

A Behavioral Approach Design for Supporting Sitting Facilities at The Lounge Area Of Minangkabau International Airport (BIM)

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Minangkabau International Airport (BIM), located in West Sumatera, is used as the main air transportation mode to travel outside the West Sumatera province. When waiting for flights, passengers will be in the airport lounge and carry out their activities such as resting, eating and drinking, and even working. However, the airport lounge still needs supporting facilities to maximize activities while in the lounge area. This research uses descriptive qualitative methods with direct observation, distributing questionnaires to people who have flown through the Bandara International Airport (BIM), and literature study as sources. An environment can be good if it can meet the needs of humans in it. Therefore, a supporting facility was created to maximize passengers' activities while in the airport lounge. This supporting facility also has a high level of mobility and is easy to transform according to passengers' needs so that it can meet the needs of airport passengers who have high mobility in the form of a multifunctional partition. In addition, this facility uses cultural elements in the form of one typical Minangkabau motif, namely "Itiak Pulang Patang," which has been transformed into a new design but still maintains the essence of the original form. This motif represents the accordance with the nature, behaviour, and habits of the Minangkabau people who tend to migrate (*marantau*). The motif implements its purpose really well in designing supporting facilities and also helps strengthen the cultural element at Bandara International Airport (BIM).

Keyword : *behavioral approach; design; supporting facility; minangkabau*

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INTRODUCTION

An airport is an area of land and water that has certain boundaries that function as a place for the take-off and landing area of an aeroplane, up and down passengers, goods, and intermodal transportation movements facilitated by aviation safety and security facilities, basic facilities, and other supporting facilities (Direktorat Jenderal Perhubungan Udara, 2022). Based on the definition of an airport, according to the Indonesian Directorate General of Civil Aviation, the airport is one of the places for passengers to get on and off. It has basic facilities such as waiting areas/lounges and other supporting facilities. Supporting facilities have a considerable influence because they can help meet the needs of their users. With the fulfilment of its users' needs, the room's function will be able to function optimally.

In this research, BIM, which is located in west Sumatra as the main mode of air transportation, was used as a research object that focuses on airport lounges. *An airport lounge* is a supporting facility that is used to wait for the flight departure time. This study distributed introductory questions to know the problem that occurs in the airport lounge. The result obtained that 56,5 % of respondents strongly agree and 30,4% agree that BIM really needs supporting facilities; it means supporting facilities at Minangkabau International Airport (BIM) still need to be maximized and has succeeded in supporting passenger activities while in the airport lounge.

Minangkabau International Airport (BIM) is an airport in West Sumatra Province. It is the main mode of air transportation for travelling outside the province. In this study, the Minangkabau International Airport Lounge was used as a research object, and questionnaires were distributed as one of the sources of data collection.

Aprilita (2014), explains in her research that humans will be influenced by the environment they are in without realizing it (Aprilita & Sari, 2014). In the lounge area at BIM, passengers engage in several spontaneous behaviours, including using devices, reading, and even resting.

An environment has stimuli that are responded to by individuals/personalities, one of which is behaviour. In addition, the reciprocal relationship between the atmosphere of space and the behaviour of visitors or passengers is strongly influenced by interior design factors and the characteristics/nature of the humans who interact in it (Hidjaz, 2007). Humans themselves are the main actors in an environment where if an environment

cannot maximize human activities, it will produce a space that is not conducive, such as decreasing productivity, feeling uncomfortable, and certainly creating a new atmosphere. Therefore, a facility must be able to maximize human activities so that the resulting activities are created more effectively, conducive, and healthier.

Minangkabau International Airport (BIM) is the only airport in the world that uses ethnic/tribal names as airport names (Majid, 2022). Indonesia has a diversity of cultures, from culinary, fashion, and art to decorative motifs, and it has its own identity and characteristics that are valuable assets that need to be maintained and preserved (Nahak, 2019). The characteristics of culture will deliver different behaviours in each location in which it is owned. People in West Sumatra mostly have the Minangkabau tribe, which is called the Minangkabau people. Minangkabau people have a natural behaviour of migrating, which is called *merantau*, outside of Sumatra island. Obviously, they often visit airports over some time.

Besides maximizing the activities of the BIM Lounge, the lounge's design should match its cultural tendency and BIM identity. Several traditional practices in Indonesia are becoming increasingly uncommon, leading to a shift in traditions influenced by modernization (Izar dkk., 2024). Therefore, the application of cultural elements in the interior of the Minangkabau International Airport lounge is one way to preserve Minangkabau culture and must be applied as much as possible by lifting the cultural values/habits of the Minangkabau people so that as the only airport in the world that uses ethnic names, the use of cultural elements support the culture of *merantau* and increase the ethical value of Minangkabau International Airport.

With the great influence of the environment and human behaviour on activities in a room, it is necessary to have a supporting facility that can maximize passenger activities in the airport lounge. This must pay attention to the habits and behavior of passengers in order to reduce or even avoid problems that have a negative impact on passenger activities in the airport lounge.

The problem raised in this research is how to create a supporting facility in the lounge area of the Minangkabau International Airport (BIM) in order to maximize passenger activities and improve the branding of the Minangkabau International Airport (BIM).

Based on the identification of the problems that have been described, the problem formulation of this research is:

1. How can furniture and supporting facilities be created based on airport passengers' habits and behaviour to maximize passengers' activities in the airport lounge?
2. How to apply the cultural elements for supporting facilities to increase the accordance with the ethnical values of the Minangkabau people?

The purpose of this research is:

1. Creating a supporting facility based on the habits/behavior of airport passengers in the airport lounge so it can maximize passengers activities while in the airport lounge.
2. Creating a facility that embraces the essence of Minangkabau culture, carrying significant value and profound meaning for the local community.

The benefits of this research are:

1. Creating supporting facilities at the airport lounge can solve existing problems and positively impact passengers' activities there.
2. The use of a behavioural approach in this study is a form of a designer's sensitivity to the surrounding environment, which impacts human activities. Therefore, using a behavioural approach in a design will greatly assist in solving a design problem.

METHODOLOGY

This research uses descriptive qualitative research methods with data collection in the form of direct observation and distributing questionnaires addressed to respondents who are over 18 years old and have taken flights from Minangkabau International Airport (BIM). This pre-questionnaire aims to determine human behaviour when carrying out activities in the airport waiting room with a total of 23 respondents.

After obtaining the results, the second questionnaire was distributed to a total of 45 respondents who were at least 18 years old and had flown from Minangkabau International Airport. This age requirement was set because individuals above 18 years of age are considered mature enough to make informed decisions while completing the questionnaire. In addition, the selection of respondents who have flown from BIM is because they will definitely use the lounge before departure time. Contains questions that refer to the design of facilities with consideration of passenger behaviour and the application of cultural elements in the lounge area of the Minangkabau International Airport (BIM) using a Likert scale. With values (1) strongly disagree, (2) disagree, (3) abstain, (4) agree, and (5) strongly agree. After that, a literature study was conducted to complete the data needed in this research.

The process in this research continues to the output in the form of designing facilities by considering user behaviour, which will later solve the problems mentioned in the research background.

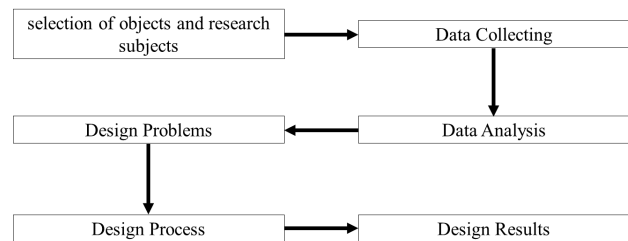


Figure 1. Research flow chart

(Source : Autor's Analysis, 2022)

Figure 1 explains the process of this research. The initial stage is choosing research objects and subjects and starting to collect data to assist in the data analysis process. The analyzed data is then implemented into a design concept, and the design process begins to produce the final design.

LITERATURE REVIEW

Bandara International Airport (BIM)

Minangkabau International Airport (BIM) is the only and first airport in the world to use an ethnic name as its airport name. As such, all airport facilities are named after Minangkabau terms, and the largest Minangkabau architecture building in Indonesia is the airport's passenger terminal building.

Minangkabau International Airport is located in Katapiang, Batang Anai, Padang Pariaman West Sumatra, 23 km from Padang city center. The 427-hectare building was built in 2001 to replace Tabing Airport and began operations in 2005. Minangkabau International Airport has flights to Jakarta, Medan, Batam, Pekanbaru for domestic flights and Singapore and Malaysia for international flights (SUMBAR, 2022).



Figure 2. Minangkabau International Airport Façade

(Source : Dishub, West Sumatera, 2022)

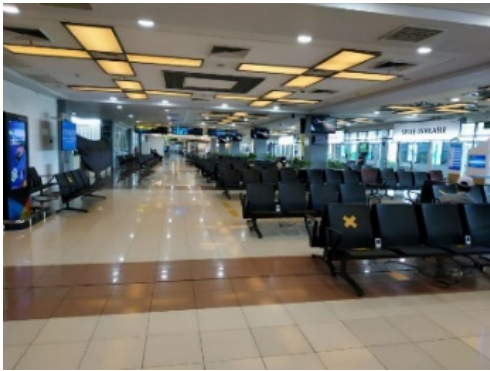


Figure 3. Minangkabau International Airport Lounge

(Source : Republika.com, 2021)

Human Behavior

In their book, Lawrens and Joyce Marcella (2005) explained that psychology is a science that studies behaviour because behaviour is easily observed, recorded, seen, and measured. Behaviour itself includes visible activities such as eating, crying, cooking, seeing, and working and invisible behaviours such as fantasy, motivation, and processes that occur when a person is silent or physically immobile (Laurens, 2005).

Human behaviour arises from experiences that have happened to them in the past/before (Hanum dkk., 2016). Therefore, human behaviour has a repetitive nature, especially in the personal space they create themselves. The more comfortable the personal space is felt, the better the behaviour produced by an individual.

Passengers with more experience can influence behaviour change without them knowing it. That is why the passenger experience has a significant effect on passenger behaviour in airports (Pradana dkk., 2019). Therefore, a lounge area at the airport cannot help maximize passenger activities. In contrast, the airport lounge will greatly affect the quality and productivity of passengers while at the airport. Therefore, an airport must be able to provide supporting facilities that can be used and accessed while at the airport lounge. As an Airport consumer, Consumer behaviour refers to the actions performed by individuals when they make decisions, utilize, and assess products and services. These consumer behaviour activities involve people acquiring and using the products or services that are accessible to them (Pradana dkk., 2019).

The Meaning of Motifs And Behavioral Of The Minangkabau People

Rumah Gadang is a traditional Minangkabau house originating from the West Sumatra Province. *Rumah Gadang* is famous for its magnificent and large

buildings and has a “*Gonjong*” as a roof. In addition, this traditional house is famous for its buildings, which are covered by various carvings derived from metaphors of flora and fauna. Carving has become a way of life for the Minangkabau people. Carving art in Minangkabau is an implementation of the habits and behaviour of the Minangkabau people, which can be seen in general in *Rumah Gadang* (Damayanti, 2017).

One of the famous *Rumah Gadang* carving motifs is the “*Itiak Pulang Patang*” motif, which means a horde of ducks walking hand in hand in the evening to return to their cage. This duck behaviour is used as a guideline for the Minangkabau people to promote harmony, order, friendship, compactness, and togetherness in social life. Minangkabau has a philosophy of life that is “*Alam takambang jadi guru*”, or nature developed to become a teacher where all learning and teaching of life is based on the surrounding environment (Rustiyanti dkk., 2023). The “*Itiak Pulang Patang*” motif has multiple meanings. Another meaning of this motif is taken from the nature of the Minangkabau people who have migratory habit/behaviour (*Merantau*), where the Minangkabau people will go abroad and cross the country to achieve their goals and will return to their hometown to advance their hometown (Damayanti, 2018).

Personal Space

Personal space is an invisible boundary, and one cannot cross it. A person in personal space has a state of near and far distance, moving together, expanding, and approaching. Personal space is a flexible space that can expand and shrink (Iskandar, 2012).

Personal space function: Maintain space to interact with others, Maintain comfortable and safe communication, Maintain community norms, and Defend against emotional and physical threats from communication opponents.

RESULT AND DISCUSSION

In this design process, a targeted questionnaire was disseminated to measure passenger behaviour at Minangkabau International Airport, serving as an important reference point. The profound impact of behaviour on individual personal space was carefully considered. Analysis of the questionnaire responses unequivocally demonstrates the pressing demand among airport passengers for supporting facilities that optimize their activities within the confines of their personal space, particularly within the lounge area of Minangkabau International Airport.

Table 1. Results of Questionnaire Distribution

NO	Question	(1) Totally Disagree	(2) Disagree	(3) Abstain	(4) Agree	(5) Totally Agree
1	Cultural elements at the Int. Minangkabau is very important	0%	0%	8.9%	33.3%	57.8%
2	The importance of applying the meaning of motifs related to the behaviors of the Minangkabau people	0%	0%	6.7%	33.3%	60%
3	Passengers need a high level of privacy while in the airport lounge	0%	4.4%	2.2%	40%	53.3%
4	Passengers need supporting facilities in the airport waiting room to maximize their activities while waiting in the airport lounge	0%	0%	2.2%	26.7%	71.1%
5	Passengers need multi-functional furniture/facilities in the airport lounge	0%	0%	2.2%	31.1%	66.7%
6	Passengers need furniture/facilities that are mobile/easily moved in the airport lounge	0%	4.4%	13.3%	31/1%	51.1%
7	Passengers need furniture that can minimize radiation and make it easier to work with a laptop	2.2%	0%	6.7%	28.9%	62.2%
8	Passengers need furniture/supporting facilities that can increase the comfort of doing activities while in the airport lounge	0%	0%	2.2%	24.4%	73.3%

(Source : Author's Questionnaire, 2022)

These results are also in accordance with the book Environmental Psychology (*Psikologi Lingkungan*) by Prof. Dr. Tb. Zulriska Iskandar, S.Psi, M.Sc., which explains that it is prohibited for a person to enter or pass through someone's personal space, and individuals have the authority to determine their interactions with others and engage in personal activities (Iskandar, 2012). Therefore, a support facility is one of the solutions that can maximize the personal space of airport passengers while in the lounge area.

Appropriate facilities must assist passengers' activities in the lounge area at Minangkabau International Airport so that dynamic human habits or behaviour can be facilitated properly and optimally.

In addition, the results of the questionnaire also explain the need for supporting facilities that have strong cultural elements. The cultural elements must also be in accordance with the values of the habits or behaviour of the Minangkabau people who are known to migrate (Merantau) so that the cultural values used can be implemented properly and in accordance with the behaviour of passengers of Minangkabau International Airport (BIM).

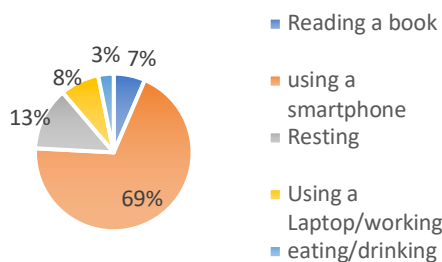


Figure 4. Circle Diagram of Respondents' activities

(Source : Author's Questionnaire, 2022)

The results of the questionnaire explained that while in the airport lounge, passengers continue to move in accordance with their habits, where airport passengers carry out activities such as reading books, resting/sleeping, eating/drinking, and using laptops. Therefore, a supporting facility is needed that can help build their personal space to maximize passenger activities while waiting for departure. Especially passengers who work on laptops without proper facilities such as desks can experience back and neck pain caused by passengers who look at the screen too low. This is caused by the laptop needing to be within reach of the human eye level standard. This can be minimized by having furniture that has an ideal position (Pravitasari dkk., 2022).

Furniture or a facility prioritizes not only beauty or visual form but also comfort / good ergonomics in a facility because it will be used to support the activities of passengers in the lounge area of Minangkabau International Airport. In *Human Dimension and Interior Space* (Panero & Zelnik, 1979) it is explained that a table ideally has a height of 73.7-76.2 cm to do a job.

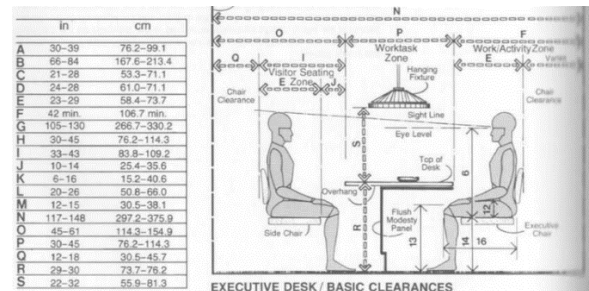


Figure 5. Workbench Ergonomics

(Source : Human Dimension and Interior Space, 1979)

Design Concept

The concept of this design is to create a supporting facility in the lounge area of Minangkabau International Airport (BIM) West Sumatra based on the analysis of the behavioural habits of airport passengers while in the airport lounge. Due to the high level of mobility in the airport area, considerations related to furniture design must be dynamic. They can maximize the activities of airport passengers in a short time or a long period.



Figure 6. Moodboard

(Source : Author's analysis, 2022)

This supporting facility will maximize the activities of passengers while waiting for departure time. This furniture uses teak wood as the main material because it has strong durability and termite resistance, and it has smooth wood grain, making it look more beautiful. The long durability of teak wood is in accordance with Rumah Gadang, which has a long durability and is anti-earthquake. Teak wood has a heavier mass than most wood because it has tighter fibers. Therefore, teak wood has a higher compressive strength and is more stable when used as furniture (Syaputra & Djati, 2021).

In the process of creating a work, design exploration is needed to create a new, more varied, and original form. Minangkabau motifs are also kept from the exploration process to produce decorative motifs.

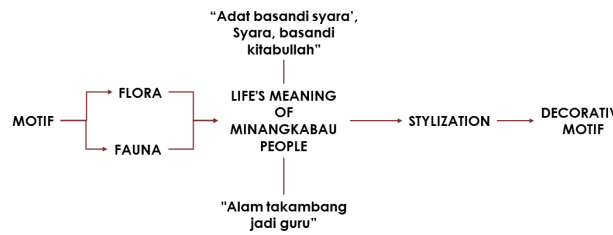


Figure 7. Stylization process of Minangkabau motifs/carvings

(Source : Author's analysis, 2022)

Figure 7 Explains that Minangkabau has distinctive motifs originating from flora and fauna. This motif is the result of the implementation of the values of life and life guidelines of the Minangkabau people which are used as living proverbs, namely "Adat Basandi Syara, Syara Basandi Kitabullah (custom/tradition based on religion rules and rules based on The Holly Al Qur'an)" and "Alam Takambang Jadi Guru (Outspread nature as teachers / We learn from nature)" which is then distilled to produce decorative motifs.

The urgency of the situation process in Minangkabau carvings, in addition to strengthening the aesthetics in the decoration of Rumah Gadang and traditional clothes, is also a form of obedience to the almighty God where the majority of Minangkabau adheres to Islam, which in Islam is prohibited from creating a realistic form so as not to match God's creation. (Damayanti, 2017).



Figure 8. Itiak Pulang Patang Motif

(Source : https://id.wikipedia.org/wiki/Itiak_pulang_petang, 2022)

The selection of this motif is also based on an analysis of the philosophical meaning of the "Itiak Pulang Patang" motif, which is an implementation of the nature of ducks that walk in neat rows, are orderly, compact, and together. In addition, this motif also means that every Minangkabau person who goes overseas will return to their hometown to advance their hometown (Damayanti, Makna Seni Ukir 'Itik Pulang Patang' Dan Implementasinya dalam Kehidupan Masyarakat Minangkabau,

(Damayanti, 2018). The meaning of the "Itiak Pulang Patang" motif has similarities with airport facilities, which are facilities that deliver passengers to a destination to fulfil/achieve their goals. In the process of designing this supporting facility, a transformation process is also needed to produce a more modern and varied form. Transformation is a change in form, appearance, natural conditions, and function, and changes in personal character are also part of the transformation (Damayanti, 2018).

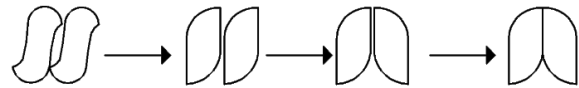


Figure 9. Motif Transformation Process

(Source : author's analysis, 2022)

The transformation process begins with the simplification of the form, reflects one motif, and produces the form, as shown in the last stage of form transformation. This form transformation process will produce a new form but still insert the original form so that the original meaning of the "Itiak Pulang Patang" motif is not completely lost.

Design Results

Supporting facilities at Minangkabau International Airport (BIM) will maximize passengers' activities in the airport lounge. This furniture is multifunctional and easy to move according to human behaviour, which means it has high mobility.

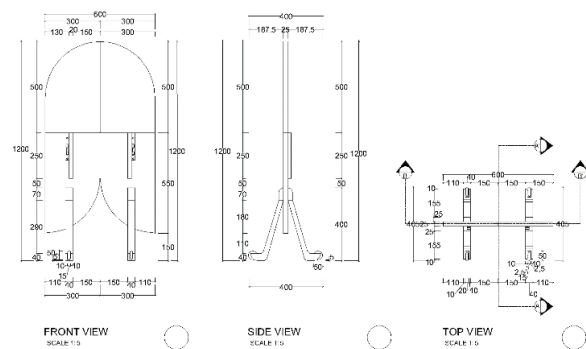


Figure 10. Technical Drawing

(Source : Author, 2022)

This furniture is 120 cm high, 60 cm long, and 2.5 cm wide. When it is transformed into a table, its height becomes 70 cm, and the area that becomes the surface of the table has a width of 30 cm and a length of 50 cm. Based on Human Dimensions and Interior Space (Panero & Zelnik, 1979), this size can help passengers maximize their personal space in activities such as resting, using a laptop, and eating.



Figure 11. Final Design
(Source : Author, 2022)

This facility can serve as a partition to limit the personal space of passengers in the airport lounge. It can also serve as a table to help maximize other activities such as eating/drinking and working on laptops.

When transformed into a table, this partition will be assisted by a lock so that its main function as a partition and table can be maximized. With the high mobility of passengers at Minangkabau International Airport, the hinges/locks can be changed easily. In addition, on the legs of this supporting facility, some wheels can be used if this furniture is tilted so that when used as a partition table, this furniture will not move easily.

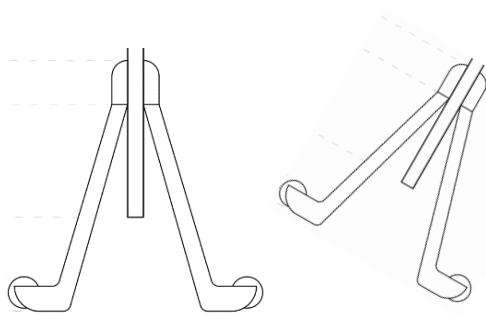


Figure 12. Position while standing (left), Position while moving (right)
(Source: Author, 2022)

This support facility will provide the personal space needed by passengers while in the lounge area of Minangkabau International Airport for eating, resting, and even using a laptop to work. This facility will also strengthen the cultural locality of Minangkabau International Airport while still maintaining a modern form.

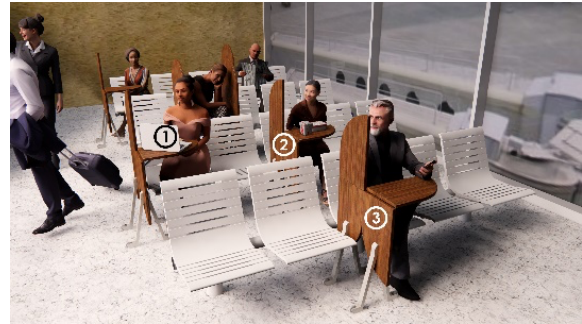


Figure 13. Perspective of the application of supporting facilities : (1) using a laptop ; (2) eating & drinking ; (3) using a smartphone

Source : Author, 2022

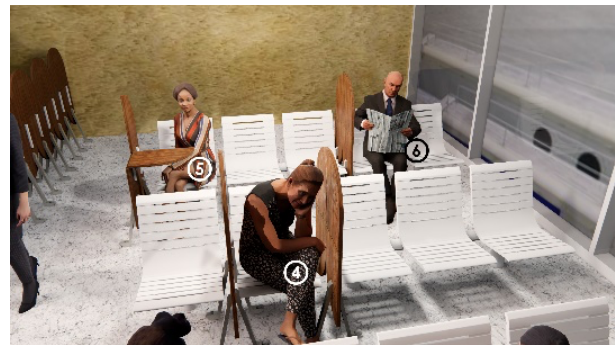


Figure 14. Perspective of the application of supporting facilities : (4) resting ; (5) resting ; (6) reading a newspaper/book

(Source : Author, 2022)

CONCLUSION

An environment greatly affects human behaviour in it. Therefore, a good environment must be able to help human activities in it to the maximum. This is in line with the literature review, which explains that a good environment produces good activities as well. Apart from that, paying attention to personal space for passengers is one of the solutions to creating a good environment. Minangkabau International Airport is an airport in West Sumatra where the number of supporting facilities to maximize visitor activities still needs to be higher. Thus, creating a supporting facility that can maximize the activities of passengers by using a behavioural approach is one of the solutions in this research because this facility is designed in accordance with the needs of passengers while in the airport lounge. In addition to considering its functional nature, this facility also considers the aesthetic value where this facility uses elements of West Sumatra culture in the form of the “*Itiak Pulang Patang*” motif, which goes through a transformation process into a new form but does not eliminate the essence of the original motif. The use

of this motif is also useful as the face of Minangkabau International Airport because Minangkabau International Airport is the only airport in the world that uses ethnic names as airport names. The selection of this motif is not solely due to aesthetic considerations but also considers the meaning of the motif in accordance with the nature, habits, and behaviour of the Minangkabau people, who are famous for their migratory habit (*Merantau*) so that the application of this motif at the Minangkabau International Airport in West Sumatra can be right on target.

The behavioural approach can be used as a solution in a design because a good facility or design is said to be when the environmental and human problems that are successfully being active in it can be well revealed. This is in line with the designer's function as a problem solver.

The possibility of further research is widely open because dynamic human behaviour greatly influences the environment in which it operates and vice versa. This opens the door to exploring new problems, such as understanding the impact of supporting facilities on human behaviour and social habits in public spaces, particularly in airport lounges, and further studies regarding the influence of interest in using Minangkabau motifs in public spaces in promoting local cultural values. The magnitude of the possibility of further research is very impactful on scientific renewal and improving the quality of space and human quality when in a room or public space.

REFERENCES

- Aprilita, C., & Sari, S. M. (2014). Pengaruh Interior Toko Oen Malang terhadap Perilaku Pengunjung. *Intra*, 2(2), 563–568.
- Damayanti, R. A. (2017). Pengaruh Islam pada bentuk ornamen ukiran 'Itik Pulang Patang' Sumatera Barat. *Jurnal Dimensi Seni Rupa dan Desain*, 13(2), 141–152.
- Damayanti, R. A. (2018). MAKNA SENI UKIR 'ITIK PULANG PATANG' DAN IMPLEMENTASINYA DALAM KEHIDUPAN MASYARAKAT MINANGKABAU. *Prosiding Seminar Nasional Pakar*, 57–63.
- Direktorat Jenderal Perhubungan Udara. (2022, Oktober). *Direktorat Jenderal Perhubungan Udara*. Direktorat Jenderal Perhubungan Udara.
- Hanum, I., Wardono, P., & Wahjudi, D. (2016). Pengaruh Lebar Fasad, Warna Interior, dan Lokasi Meja Kasir terhadap Persepsi Aman dan Sikap Konsumen pada Convenience Store. *J. Vis*, 8(2), 79–93.
- Hidjaz, T. (2007). Desain Interior dan Perilaku Pengunjung di Ruang Publik Kasus Kelapa Gading Mall Jakarta. *Dimensi Interior*, 5(2), 61–70.
- Iskandar, Z. (2012). *Psikologi Lingkungan: Teori dan Konsep* (1 ed.). Refika Aditama.
- Izar, J., Wilyanti, L. S., & Maisaroh, S. (2024). Cultural Meaning on Traditional Equipment of The Healing Ritual Tradition of Anak Dalam Tribes in The Batin Sembilan Community, Muaro Jambi District: The Efforts to Preserve Local Wisdom. *Mudra Jurnal Seni Budaya*, 39(1), 85–93.
- Laurens, J. M. (2005). *Arsitektur dan Perilaku Manusia*. PT. Grasindo.
- Majid, A. (2022, April 12). Satu-satunya Bandara di Dunia yang Pakai Nama Etnik Ada di Indonesia. *detikTravel*.
- Nahak, H. M. I. (2019). Upaya melestarikan budaya indonesia di era globalisasi. *Jurnal Sosiologi Nusantara*, 5(1), 65–76. <https://doi.org/10.33369/jsn.5.1.65-76>
- Panero, J., & Zelnik, M. (1979). *Human Dimension Interior Space: A Source Book of Design Reference Standards*. Watson-Guptill Publications, Incorporated.
- Pradana, R. A., Verawati, U., Octora, Y., & Setiawan, E. B. (2019). Enhancing Airport Image Through The Experience and Behavior of Millennial Passengers In Using Airport Digital Lounges at Soekarno-Hatta International Airport. *Advances in Transportation and Logistics Research*, 2, 296–303.
- Pravitasari, A. A., Ardisasmita, M. N., Indrayatna, F., & Yulita, I. N. (2022). Ergonomics Analysis of Computer Use in Distance Learning during the Pandemic of COVID-19. *REKA ELKOMIKA: Jurnal Pengabdian kepada Masyarakat*, 3(1), 9–19.
- Rustiyanti, S., Listiani, W., & Ema, A. (2023). Minang Folklore of Pencak Arts to Strengthen Mental Health in Indonesian Muslim Society. *Mudra Jurnal Seni Budaya*, 38(2), 119–216.
- SUMBAR, D. (2022, Oktober). *Profil Bandara International Minangkabau*.

Syaputra, E. A., & Djati, I. D. (2021). *The effect of wood species and joining system on wooden furniture design.*