

The Role of Authenticity, Involvement and Interaction in Place Attachment at Adaptive Reuse Cafés

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Abstract

This research aims to analyze authenticity, involvement, and interaction in place attachment at adaptive reuse cafés in commercial historic areas with nostalgia as a variable mediator. The methods employ a mixed method, sequential exploratory design integrating the qualitative and quantitative approaches. The first qualitative stage is carried out with a focus group discussion to obtain indicators of 12 visitors. The second stage adopts a quantitative survey using a questionnaire distributed to 200 respondents in Surabaya, Indonesia, which was analyzed by Structural Equation Modelling. The results show that authenticity has an insignificant influence on nostalgia, while involvement and interaction from visitors have a significant influence. Authenticity, nostalgia, as well as involvement and interaction have a significant influence on place attachment. Interesting fact, the role of nostalgia is less effective because this variable is not directly significant to respondents. In conclusion, Authenticity, involvement, and interaction play a vital role in strengthening emotional connections and fostering place attachment in heritage contexts. The role of nostalgia is to evoke emotional memories and associations that foster a sense of familiarity and personal connection. This research supports sustainability, promotes economic growth in historic commercial area, and strengthens local communities.

1.0 INTRODUCTION

Heritage conservation is important on international and national agendas since area under rapid transformation with many historic and ancient buildings are still suitable for adaptive reuse. This concept can be promoted for cultural and community preservation, local identity, commercial and tourism purposes as well as sustainable goals.

Adaptive reuse of historic buildings has been developed as a viable method for preserving cultural heritage and ensuring continued usefulness. This process conserves the embodied energy and reduces waste, as well as retains the tangible and intangible values of historic buildings. Therefore, adaptive reuse has been increasingly incorporated into existing and new policy frameworks in the fields of culture, heritage, adaptive reuse buildings, and urban development as it provides a sustainable approach to preserving historical value while giving new life and function to old structures.

In commercial historic area, cafés present a unique opportunity to explore the intersection of heritage preservation, community engagement, and placemaking. The success of the adaptive reuse of projects in establishing a sense of place attachment and community engagement remains a challenge. Therefore, this research aims to explore the factors to enhance place attachment adaptive reuse cafés in commercial historic area. The synthesis explores different dimensions, drawing on recent literature to show the contribution of adaptive reuse to the preservation of cultural heritage while enhancing community engagement and economic vitality.

Authenticity is a cornerstone of adaptive reuse, as the variable allows historic structures to retain cultural significance while serving contemporary functions. Agha and Hussein (2024) emphasized that adaptive reuse in Erbil, Iraq, preserved architectural integrity and revitalized local identity. This sentiment is reported by Tootoonchi et al. (2022), where adaptive use can maintain tangible and intangible heritage to present historic narratives associated with these spaces. The preservation is crucial for enhancing a sense of belonging among users following the connection with historic context of the place.

Involvement and interaction are equally important in enhancing place attachment in adaptive reuse cafés. Lam et al. (2022) reported that café proprietors in historic city acted as facilitators of social interactions, creating spaces for community engagement. This was consistent with How and Din (2022), where cafés in heritage buildings served as social hubs and contributed to the acoustic and aesthetic experiences of patrons. In enhancing the sense of community, these cafés become integral to the social fabric of neighborhoods to improve the overall experience of place attachment. According to Bullen and Love (2011), adaptive reuse regenerates spaces and neighborhoods as well as enriches the cultural landscape to enhance community ties and a sense of pride among residents.

The economic implications of adaptive reuse cannot be overlooked. Fitri et al. (2023) stated that the variable enhanced the economic value of heritage buildings. The methodology applied consists of five key stages. First, Location Analysis evaluates the strategic value of the building's site. Second, Market Analysis identifies trends, demand, supply, rental potential, and investment. Third, the Combination of Location and Market Analysis determines feasible alternative uses for the building based on its physical and economic context. Fourth, the Financial Feasibility Analysis examines the viability of each proposed function using financial. Finally, the Best Alternative Recommendation identifies the most optimal and profitable adaptive reuse option. This economic revitalization is essential for sustaining heritage area since the concept provides the necessary funding for ongoing maintenance and preservation efforts. Additionally, the transformation of historic buildings into cafés stimulates local economies by attracting tourists and residents, as reported by Merciu et al. (2021). The research highlights the importance of preserving and reusing historical buildings, improving both cultural and general infrastructure, will support the development of creative industries. It also emphasizes the need for better tourist services and promotional strategies.

Two papers address the topics of economic impact and location selection in the context of cultural tourism and heritage building reuse. The first paper applies a five-stage methodology: Location Analysis assesses the

strategic value of the site; Market Analysis identifies trends and investment potential; the combination of both defines feasible new functions; Financial Feasibility Analysis evaluates economic viability using financial metrics; and the final stage recommends the most profitable adaptive reuse scenario. The second paper highlights the importance of reusing historical buildings and improving both cultural and general infrastructure to support creative industries and enhance tourism. However, both papers lack a focus on elements that foster place attachment, such as authenticity, involvement or interaction, and nostalgic connections in an integrated manner factors that are essential in creating emotionally meaningful and sustainable cultural destinations. Therefore, the adaptive reuse object selected in the Tunjungan area of Surabaya, Indonesia, is highly relevant for further elaborating on these emotional and cultural dimensions, offering a valuable case to explore how adaptive reuse can strengthen identity, memory, and community engagement.

The importance of adaptive reuse is among the main attractions in Tunjungan area located on Tunjungan Street, Surabaya, Indonesia. The area has a lifestyle, modern ethnic, and heritage theme. In addition, the government collaborates with local communities to improve economic conditions and enliven area. This can be achieved by providing space for small and medium creative enterprises and working with the private sector to revive commercial cafés and restaurants in Tunjungan Surabaya Street in the Figure 1 below.



Figure 1. Commercial Historic Area on Tunjungan Street, Surabaya, Indonesia.
Source: Private data, 2023

Based on the description above, this research attempts to fill the specificity that answers the gap contextually in Tunjungan area, Surabaya, Indonesia. Several other theoretical gaps are considered in connecting authenticity, involvement, and interaction in place attachment in the context of adaptive reuse of cafés in commercial historic area. Previous research focused on the relationship between adaptive reuse buildings and local identity (Larkin & Rudolf, 2024; Ocaña, 2023). Meanwhile, several other research serving as inspiration analyzed authenticity (Gao et al., 2020; Elshaer et al., 2022; Wang et al., 2022); Agha & Hussein, 2024) social connection, interaction, involvement, and engagement (Chen et al., 2020; Castles, 2020; Gao et al., 2020; Zeng & Xu, 2021; Cho, 2021; Elshaer et al., 2022; Flannery et al., 2022; Naismith & Murphy, 2023; Fajarwati, 2023) and nostalgia (Chen et al., 2020; Castles, 2020; Gao et al., 2020; Cho, 2021; Zeng & Xu, 2021; Kelley et al., 2022; Elshaer et al., 2022), and place attachment (Agha & Hussein, 2024; Li & Xu, 2022; Chen et al., 2020).

There is still a gap to link the variables of authenticity, involvement and interaction and nostalgia to place attachment and also the context of research location in Surabaya. Although previous studies have highlighted the significance of authenticity, involvement and interaction, and nostalgia in shaping place attachment, there remains a notable research gap in contextualizing these variables within specific urban heritage environments—particularly in postcolonial cities like Surabaya. Few studies have deeply explored how these psychological and emotional constructs manifest in adaptive reuse sites or heritage areas that once symbolized colonial control. However, the empirical linkage between these variables and residents' or visitors' attachment to these places remains underexplored.

It is important to find the right formula for the place attachment process, especially for areas with a large number of people that can be visited by majority of young visitors. So the purpose of this research is to find the role of Authenticity, Involvement and Interaction in Place Attachment at Adaptive Reuse Cafés in Commercial Historic Areas with nostalgia as a mediator variable.

2.0 LITERATURE REVIEW

In this literature review, authenticity, involvement, interaction, and nostalgia will be reviewed as well as the relation to place attachment.

2.1 Authenticity and Nostalgia in Adaptive Reuse Buildings

The relationship between authenticity in adaptive reuse buildings and nostalgia is characterized by a reciprocal influence. In this context, authentic architectural elements evoke feelings of collective and personal nostalgia. The interaction is crucial to enhancing a deeper understanding of cultural identity and continuity, specifically in the engagement of modern communities with historic roots. Moreover, heritage buildings serve as physical structures and emotional markers that connect individuals to the past, strengthening personal and collective identities. The preservation of adaptive reuse area allows individuals to connect with the collective past, facilitating a sense of belonging and continuity in the community. In contrast, personal nostalgia is more individual and relates to memories associated with a particular place or experience. Authentic heritage buildings evoke personal nostalgia by reminding individuals of past experiences, family history, or cultural practices. Therefore, the relationship between authenticity and nostalgia is important in shaping place attachment in adaptive reuse cafés. Authentic environments evoke nostalgic sentiments that enhance emotional connections to the space, improve community engagement, and preserve cultural heritage (Xie & Batunova, 2020; Gao et al., 2020; Adie & Bernardi, 2020; Cho, 2021; Liu et al., 2022; Yan et al., 2023; Lewicka & Prusik, 2023). The interplay shows the importance of maintaining authenticity in heritage settings to create meaningful experiences for visitors. Consequently, this study follow the following hypothesis.

H1. The perception of authenticity of adaptive reuse building positively influence visitors' nostalgia.

2.2 Authenticity and Place Attachment

Authentic environments enhance emotional connections and a sense of belonging among patrons, improving place attachment (Gao et al., 2020; Castles, 2020; Zhu & Liu, 2020; Man, 2023; Fajarwati, 2023). By preserving authentic elements and including the community in the adaptive reuse process, these cafés create meaningful experiences in resonance with visitors to reinforce place attachment. In adaptive reuse and historic buildings, authenticity enhances a sense of place attachment. According to Al-Azab and Abulebda (2023), the authenticity of cultural heritage significantly influences place attachment since the variable enhances the overall tourist experience. An emotional attachment is developed when individuals perceive a heritage building as authentic, leading to a deeper sense of belonging. This relationship is particularly relevant in the context of commercial heritage area that are becoming tourism area, where visitors seek authentic experiences in line with cultural identity. Accordingly, this research is guided by the following hypothesis.

H2. The perception of authenticity of adaptive reuse building positively influence visitors' nostalgia.

2.3 Involvement & Interaction and Nostalgia

The relationship between engagement and interaction with nostalgia can focus on the shaping of emotional responses and social relationships using experience. Meanwhile, engagement in experiences enhances emotional engagement to improve personal and collective nostalgia. As a multifaceted construct, nostalgia is influenced by various factors, including personal experiences and social contexts. As a result, this study proposes the following hypothesis.

H3. Involvement and interaction positively influence the nostalgia.

2.4 Involvement & Interaction and Place Attachment

The relationship between involvement, interaction, and place attachment is critical in understanding the enhancement of emotional connections in commercial historic area. Involvement and interaction in these cafés enhance the visitor experience and significantly contribute to the development of place attachment. This synthesis explores the relationship, supported by recent literature (Vada et al., 2019; Gao et al., 2020; Li & Xu, 2022; Wang et al., 2022; Chen et al., 2020). The relationship between engagement and interaction with place attachment is an important factor in exploring emotional connections and a sense of belonging. Engagement refers to the level of personal relevance and involvement possessed by individuals toward a place, while interaction includes the social dimension and experiences. These factors significantly influence the development of place attachment.

The interplay between fixities and flows in place attachments, emphasizing that interactions in a place could shape emotional connections. In adaptive reuse cafés, the blend of historic authenticity and contemporary social interactions creates a dynamic environment. Patrons who engage with heritage and participate in community events develop a deeper emotional connection. Furthermore, Tsai et al. (2020) showed that there was a strong correlation between tourist engagement and place attachment. In this context, tourists become more engaged with a destination, and emotional connection to the place deepens (Tsai et al., 2020). The results emphasized that higher levels of engagement lead to stronger attachments to a place, reinforcing the idea of active engagement as key to enhancing emotional connections. Thus, the present study is based on the following hypothesis.

H4. Involvement & Interaction lead positively effect on Place Attachment

2.5 Nostalgia and Place Attachment

The relationship between nostalgia and place attachment is a critical aspect of understanding the emotional connection of individuals to adaptive reuse cafés in commercial historic area. Nostalgia, often characterized as a sentimental longing for the past, significantly enhances place attachment by evoking memories and emotions associated with heritage. This synthesis explores the effect of the variable on place attachment as supported by recent literature (Gao et al., 2020; Tsai et al., 2020; Cho, 2021; Lewicka & Prusik, 2023)

The complex interaction between nostalgia and place attachment shows that emotional connections to the past can enhance place attachment. Nostalgia significantly influences the perception of individuals toward a place, enhancing a sense of place attachment. Collective nostalgia refers to the shared memories and emotional experiences of a group, often related to cultural or historic events. This can enhance place attachment by strengthening group identity and cohesion. Dimitriadou et al. found that collective nostalgia led to stronger ethnocentric preferences, where individuals developed a sense of place attachment when there was a connection to cultural heritage. This relationship is particularly important in the context of heritage, where collective nostalgia enhances a deeper emotional connection to a place with historic significance to the community. Following this reasoning, the study considers the following hypothesis.

H5. Nostalgia positively influences the place attachment.

2.6 Mediating role of nostalgia

Nostalgia is a variable that is rarely considered as a variable (Lee, 2015; Campbell et al., 2017; Gao et al., 2020). But considering the adaptive reuse building is located in an area that has associations with the past, the role of nostalgia is important. Authentic environment evoke positive nostalgic memories which enhance emotional connection to this place. This relationship supported by psychological reasons, neurological and social framework. From psychology, Newman et al. (2020) study how positive nostalgic experiences can lead to beneficial emotional outcomes. This align with the idea that authentic experiences can trigger nostalgia, reinforcing emotional ties to a place (Jeon & Kim, 2017). From neurological underpinning, nostalgic experience are linked to emotional and personal significance and enhance the perceived value of place (Oba et al., 2016). This emotional resonance can lead to place attachment. In other research Wildschut et al. (2014) emphasize that collective nostalgic can confer unique benefit to groups that share nostalgic experiences to enhance attachment. And from social framework, Song et al. (2024) in the study show that the interplay between nostalgia and perceived authenticity also highlights, the importance of social connection. The social connection can further deepen place attachment, as individual bond to place that evoke shared memories (nostalgia). Following this reasoning, the study considers the following two hypothesis.

H6. Perceive authenticity has an impact to place attachment through nostalgic experience

H7. Nostalgic experience, mediates the relationship between Involvement and interaction to place attachment

2.7 Summary of the Literature Review

There is a relationship between authenticity (Xie & Batunova, 2020; Gao et al., 2020; Liu et al., 2022), involvement and interaction (Vada et al., 2019; Gao et al., 2020; Li & Xu, 2022; Wang et al., 2022; Chen et al., 2020) and nostalgia as well as place attachment (Jiang et al., 2017; Gao et al., 2020; Tsai et al., 2020; Cho, 2021; Yan et al., 2023; Lewicka & Prusik, 2023). Even though authenticity, involvement, interaction, and nostalgia are constructs often used, the novelty of the area is important in the perception of young visitors from local Surabaya and newcomers. This research is interesting because there will be different perception assessments considering the authenticity of the Polish and the combination of interior and architectural styles. Therefore, nostalgia is a moderating variable with indicators of collective and personal meaning. Based on the literature review above, a theoretical framework regarding the constructs can be seen in Figure 1.

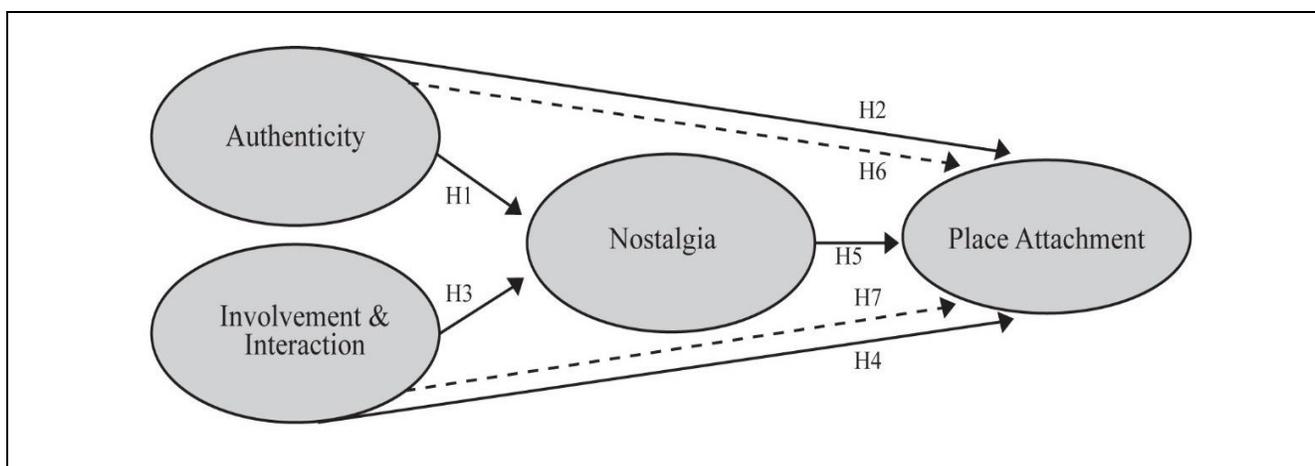


Figure 2. The Theoretical Framework. Source: Private data

3.0 RESEARCH METHOD

3.1 Research Area

This research uses empirical investigation at Tunjungan area in Surabaya, Indonesia. Historic area is the most important node in the city center, which is rich in cultural heritage with significance as a point of trade and social events since the colonial era. In the context of authenticity, many buildings reflect colonial-era architecture, such as the Padma Coffee Shop, the Majapahit Hotel, and the Siola Building. The authenticity of the design and materials in some old buildings arouses emotional attachment for the local community and generations included in direct or indirect interactions with heritage. The interaction can stimulate public involvement in maintaining the history and cultural values, where an architectural element is a silent witness to important events in the past, including the Battle of Independence.

From the perspective of place attachment, Tunjungan area holds deep meaning in the personal and collective nostalgia of Surabaya community. For some residents, Tunjungan creates a reminder of childhood, a place where families gather in a commercial area that used to be a center of entertainment and shopping. Collectively, nostalgia was related to major events such as the Battle of 10 November, where the area became a battlefield and a symbol of the struggle for independence. This strengthens the emotional attachment and identity of Surabaya City as a commercial and symbolic space that encapsulates the history, memories, and collective pride of Surabaya residents.

3.2 Method

This study adopts a mixed methods approach as in diagram 1 below, to ensure a comprehensive and multidimensional understanding of the research problem. The qualitative phase, consisting of focus group discussions, observations, and literature review, was essential for exploring complex social, emotional, and spatial aspects of heritage place attachment, which are difficult to capture through quantitative data alone. These insights were then used to refine key constructs and develop valid indicators for the survey instrument. The subsequent quantitative phase allowed for broader generalization, hypothesis testing, and statistical validation of the proposed model. By integrating both methods, the study balances depth and breadth, ensuring that the findings are both contextually grounded and empirically robust.

Stage 1 through Focus Group Discussion (FGD), observation & literature study. The use of Focus Group Discussion (FGD), Observation and literature study was essential to ensure a comprehensive understanding of the research context. FGD provided rich insight into user experiences, perception and emotional connections to the heritage space, while observation focused on the physical and spatial aspect, such as layout, design features and user behaviour. Literature study supported the process by offering theoretical grounding and helping to frame the discussion topics, allowing all methods to complement each other and ensure that the derived indicators were empirically grounded and contextually relevant.

Relevant indicators of the key concepts were also determined, namely authenticity, involvement and interaction, nostalgia, as well as place attachment. Participants in the focus group were selected based on their direct experience and relevance to the heritage site context, including visitors, community members and creative industry stakeholders. The aim was to gather in depth qualitative insight that would help refine and contextualize key research indicators, which would later inform the development of a broader and more structured survey. FGD explored an in-depth understanding of the experiences and perceptions of individuals related to historic buildings. According to Karsono et al. (2020), data triangulation was used for validity and reliability, allowing the validation of results across different contexts to increase the robustness of conclusions related to place attachment and user experience. The second stage included a quantitative survey using a questionnaire after the indicators were derived through FGD. This questionnaire was designed based on the indicators generated from FGD, and aimed to measure community perceptions regarding authenticity, involvement and interaction, nostalgia, and place attachment to commercial buildings. Subsequently, the collected data were analyzed using Structural Equation Modeling (SEM) method with SEM-PLS (Partial Least Squares) software. SEM-PLS allows simultaneous analysis of relationships between variables, evaluating the relationship of the four concepts in

influencing experiences and place attachment. Rating scales used to fill out the questionnaire consisted of 6 Likert scales, namely Strongly Agree, Disagree, Neither Agree or Disagree, Agree, and Strongly Agree.

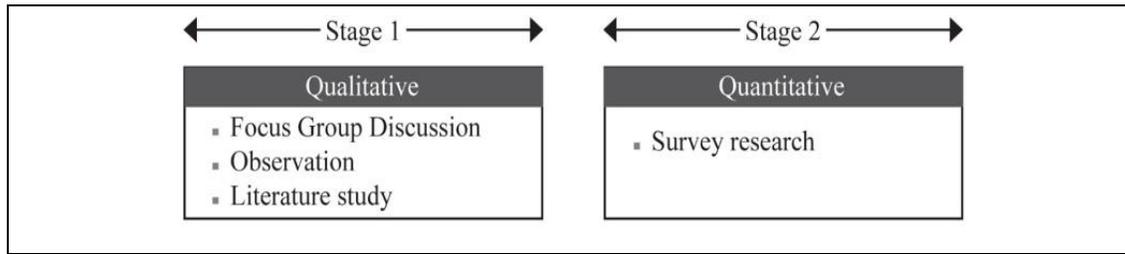


Figure 3. The Research Stage. Source: Private Data

As in diagram 1 there are two research stages. In the first stage, focus group discussion involving 12 participants was undertaken to gain in-depth qualitative insights. Observations were conducted at five adaptive reuse cafés to examine spatial and experiential elements. The literature review incorporated 48 academic and professional sources. In the second stages, a visitor survey was distributed to a total of 150 respondents across the five cafés studied. The results provided insight into the strength of the relationship between these factors and the contribution to the collective understanding of heritage space and historic value (Karsono et al., 2020). The conceptual model to test the established hypothesis is used in the following diagram 2.

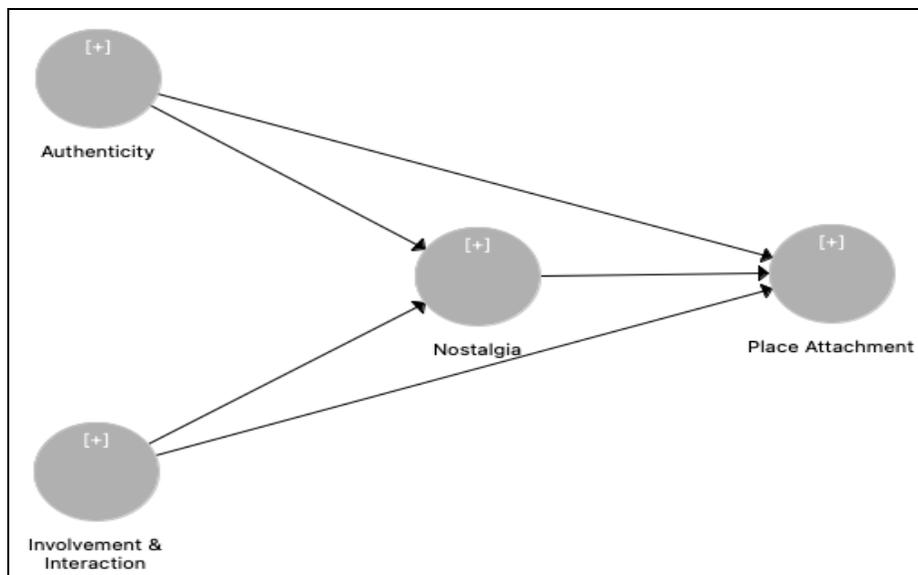


Figure 4. The research model. Source: Private Data

4.0 RESULT AND DISCUSSIONS

According to Creswell’s framework on mixed methods, a sequential explanatory design consists of an initial qualitative phase followed by a quantitative phase, where the former explores a phenomenon in depth and the latter tests or generalizes findings. In line with this approach, the present study began with qualitative exploration through Focus Group Discussions (FGD) and field observations. This phase helped identify key experiential concepts related to historic commercial buildings namely authenticity, involvement and interaction, nostalgia, and place attachment. The FGDs involved diverse stakeholders, including community members, cultural experts, local authorities, and visitors, to ensure a rich and comprehensive understanding. Insights from this phase were then used to develop indicators, which formed the basis of a structured questionnaire in the second, quantitative phase. Data triangulation across both stages enhanced the study’s validity and reliability.

The following section presents the findings in sequence, beginning with the qualitative results from Stage 1, followed by the quantitative analysis using SEM-PLS in Stage 2.

4.1 Stage 1

Stage 1 aims to determine indicators relevant to the context of this research according to literatures and the focus group discussion. The literature study provides the basis for several theories that underpin the research, while also identifying the gaps previously in the introduction. Later, the focus group discussion produced the following operational indicators as seen below:

- a. For the operational variable authenticity, visitors feel the area is authentic, circulation supports comfort and the atmosphere of the past, lighting supports the atmosphere, architecture is maintained to reflect the past, and interior atmosphere and ventilation are comfortable with appropriate furniture, comfortable interior ventilation.
- b. For the operational variable involvement and interaction, there is fairly good interaction between traders and visitors, good visitor interaction, moderate feelings due to interaction and involvement, feeling safe, easy access to visit, and low risk of visiting.
- c. For the operational variable nostalgia, there is a personal and a historic/ collective feeling of nostalgia.
- d. For the operational variable place attachment, there is a feeling of happy in the area, wanting to conduct activities, make repeat visit, and recommend the place to other colleagues.

The variables and indicators can be seen on the figure 5 below:

Authenticity in Architecture Interior	Involvement and Interaction	Nostalgia:	Place attachment
<ul style="list-style-type: none"> ■ The authentic site ■ The site circulation support comfort and the atmosphere of the past ■ The site lighting support the activities ■ Architecture has been maintained and reflects the past ■ Lighting support the architecture ■ Interior has been maintained and reflect the a past ■ Comfortable interior atmosphere with suitable furniture ■ Comfortable interior ventilation 	<ul style="list-style-type: none"> ■ Warm Interaction between seller and customer ■ Warm interaction between visitor ■ Feeling happy about the interaction and feel familiar to involve ■ Feeling safe, easy access and satisfy 	<ul style="list-style-type: none"> ■ I feel personal nostalgia ■ I feel historic nostalgia 	<ul style="list-style-type: none"> ■ I am happy in this place ■ I want to do the activities in this place ■ I will make a repeat visit ■ I will recommend this place to others

Figure 5. The variables and indicators. Source: Private Data

In the observation stage, the five heritage buildings in Tunjungan Street area were analyzed. The perceptions of individuals were on the visitors to the five buildings in the area, namely Thirty Three Coffee Bar, Ikiwae, 7 Star Restaurant, Illegal Café, Kopi Padwa, and Ludic Café.



Figure 6. Panoramic cross-section image of Tunjungan area and several adaptive reuse cafés that are the research area. Source: Private Data, 2023

4.2 Observations in the café area produced the following results.

a) Padma Coffee Shop Design

Toko Tjantik in Pasar Tunjungan was a famous shoe leather shop. This shop still maintains the structure, facade, some interior plans, and recycled furniture. There is a function and layout conversion, allowing the owner to add decoration to the facade. The old atmosphere has been preserved and many area of the walls possess new conditioning, repainting, ornamentation, furniture, accessories, lighting, and ventilation systems.



Figure 7. Interior and outdoor atmosphere of Padma Coffee Shop. Source: Private Data, 2023

b) Thirty Three Coffee Bar Design

Thirty Three Coffee café features an interior concept that characterizes a strong industrial aesthetic, expressing the original character of the building through authentic walls and floors. The front facade has been subjected to an interesting transformation, given a modern twist with a striking green color palette. The layout is quite functional and an additional feature is the mezzanine floor, which also used to be an office. Some conserved elements were the main structure, façade, and interior area.

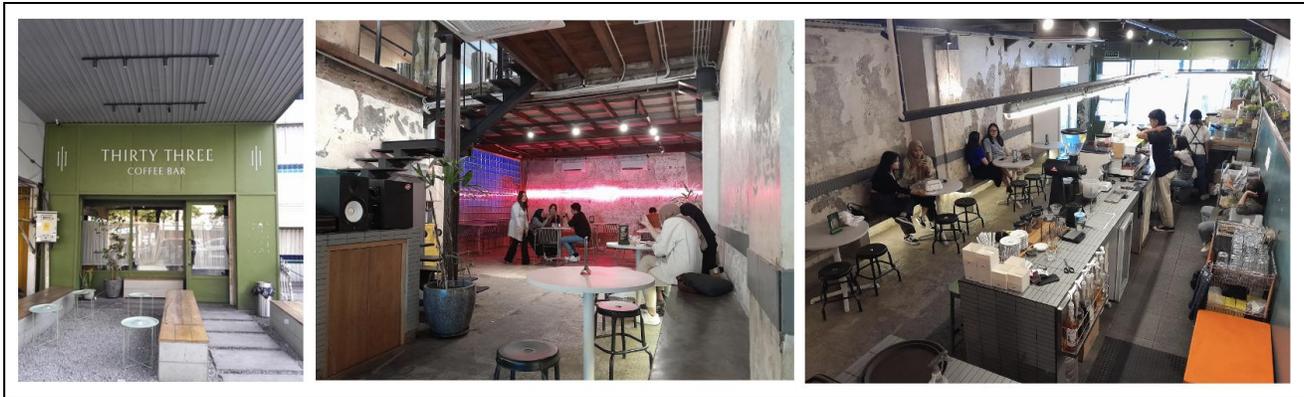


Figure 8. Interior Atmosphere of Thirty Three Coffee Bar. Source: Private Data, 2023

c) Ludic Café Design

The effort to maintain the building is more on the structure and exterior since the interior has changed. The former building was *Toko Lalwani Issardas & Sons*, which sold classy textiles and built knick-knacks from India and Mid-Eastern countries. The business was opened in 1930 but was later closed in 1990. Currently, the architecture and interior have been updated. The white color of the exterior walls was restored to the original with the addition of contemporary signage. There is an intermediate space bridging the outdoor and indoor spaces. The dynamic appearance of the interior walls comes from the formation and the use of yellow accent colors. The walls have a divided layout with good circulation for customers and service spaces. As for furniture, a functional theme is used, and the color is also an accent.



Figures 9. Interior atmosphere of Ludic Café. Source: Private Data, 2023

d) 7 Stars Restaurant Design

The structure and façade remain the same, but the interior has changed significantly. Stars Restaurant used to be a motorbike and car repair shop but the building is distinguished with an open kitchen system that invites great curiosity and interest from customers. This concept allows diners to see the whole process of cutting and cooking dishes, presenting a transparent and interesting culinary experience.



Figure 10. Interior atmosphere of 7 Stars Restaurant. Source: Private Data, 2023

e) Ikiwae Café Design

Ikiwae Café used to be a gramophone shop with a similar structure and façade. However, the interior area around the ceiling walls and floor plans has changed. Other elements include the logo and decorations of the café, strengthening the atmosphere. The logo of Ikiwae Café has a unique design because the building adopted Japanese elements. The café is also decorated with various illuminated designs to make customers more comfortable. Some stickers cover the café with a crowded impression because of the striking decorations and lighting.

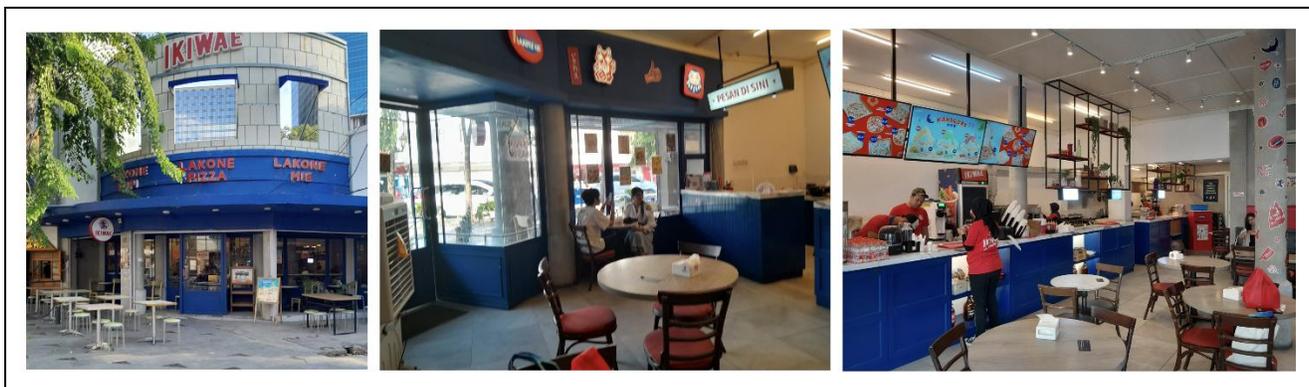


Figure 11. Interior atmosphere of Ikiwae Café bar. Source: Private Data, 2023

Illegal Café

Illegal Café is a famous shopping center in Pasar Tunjungan. This building still maintains the structure and façade with conversion and decoration functions. The restaurant takes a unique method of presenting the dining experience to customers. The compact space ensures that customer comfort is the top priority. The neatly arranged displays on the walls add a festive and energetic touch, creating a good atmosphere. Even though the space is limited in size, with clever layout planning, interior design, and careful arrangement of tables and chairs, the restaurant manages to avoid feeling cramped and claustrophobic. In this context, diners can enjoy meals comfortably and feel the vibrant atmosphere of the limited space.



Figures 12. Illegal Café, Outdoor and Interior Atmosphere. Source: Private Data, 2023

4.3 Stage 2

Quantitative analysis was conducted using Structural Equation Modeling (SEM). The outer and inner models are then evaluated by reading the report results from PLS Algorithm.

4.4 Characteristic Demographic Overview of Participants

A total of 200 participants were included in this research, and several important discussions were carried out. The largest respondents are women, with a total of 60% and men have a smaller percentage of 40%. Approximately 78% are students and young workers, while 53%, 19%, and 12% live in the western, eastern, and southern area of Surabaya, respectively. The travel time is mostly between 30 minutes to 60 minutes. The biggest interests are food and entertainment (70%), visiting popular places (27%), and taking friends/relatives. The favorite places in this area are coffee shops (40%), restaurants (40%), and others. Those data above showed that the majority of visitors are women, young students and worker, with their primary purposes on food, beverage and entertainment as well as the appeal of the Cafes in Tunjungan, being popular destinations.

4.5 Outer Model Testing

The outer model as in diagram 4 is evaluated to test the feasibility of the measurement using validity and reliability. This is achieved by using the convergent and discriminant validity method. Once the outer model is validated, the next step is to proceed with the inner model testing. The purpose of this step is to evaluate the structural relationships between latent constructs. It aims to determine how well the independent (exogenous) variables explain the dependent (endogenous) variables, assess the strength and direction of the hypothesized paths, and test the predictive capability of the model.

In this evaluation, the level is achieved using the convergent and discriminant validity method. Convergent validity of the measurement model with reflective indicators can be known through the correlation between the indicator value and the construct. This is estimated from the PLS Algorithm with SmartPLS software, as reported in Table 1.

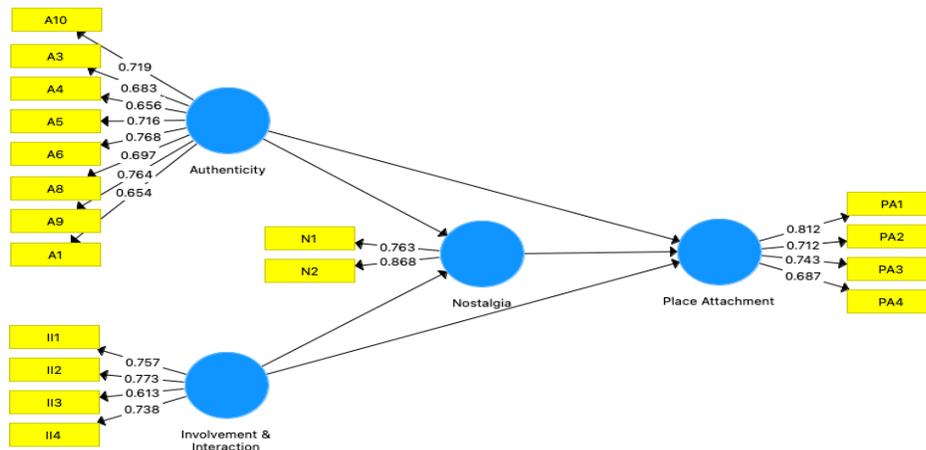


Figure 13. Outer model testing. Source: Private Data

Table 1. Outer Model Testing

Variables and Indicators		Loading Factor	Mean	Average Variance Extracted (AVE)	Composite Reliability
Authenticity				0,502	0,889
A1	I feel this site is authentic	0,654	4.200		
A3	The site circulation supports comfort and the atmosphere of the past	0,683	4.020		
A4	The site lighting supports the atmosphere	0,656	4.310		
A5	Architecture has been maintained and reflects the past	0,716	4.025		
A6	Lighting in the building supports the atmosphere	0,768	4.265		
A8	Interior has been maintained and reflects the form of the past	0,697	3.915		
A9	Comfortable interior atmosphere with appropriate furniture	0,764	4.270		
A10	Comfortable interior ventilation	0,719	4.135		
Involvement & Interaction				0,522	0,813
II1	Warm interaction between sellers and customers is quite good	0,757	4.190		
II2	Warm interaction between customers is quite good	0,773	3.965		
II3	Feeling happy about the interaction and familiarity	0,613	4.435		
II4	Feeling safe, easy access, and satisfy	0,738	3.895		
Nostalgia				0,668	0,800
N1	I feel personal nostalgia	0,763	3.860		
N2	I feel historic nostalgia	0,868	4.305		
Place Attachment				0,548	0,828
PA1	I am happy to be in this place	0,812	4.305		
PA2	I want to do activities in this place	0,712	4.505		
PA3	I will make a repeat visit	0,743	4.365		
PA4	I will recommend this place to other colleagues	0,687	4.450		

The measurement model with reflective indicators is convergently valid, as reported by the correlation between the item and construct scores. Individual indicators are considered reliable when the correlation value is above 0.70. However, loadings of 0.50 to 0.60 are still acceptable in the scale development stage.

Average Variance Extracted (AVE) is the value used in convergent validity testing because the value is obtained from the convergent validity output. In this research, the expected AVE value is > 0.5 , and the constructs have values above 0.5 when viewed from the latent variable. In addition, construct reliability testing measures the composite reliability of the indicator block. The construct is declared reliable when the composite reliability value exceeds 0.70 (Ghozali, 2006).

Table 2. Cross Loading

	Authenticity	Involvement and interaction	Nostalgia	Place attachment
A1	0,654	0,338	0,157	0,331
A3	0,683	0,320	0,235	0,310
A4	0,656	0,196	0,179	0,378
A5	0,716	0,389	0,263	0,280
A6	0,768	0,410	0,214	0,377
A8	0,697	0,400	0,245	0,273
A9	0,764	0,327	0,257	0,483
A10	0,719	0,432	0,248	0,465
II1	0,402	0,757	0,345	0,392
II2	0,430	0,773	0,292	0,385
II3	0,211	0,613	0,319	0,270
II4	0,370	0,738	0,377	0,352
N1	0,168	0,359	0,763	0,308
N2	0,335	0,396	0,868	0,433
PA1	0,422	0,447	0,361	0,812
PA2	0,417	0,280	0,347	0,712
PA3	0,321	0,369	0,320	0,743
PA4	0,386	0,338	0,332	0,687

The discriminant validity of the reflective indicator can be seen in the cross-loading. Based on the cross loading output table, the correlation of each indicator with the construct is higher than others. Therefore, the latent construct predicts the indicators in the block.

4.6 Inner Model Testing (Hypothesis Testing)

4.6.1 Determination Coefficient Testing

An important method for testing the inner model is to find R-square (R²) value on the dependent construct. A structural model with R-square value above 0.19, 0.33, and 0.67 shows that the model is “weak”, “moderate”, and “strong”, respectively (Ghozali, 2006).

Table 3. The Determination Coefficient

	R-square	Conclusion
Nostalgia	0,224	Weak
Place attachment	0,397	Moderat

R-square value of each dependent construct from the model estimation has been reported. The nostalgia variable can be defined or explained by the authenticity, involvement, and interaction variables of 0.224 or

22.4%. In comparison, the remaining 77.6% is explained by other variables excluded from the model. Similarly, place attachment can be defined or described by the authenticity, involvement, and interaction, as well as nostalgia variables of 0.397 or 39.7%. The remaining 60.3% are explained by other variables excluded from the model.

4.6.2 Hypothesis Testing

Table 4. Hypothesis Testing

	Original Sample (O)	P-Values
Direct Effect		
Authenticity -> Nostalgia (H1)	0,119	0,113
Authenticity -> Place Attachment (H2)	0,345	0,000
Involvement & Interaction -> Nostalgia (H3)	0,403	0,000
Involvement & Interaction -> Place Attachment (H4)	0,197	0,012
Nostalgia -> Place Attachment (H5)	0,260	0,000
Indirect Effect		
Authenticity -> Nostalgia -> Place Attachment (H6)	0,031	0,154
Involvement & Interaction -> Nostalgia -> Place Attachment (H7)	0,105	0,002

4.6.3 Interpretation of Direct Effect

- Hypothesis Testing The effect of Authenticity Variable to Nostalgia Variable (H1)
- A positive effect of authenticity on nostalgia has been reported, with a value of 0.119. The p-value is 0.113 since the result is greater than the α value of 0.05. Therefore, the hypothesis is rejected since authenticity has an insignificant effect on nostalgia.
- Hypothesis Testing Involvement and Interaction -> Nostalgia (H2)
- There is a positive effect between involvement and interaction on nostalgia of 0.403. The p-value is 0.000 and the result is smaller than the α value of 0.05. Therefore, the hypothesis is accepted since involvement and interaction significantly affect nostalgia.
- Hypothesis testing the effect of Authenticity Variable to Place Attachment Variable (H3).
- There is a positive effect between authenticity and place attachment of 0.345. The p-value is 0.000 and the result is smaller than the α value of 0.05. Therefore, the hypothesis is accepted since authenticity significantly affects place attachment.
- Hypothesis testing the effect of Involvement and Interaction Variable to Place Attachment Variable (H4).
- There is a positive effect between involvement and interaction on place attachment of 0.197. The p-value is 0.012 and the result is smaller than the α value of 0.05. Therefore, the hypothesis is accepted since involvement and interaction significantly affect place attachment.
- Hypothesis Testing The Effect of Nostalgia Variable to Place Attachment Variable (H5).
- There is a positive effect between nostalgia and place attachment of 0.260. The p-value is 0.000 and the result is smaller than the α value of 0.05. Therefore, the hypothesis is accepted since nostalgia significantly affects place attachment.

4.7 Interpretation of Indirect and Moderating Effects (H6 & H7)

- Authenticity positively affects place attachment through nostalgia as a mediating variable of 0.031 and a p-value of 0.154 above the significance level of 5%. The role of nostalgia as a mediator variable weakens the relationship between authenticity and place attachment (H6).
- Involvement and interaction positively affect place attachment through nostalgia as a mediating variable of 0.105 and a p-value of 0.002 above the significance level of 5% since the hypothesis is accepted. The role of nostalgia as a mediator variable does not have a significant role in comparing the direct influence of involvement and interaction on place attachment (H7).

5.0 DISCUSSIONS

This research has proven that authenticity has no significant effect on nostalgia. Authenticity is often perceived as a key factor in the preservation and appreciation of heritage area. Meanwhile, nostalgia is affected by authenticity in adaptive reuse contexts. Previous research showed that authenticity did not significantly affect nostalgia. During the observation, nostalgia was developed from personal experiences, social interactions, and the new meanings attributed to reused spaces. This understanding emphasizes the importance of focusing on user experiences and community engagement in adaptive reuse projects rather than prioritizing historic authenticity. Furthermore, customers in the cafés area of Tunjungan Street are young age and are not related to historic context of the building. Strong emotional connections, social interactions, and experiences are given mainly as an effect of area awareness programs, branding as a place of hype, and providing experiences in collective self-actualization. In the context of adaptive reuse, the emotional resonance of space can stem from new functions and social interactions, rather than historic authenticity.

This result supports Lewicka and Prusik (2023); Fajarwati (2023). Lewicka and Prusik (2023) research discussed the psychological implications of nostalgia. The result suggests that nostalgia can manifest in various forms, including bittersweet experiences without necessarily relying on the authenticity of the objects or places (Lewicka & Prusik, 2023). Therefore, the variable is a complex emotional response transcending the authenticity of the adaptive reuse context. Fajarwati (2023) research on adaptive reuse showed that nostalgia played a role in the perception of reused spaces but did not positively affect user experiences or emotional connections with the space. This suggests that nostalgic value may not be directly tied to authenticity since users derive the context from personal experiences or community memories not necessarily connected to the original function or historic accuracy. Furthermore, Ingaramo et al. (2022) emphasized that adaptive reuse strategies could focus on social empowerment and community engagement. This evoked nostalgia by creating new memories and experiences independent of historic authenticity of the building (Ingaramo et al., 2022). According to Yang et al. (2022), nostalgia is evoked through various stimuli and experiences rather than authentic representations of the past.

Based on the description above, involvement and interaction significantly affect nostalgia in Tunjungan Street cafés. The need to socialize and interact with young customers is not only when relaxing but also accommodates many factors to complement work as an area of choice. The interplay between involvement, interaction, and nostalgia is important in shaping place attachment in adaptive reuse cafés. By facilitating social interactions and creating authentic experiences, cafés evoke nostalgic sentiments to enhance emotional connections. This relationship shows the importance of designing heritage spaces to promote community engagement and enhance a sense of belonging. Involvement in heritage activities often leads to a deeper emotional connection to the past. This result supports Loureiro and Sarmiento (2019); Chen et al. (2020); Castles (2020); Gao et al. (2020); Zeng and Xu (2021); Cho, 2021; Zeng and Xu (2021); Elshaer et al (2022); Flannery et al. (2022); Naismith and Murphy (2023); Fajarwati (2023). According to Kelley et al. (2022), interactive engagement allows individuals to share stories and experiences, enhancing collective nostalgia. Moreover, Patrons obtained comfort in the familiar aesthetics and historic narrative of adaptive reuse cafés. This emotional response is amplified through social interactions since individuals share experiences and reminisce, deepening attachment to the café and heritage. Zeng and Xu (2021) supported the notion by stating that nostalgic experiences could enhance involvement in heritage activities.

In the third result, authenticity has a significant effect on place attachment. The authenticity area of Tunjungan Street provides a feeling of attachment because of a relatively important regional legitimacy in North Surabaya. This area is known as an icon of the city which provides a bond from the authentic environment as a shopping and commercial street. Authentic environments enhance emotional connections and a sense of belonging among patrons. By preserving authentic elements and including the community in adaptive reuse, cafés create meaningful experiences in resonance with customers to reinforce place attachment. Fajarwati (2023) discussed the creation of a "third place" from the adaptive reuse of heritage buildings to improve community

interactions in forming emotional connections to the space and attachment. Chen et al. (2020) emphasized that authenticity contributed significantly to patron satisfaction and behavioral intentions. In adaptive reuse cafés, preserving authentic elements such as historic architecture, décor, and cultural narratives enhances the overall experience, leading to stronger place attachment among customers.

Castles (2020) explored community-initiated adaptive reuse projects, emphasizing that successful adaptive reuse depended on preserving authentic characteristics in resonance with local communities. This balance with community values and identities is crucial for enhancing place attachment. Patrons develop a strong emotional bond with a space when a café authentically represents cultural heritage.

Involvement and interaction variables significantly affect place attachment. In Tunjungan area, active participation and meaningful interactions improve emotional connections to the space, a sense of belonging and attachment. By creating environments to promote community engagement and authentic experiences, these cafés strengthen the emotional ties of patrons to heritage, enriching the cultural landscape of commercial historic area. Involvement in heritage-related activities often leads to a deeper emotional connection to a place. Chen et al. (2020) found that food involvement positively affected place attachment. Therefore, a stronger emotional bond is developed with the destination when there is an engagement with the local culinary experience. In the context of adaptive reuse cafés, participating in the offerings, such as tasting local dishes or engaging in cultural events enhances emotional connections to the space. Vada et al. (2019) also reported the effect of tourism experiences on place attachment, suggesting that positive interactions during visits could enhance the emotional connection to a place.

Li and Xu (2022) emphasized the dynamic nature of place attachment, arguing that the variable was obtained from interactions between individuals and the environments. In this context, adaptive reuse cafés served as social spaces where customers engaged with the physical setting and other patrons. These interactions contribute to a sense of belonging in developing place attachment. The café becomes an area of shared experiences and memories, reinforcing emotional connections.

In Tunjungan Street, nostalgia has a significant effect on place attachment. This variable motivates individuals to engage with heritage spaces, enhancing a sense of belonging and emotional connection. Nostalgic feelings could enhance the emotional connection to heritage area, sense of belonging, and place attachment. In adaptive reuse cafés, preserving historic elements can evoke nostalgia, allowing patrons to form deeper connections with the space.

Tsai et al. (2020) examined the interplay between experiential quality, nostalgia, and place attachment in the hospitality sector. The result showed that nostalgic experiences significantly enhanced place attachment among customers. Meanwhile, Cho (2021) explored the effect of nostalgia on place attachment and revisits intentions, suggesting that the experiences could enhance emotional connections. Individuals develop a sense of place attachment when nostalgia is experienced. Lewicka and Prusik (2023) distinguished between restorative and reflective nostalgia, emphasizing the psychological implications for place attachment. Restorative nostalgia focuses on reconstructing lost places, while reflective emphasizes emotional experiences associated with the past. In adaptive reuse cafés, both types of nostalgia are evoked by preserving authentic elements. This allows patrons to engage with memories and emotions, enhancing space attachment.

Finally, nostalgia catalyzes emotional connections to improve space attachment. By preserving authentic elements and creating environments to evoke nostalgic feelings, these cafés enhance a sense of belonging and enrich the cultural landscape of commercial historic area (Tsai et al., 2020; Gao et al., 2020; Cho, 2021; Lewicka & Prusik, 2023).

5.1 Interpretation of Indirect and Moderating Effects

The direct effect between authenticity and place attachment has a significant effect but the role of nostalgia as a mediator variable weakens the relationship. Authenticity is not perceived as a strong influence on place

attachment because many elements have changed. In this context, the authenticity of buildings in Tunjungan area is less related to the previous knowledge of young respondents who feel and experience the new vibes. Involvement and interaction have a positive effect on place attachment through the nostalgia variable. Compared to the direct effect, the role of nostalgia as a mediator variable does not have a significant role. The variable is not important since most respondents came to eat and socialize.

5.2 Implications for Interior Design, Architecture, and Site Planning Policy

Several implications can be applied to this analysis environment and replicated to inspire solutions in the Asian region with the same character.

Table 5. Practical Implication

No	Findings	Implications for Interior Design, Architecture, and Site Planning
1	Authenticity has no significant effect on nostalgia in the studied area.	<p>The Interior design of the café or other commercial area should focus on design elements to enhance the interactive experience and engagement in adaptive reuse spaces, such as digital art installations or participatory spaces. Nostalgia cannot be relied on only through the authenticity of the design. Therefore, a balance must be established with modern or innovative elements relevant to historic context.</p> <p>Architectural design specifically adaptive reuse projects is important to maintain authentic elements as an identity, but needs to integrate interactive features, such as modern signage or augmented reality technology to create emotional connection.</p> <p>In relation to improving regional planning, adaptive reuse should understand that nostalgia does not strengthen place attachment. Therefore, area management programs need to create experiences relevant to the needs and preferences of modern society. For the Space Activation Strategy, managers in each commercial area should combine authentic elements with modern programs such as creative spaces for co-working, music events, or art festivals relevant to popular culture.</p>
2	Involvement and interaction have a significant effect on nostalgia.	<p>Designers and architects should pursue Interactive Design, spaces that support engagement through design elements, such as interactive multimedia installations, participation spaces, or experience-based elements. Furthermore, zones should be created to provide special experiences such as photo area, augmented reality (AR)-based area, or places to try traditional activities.</p> <p>Participatory architectural planning supports placemaking. Design architectural elements promoting direct interaction, such as interactive exploration paths, open amphitheaters for cultural arts performances, or flexible public spaces.</p>
3	Authenticity has a significant influence on place attachment.	<p>Preservation of traditional architectural elements includes building facades, room proportions, and local patterns in adaptive reuse projects. More details on the interior area, the selection of materials, decorative elements, and furniture that are authentic and represent local cultural values can increase the sense of space attachment. For example, using traditional ornaments or regional textiles.</p> <p>Input should be obtained from conservation experts and local communities to preserve heritage area. Policies for community involvement are very important, including the participation of the local community in the planning and design process to improve space attachment. In addition, education and training programs should also be conducted for the local community to understand the importance of maintaining the authenticity of the area.</p>
4	Involvement and interaction have a significant	In interior design, the spaces should promote engagement, such as interactive area, workshop spaces, or galleries that allow direct participation in creative activities. In addition, design elements should be used to facilitate social interaction, such as

influence on place attachment.	<p>modular furniture.</p> <p>Buildings should be designed with public spaces, such as plazas, open spaces, or gardens. This creates a transition of space between indoor and outdoor area that promote activity and engagement, such as terraces or semi-outdoor.</p> <p>Regional planning should include stakeholders such as developers, communities, government, and tourists in creating interactive and participatory spaces.</p>
5 Nostalgia has a significant influence on place attachment.	<p>In interior design, spaces should create a sense of nostalgia, such as the use of local materials, traditional ornaments, or distinctive architectural styles of the past. In addition, artifacts or memorabilia can evoke emotional memories of visitors. The selection of colors, textures, and lighting provides a retro or traditional feel, appropriate to the history of the area.</p> <p>For architecture, an adaptive reuse design should be applied to maintain historic elements in old buildings, such as facades, roof structures, or ornamental details. A modern interpretation of traditional designs also created harmony between the past and the present, combining nostalgia with different needs.</p> <p>In terms of area planning, nostalgia involvement should be increased such as managing programs to show historic and cultural values of the area. These include art exhibitions, cultural performances, or festivals that revive stories of the past as well as developing narratives to increase nostalgia.</p>

Theoretically, three factors contribute to analysis including the insignificance of authenticity and the role of nostalgia as a mediator in weakening the relationship between the variable and place attachment. Meanwhile, nostalgia as a mediator variable does not have a significant role in the framework of interaction and involvement to place attachment. The authenticity variable is not significant in causing nostalgia in individuals emphasizing more on social interaction and experience. The tendency occurs in different places, cultures, and types of cafés or shop services.

Based on the description above, nostalgia does not always strengthen authenticity and place attachment but can weaken the relationship. This shows that authenticity is not the only important element in creating emotional attachment. Therefore, the design and management method for adaptive reuse area should consider emotional elements dynamically. The contribution to design theory, and environmental psychology, specifically in the area of adaptive reuse is a tourism concern. These results open up opportunities to explore more flexible design methods, which combine authenticity with contemporary elements to create stronger place attachment. Experiential tourism theory should recognize the limitations of nostalgia in creating place attachment and emphasize the importance of other elements such as innovation, social interaction, and cultural relevance.

6.0 CONCLUSIONS

The role of authenticity, involvement, and interaction in place attachment was considered at adaptive reuse cafés in the context of commercial historic area. Authenticity offers a sense of genuineness that connects visitors to the historical and cultural identity of the place. Interaction and involvement encourage social experience, strengthening emotional bonds between individuals and their surroundings. Involvement and interaction from visitors had a significant effect on the creation of Nostalgia. Meanwhile, nostalgia rekindles personal and collective memories, deepening emotional connection to the site. Together these elements enhance sense of belonging, comfort and appreciation, rendering the place attachment. The three variables authenticity, involvement, and interaction as well as nostalgia as moderating variable had a significant effect on place attachment. The role of Nostalgia as a mediator variable was less experienced in the analysis. Future analysis should be conducted in a different framework and regional context. Respondents with different characteristics could be a differentiator in getting new insights.

This research contributed significantly to the conservation and utilization of historic buildings through adaptive reuse café. Insights were provided to increase visitor engagement and maintain historic value of the building by combining elements of authenticity and interaction. From an economic and community perspective, adaptive reuse cafés based on interaction supported economic sustainability in historic area and preserved local culture through responsible commercial use. This research provided a strong basis for developing cultural-based tourism, allowing managers to balance authentic values and interactive experiences in attracting tourists. The results could be used to support conservation policies based on adaptive reuse including cross-sector collaboration to create sustainable adaptive spaces.

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