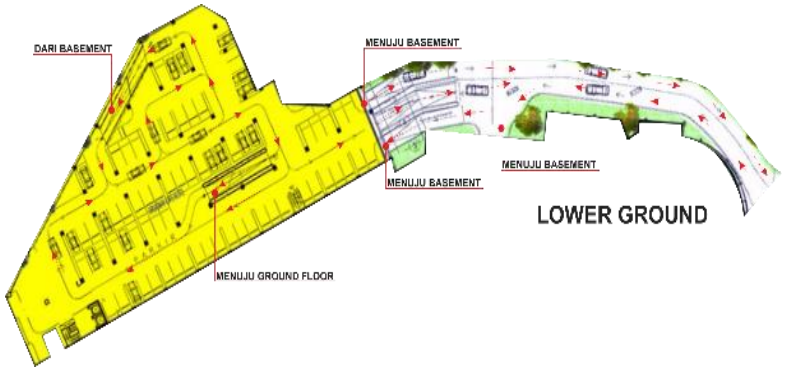

Figure 1. Vehicle Circulation Pattern LG Floor

Based on the findings in **Figure 1**, the circulation pattern in the Ciwalk area implements a direct access system from the parking area to the ground floor area through a special entrance. This pattern facilitates visitor access and reduces the potential congestion at the main entrance. Additionally, the presence of this alternative route also helps to distribute visitor traffic evenly in the area, making activities at the tenants around the route more vibrant and allowing the circulation space to be utilized optimally (Li & Zhao, 2018). In addition to vehicle circulation patterns, pedestrian circulation within the Ciwalk area plays an equally important role in supporting visitor movement and ensuring efficient activity distribution. The pedestrian circulation pattern at the ground floor level, including the entrance points, main circulation routes, and communal spaces, is shown in **Figure 2**.

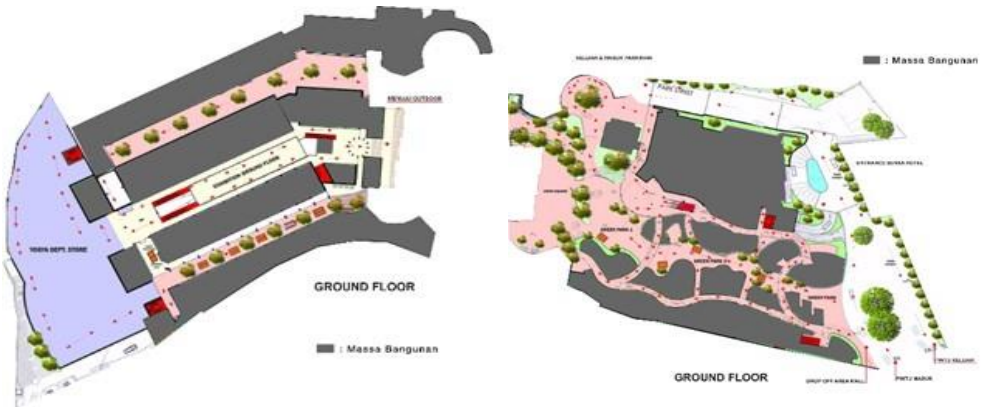

Figure 2. Human Circulation Pattern GF Floor

Figure 2 shows that on this GF floor there are several entrances, namely from the Ciwalk entrance and the parking area. A linear pattern is visible in the circulation of the mall's exhibition area. Because the garden area 1 has a sufficiently large and open space, it is designated as a communal area since it is located in the central area of Ciwalk. In the garden or outdoor area, the circulation appears more dynamic due to the building design pattern that responds to the site. With the dynamic design of the outdoor area, it becomes a venue for events or performances, especially since it is located in the central area of Ciwalk (Raharjo & Hadi, 2024). Next, **Figure 3** shows the circulation pattern on the 1st Floor.

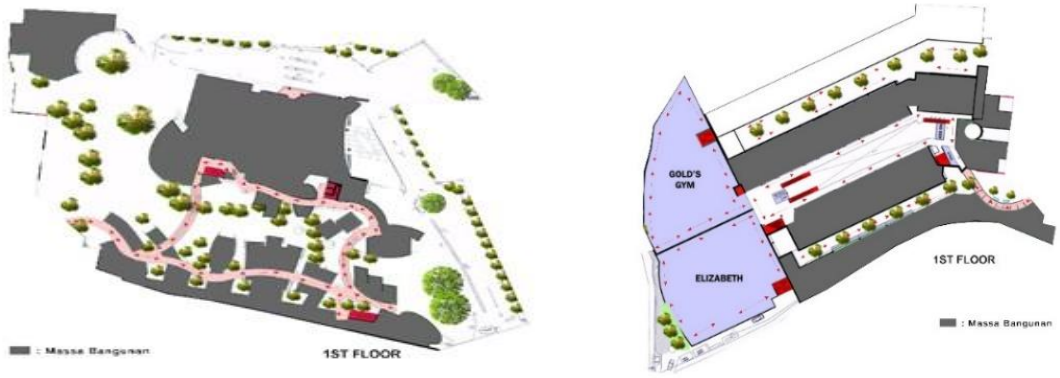

Figure 3. Human Circulation Pattern 1st Floor

Figure 3 explains the condition of the first floor. On this floor, there is one of the icons of the Ciwalk area, the skywalk. The presence of the skywalk supports a dynamic circulation pattern by facilitating the movement of visitors from one area to another without having to return to the ground floor (Samant, 2019). Meanwhile, in the mall area, the circulation pattern is still dominated by a linear pattern formed by rows of retail on the left and right sides of the corridor, creating a straight path with a clear orientation (Beritelli et al., 2020). This pattern provides convenience for visitors in determining their direction of movement and reaching their intended tenants. Next, to provide a clearer overview of the human circulation pattern on the second floor of Ciwalk, the following illustration shows the distribution of functional areas and the main visitor circulation routes. The arrangement of these spaces, along with the pattern of connecting pathways, is shown in **Figure 4**.

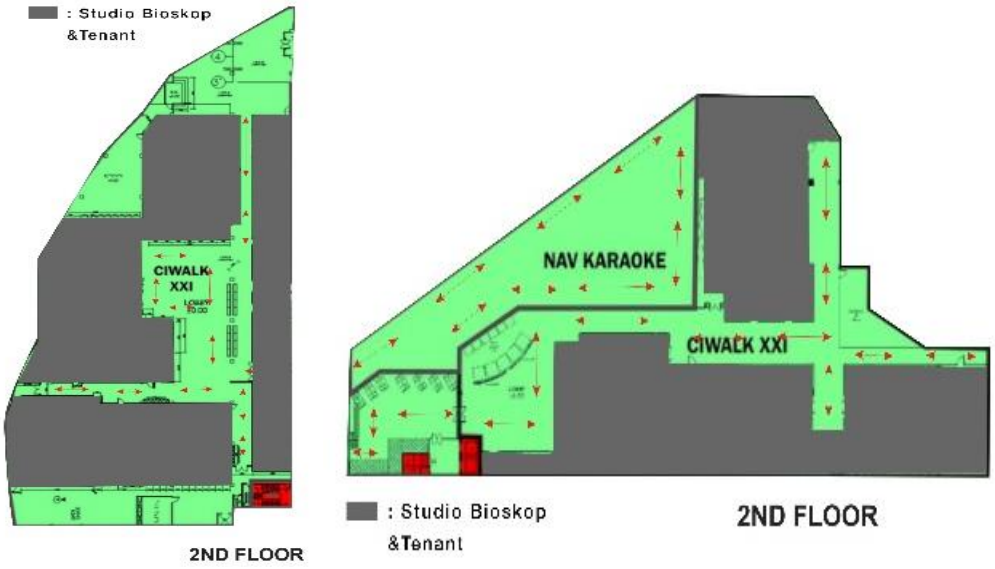

Figure 4. Human Circulation Pattern 2nd Floor

Figure 4 explains that the second floor of Ciwalk only has 2 areas, namely the cinema area and the karaoke area. There is still a linear circulation pattern but it is more dynamic, and there are several straight lines in this area that make it easier for visitors to reach their intended movie studio. The explanation above shows that the circulation pattern follows the arrangement of spaces and the building design, where in the case study of the Cihampelas Walk area, the spatial pattern is linear and dynamic, resulting in a linear and dynamic circulation pattern.

With this circulation and pedestrian system, each retail and area has a strategic location and allows visitors to easily reach their destinations within the Cihampelas Walk area (Fhadilla & Firmandhani, 2022). Visitor circulation begins at the main entrance, which directly leads to the outdoor garden area and skywalk access. This circulation pattern encourages the even distribution of visitors and activates the retail areas as well as the spaces located between the area's anchor tenants. To clarify the visitor circulation pattern occurring in the Cihampelas Walk area, **Table 1** is presented below, showing the types of distribution patterns and the forms of circulation spaces applied from the parking area to the second floor.

Table 1. Distribution Patterns and Circulation Space

Image	Type of Distribution Pattern	Form of Circulation Space	Photo
Vehicle Circulation Pattern on LG Floor	The distribution pattern in the parking area combines two types: linear, located in front of the parking area or entrance, and	The form of circulation space in the parking area uses an open type on two sides to optimize visibility for vehicles.	

Image	Type of Distribution Pattern	Form of Circulation Space	Photo
	radial, applied within the parking area.		
Human Circulation Pattern on GF Floor	The distribution pattern in the ground floor area uses a linear type, applied both in outdoor and indoor areas.	The form of circulation space uses an enclosed type on two sides (end-closed). This pattern provides enclosed space for indoor areas.	
Human Circulation Pattern on GF Floor	The distribution pattern in the ground floor area uses a mixed pattern in outdoor areas. A mixed circulation pattern connects multiple points within a space.	The form of circulation space uses an enclosed type on two sides, with retail, shops, or food courts positioned alongside.	
Human Circulation Pattern on 1st Floor	The distribution pattern in the skywalk area uses a mixed pattern, connecting one point to another.	The form of circulation space uses an open type on two sides, providing a more open impression for visitors.	
Human Circulation Pattern on 1st Floor	The distribution pattern in the ground floor area uses a linear pattern applied in both outdoor and indoor areas.	The form of circulation space uses an open type on one side, forming a balcony that creates spatial and visual continuity with the connected spaces.	
Human Circulation Pattern on 2nd Floor	The distribution pattern in the skywalk area uses a mixed pattern, connecting one point to another.	The form of circulation space uses an enclosed type on two sides, providing enclosed space for circulation	

Image	Type of Distribution Pattern	Form of Circulation Space	Photo
		users and indoor areas.	
Human Circulation Pattern on 2nd Floor	The distribution pattern in the skywalk area uses a mixed pattern, connecting one point to another.	The form of circulation space uses an enclosed type on two sides, providing enclosed space for circulation users and indoor areas.	

Based on **Table 1**, overall, the circulation pattern in the Ciwalk area implements a combination of linear, radial, and mixed patterns, adjusted to the functions and spatial characteristics of each area. The flexibility of this circulation design is reflected through the combination of open and closed space forms, which not only serve as movement pathways but also create diverse spatial experiences for visitors. The diversity of patterns and spatial forms plays a role in creating strong visual integration, clarity of movement orientation, and an even distribution of visitors throughout the area. This approach aligns with the principles of space syntax, which emphasizes the importance of spatial configuration on movement patterns and activity intensity in an area (Sharmin & Kamruzzaman, 2018; Koohsari et al., 2019). Additionally, the implementation of adaptive and context-responsive circulation patterns has become one of the strategies in the design of modern shopping centers to enhance commercial value while providing comfort for visitors (Mufhidin & Maksum, 2021; Salleh et al., 2023).

In addition to serving as movement pathways, the circulation patterns in the Ciwalk area also play a strategic role in regulating the rhythm of activities and creating points of social interaction in various areas. The linear pattern facilitates a clear and efficient flow of movement in the main retail area (Han et al., 2019), while the radial pattern in the parking area eases the distribution of vehicles to various entry and exit points. The mixed pattern is dynamically applied in open areas such as plazas and skywalks, allowing visitors flexibility in choosing routes and gathering points. The variation of these patterns not only affects the intensity of the crowd in each zone but also shapes an intuitive spatial experience, allowing visitors to naturally determine their direction of movement without confusion.

This is in line with the concept of legibility in urban design theory, which emphasizes the importance of spatial readability for users (Boeing, 2021). Thus, the integration of circulation patterns that are adaptive to the site's morphology and user activities at Ciwalk becomes key in realizing an attractive, comfortable, and highly competitive commercial area amidst the development of modern shopping centers in the city of Bandung.

4. CONCLUSION

This research analyzes the relationship between circulation patterns at Cihampelas Walk Mall (Ciwalk) and visitor movement patterns. The research results show that the layout and circulation design have a significant impact on visitor density and distribution. Ciwalk has a non-linear circulation pattern with a combination of indoor and outdoor spaces, providing flexibility and comfort for visitors. The circulation pattern at Ciwalk is divided into several forms, including a linear pattern in the retail area and a more dynamic pattern in open areas such as gardens and skywalks. Strategic space arrangements, such as the presence of plazas and wide pedestrian pathways, support the smooth movement of visitors and create comfortable gathering points. In addition, the vehicle circulation pattern that is separate from pedestrian paths also enhances efficiency and comfort in mobility within the area. With a qualitative approach and comparative analysis of circulation theory, this research emphasizes that good circulation design contributes to comfort, ease of navigation, and a more even distribution of visitors within the Mall. Ciwalk serves as an example of a shopping center that successfully integrates spatial design and circulation patterns to enhance the visitor experience.

REFERENCES

Asriana, N., Koerniawan, M. D., Tambunan, L., & Paramita, B. (2023). The effects street-network configuration in modelling walkability through space syntax. *Dimensi: Journal of Architecture and Built Environment*, *50*(1), 13-20.

Auliya, D. N., & Muis, I. (2023). Strategi pemasaran dalam kegiatan penjualan properti unit rumah ciracas green view pada pt maxirecon. *Jurnal Mahasiswa Bina Insani*, *8*(2), 115-124.

Beritelli, P., Reinhold, S., & Laesser, C. (2020). Visitor flows, trajectories and corridors: Planning and designing places from the traveler's point of view. *Annals of Tourism Research*, *82*, 102936.

Blazy, R., & Łabuz, R. (2022). Spatial distribution and land development parameters of shopping centers based on GIS analysis: A case study on Kraków, Poland. *Sustainability*, *14*(13), 7539.

Boeing, G. (2021). Spatial information and the legibility of urban form: big data in urban morphology. *International Journal of Information Management*, *56*, 102013.

Chan, A., Alexandri, M. B., & Tresna, P. W. (2019). Place brand experience of bandung city as unesco's creative city network in city economy development. *Review of Integrative Business and Economics Research*, *8*(4), 225-238.

Fauzi, F., & Herindiyati, H. (2022). Tinjauan pusat perbelanjaan di kota jakarta dari berbagai aspek arsitektur. *Jurnal Kalibrasi: Karya Lintas Ilmu Bidang Rekayasa Arsitektur, Sipil, Industri*, *5*(1), 45-66.

Fhadilla, P. M. M., & Firmandhani, S. W. (2022). Study of public open space circulation patterns in mall building. *Journal of Architectural Design and Urbanism*, *5*(1), 46-53.

Han, Z., Cui, C., Miao, C., Wang, H., & Chen, X. (2019). Identifying spatial patterns of retail stores in road network structure. *Sustainability*, *11*(17), 4539.

Hidayat, A., & Wibowo, S. S. (2022). Analisis pola sirkulasi pengunjung pada pusat perbelanjaan terbuka di Indonesia. *Jurnal Arsitektur NALARs*, 21(1), 45-60.

Kohijoki, A. M., & Koistinen, K. (2019). The attractiveness of a city-centre shopping environment: older consumers' perspective. *Urban Planning*, *4*(2), 5-17.

Koohsari, M. J., Oka, K., Owen, N., & Sugiyama, T. (2019). Natural movement: A space syntax theory linking urban form and function with walking for transport. *Health & place*, *58*, 102072.

Li, S., & Zhao, P. (2018). Restrained mobility in a high-accessible and migrant-rich area in downtown Beijing. *European transport research review*, *10*, 1-17.

Mangkuluhur, S. R., Firmansyah, R., & Siregar, F. S. (2024). Perancangan ulang stasiun cisauk kabupaten tangerang dengan pendekatan teknologi. *eProceedings of Art & Design*, *11*(5), 7027-7042.

Miles, M. B., Huberman, A. M., & Saldana, J. (2020). *Qualitative data analysis: A methods sourcebook* (4th ed.). SAGE Publications.

Mufhidin, A., & Maksum, A. (2021). Desain road barrier untuk persimpangan jalan (studi kasus: jalan layang jakarta, bandung). *Jurnal Pendidikan Teknik Bangunan*, *1*(2), 69–78.

Norazman, M. A., Yuserrie, F. A. H., Aziz, A. A., Yusoff, M. A. M., & Khair, S. M. A. S. A. (2023). The effect of space planning on social interactions in public places: a case study of kompleks pkns bangi, selangor. *International Journal of Business and Technology Management*, *5*(S2), 378-390.

Paramita, K., & Zahnd, M. (2023). Contextual modernism: the case of *ciwalk*'s architectural language. *Journal of Asian Architecture and Building Engineering*, 22(3), 145-160.

Permana, R. A., Nuraini, C., & Ramayana, R. (2023). Analisis penerapan konsep arsitektur modern pada bangunan delipark mall di medan. *Innovative: Journal Of Social Science Research*, *3*(3), 7155-7168.

Pradini, P. S., Astuti, R. F., Sihotang, A. F., & Pamungkas, T. (2022). Perancangan rental office kota summarecon bekasi dengan pendekatan arsitektur bioklimatik. *Attractive: Innovative Education Journal*, *4*(2), 426-450.

Purwaningrum, K. A., Asharsinyo, D. F., & Salayanti, S. (2024). Perancangan interior rumah singgah kanker anak ykaki di cilandak, jakarta dengan pendekatan paliatif. *Jurnal Desain Lingkungan Binaan Indonesia*, *1*(2), 88-99.

Pynkyawati, T., Anggriaty, L., Fransiska, N., & Artamevia, A. S. (2022). Kajian kenyamanan ruang ditinjau dari tatanan ruang dalam bangunan GPH PLTP di Rantau Dedap. *Jurnal Arsitektur Zo*, *5*(1), 152-163.

Raharjo, D. S. A., & Hadi, A. A. (2024). Desain lapangan pamedan ahmad yani sebagai taman kota tanjungpinang bebasis kebudayaan melayu kepulauan riau. *Jurnal Kreatif: Desain Produk Industri dan Arsitektur*, *12*(1), 54-63.

Rohman, F., & Azizah, A. (2023). Analisis peran emotional branding strategy dalam meningkatkan loyalitas pengunjung pusat perbelanjaan. *Jurnal Manajemen Pemasaran, 17*(2), 90-100.

Salleh, N. A., Rahman, N. Y. A., Wahab, M. A., & Ahmad, N. (2023). A review on key determinants factors of successful shopping malls. *International Journal of Business and Technology Management*, *5*(S3), 1-11.

Samant, S. (2019). Cities in the Sky: elevating Singapore's Urban spaces. *International journal of high-rise buildings*, *8*(2), 137-154.

Santarek, K., Dao, M. T. H., & Minh, D. T. (2022). Factors impacting effectiveness of R-logistics activities at supermarkets in Vietnam. *International Journal of Multidisciplinary Research and Growth Evaluation*, *3*(1), 217-223.

Sharmin, S., & Kamruzzaman, M. (2018). Meta-analysis of the relationships between space syntax measures and pedestrian movement. *Transport Reviews*, *38*(4), 524-550.

Sukmadinata, N. S**.** (2021). *Metode penelitian pendidikan* .PT Remaja Rosdakarya.

Tabina, G. (2024). Analisis sistem pengelolaan arsip inaktif di pt prima mitra elektrindo. *Student Scientific Creativity Journal*, *2*(1), 48-62.

Tan, A. P., & Aji, F. M. P. (2022). Pengaruh sirkulasi dan tata ruang terhadap minat pengunjung: studi kasus transmart carrefour pabelan. *Prosiding Seminar Ilmiah Arsitektur (SIAR), 3*, 105-106.

Utami, A. R., & Saleh, R. (2022). fasilitas dan pemanfaatan ruang terbuka hijau publik kelurahan pondok kelapa. *Jurnal Pendidikan Teknik Bangunan*, *2*(2), 107–114.

Wen, L., Kenworthy, J., & Marinova, D. (2020). Higher density environments and the critical role of city streets as public open spaces. *Sustainability*, *12*(21), 8896.

Wicaksono, A., Maulana, S., & Saraswaty, R. (2019). Perancangan pusat perbelanjaan dengan tema green architecture di Kota Medan. *JAUR (Journal of Architecture and Urbanism Research), 2*(2), 98-113.

Yip, R. C. W., & Bocken, N. M. P. (2023). Sustainable shopping center development: trends and consumer expectations. *Journal of Retailing and Consumer Services, 70*, 103-115.