



Female consumers' place attachment and wellbeing in Bandung's adaptive reuse heritage coffee shops: Human centric regenerative design

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Received:

09/04/2026

Final Revision:

08/05/2026

Accepted:

18/05/2026



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Abstract.

The adaptive reuse of heritage buildings into coffee shops has become an important part of Bandung's contemporary urban culture. However, adaptive reuse is often evaluated through physical preservation, visual nostalgia, or economic viability, while the role of interior space in shaping female consumers' place attachment and wellbeing remains underexplored. This study examines how human-centric regenerative interior qualities contribute to place attachment in two adaptive reuse heritage coffee shops in Bandung: Jabarano Coffee Braga and Two Hands Full Dago. A comparative case-study design with convergent mixed methods was applied through field observation, visual documentation, semi-structured interviews, and a survey of 38 female consumers. Qualitative data were analyzed through thematic analysis, while quantitative data were examined using descriptive statistics, correlation analysis, and exploratory factor analysis. The findings indicate that place attachment is formed through three interrelated dimensions: regenerative functional utility, psychosocial resonance and identity, and affective heritage attachment. Functional qualities, including thermal comfort, natural lighting, spatial flexibility, and digital accessibility, operate as a Functional Threshold that enables deeper social, symbolic, and emotional attachment. The study contributes a human-centric regenerative framework for adaptive reuse interiors, suggesting that heritage coffee shops can support urban wellbeing when environmental comfort, historical continuity, and gender-sensitive spatial experience are integrated.

Keywords: Adaptive Reuse, Heritage Coffee Shop, Place Attachment, Regenerative interior Design, Third Place, Urban Wellbeing

Introduction

As a major city with a long architectural legacy, from colonial buildings to modern coffee shops, Bandung is undergoing a distinct transformation. The role of these venues also varies from just places of consumption to other forms as essential third places that help foster the urban social fabric (Oldenburg, 1999). The recent increase in commercial activities within heritage buildings has been extensively documented, particularly in rapidly changing and urbanizing areas, such as Bandung, Indonesia, which possesses a robust historical identity. Over the last ten years, the rise of coffee shops in repurposed heritage structures has not only altered the urban landscape but also redefined the function of these buildings as contemporary social infrastructure. These establishments have evolved beyond mere consumption spaces to become 'third places' that facilitate social interactions, solitary activities, and personal expression within everyday urban life (Oldenburg, 1999).

However, many adaptive reuse initiatives in Indonesia primarily focus on aesthetic commodification when addressing heritage conservation. This approach often reduces heritage to a visual or stylistic element rather than recognizing it as an engaging spatial or experiential resource.

Design interventions in these cases tend to highlight nostalgic imagery and commercially appealing products while neglecting deeper environmental performance and user experiences that are culturally relevant. As a result, the success of adaptive reuse is frequently assessed based on aesthetics or financial viability rather than its capacity to foster meaningful spatial or cultural connections with users through its environmental or ecological aspects.

Adaptive reuse has been well-established as a practice for preservation of heritage that can help preserve the existing buildings adapted to the changing urban environment. Instead of treating existing buildings like dead relics, adaptive reuse involves re-purposing them as living resources in urban spaces, transforming them into active urban enterprises while retaining their architectural and cultural significance. Plevoets and Van Cleempoel (2011) argue that the success of adaptive reuse depends on the synergy between the building's original "fabric" and its new programmatic identity and also argue that the effectiveness of adaptive reuse hinges on the harmonious relationship between a building's existing structure and its newly established programmatic identity. Adaptive reuse is a better sustainable alternative to demolition or reconstruction of buildings (Ijla A and Broström T (2015) in Hasnain (2018)). Adaptive reuse is thus, in some ways, not only a technical intervention, but also a socio-technical process that integrates material preservation, urban memory, environmental performance and contemporary use. In relation to sustainability, adaptive reuse is viewed more favourably than demolition or reconstruction as adaptive reuse results in reduced embodied carbon, extended building life cycles and preserved material resources. In addition to these environmental advantages it also advances continuity of place identity and cultural meaning. Such adaptation would add renewal of physical, psychological, and economics advantages for a linked community. (Lee Y-J (2015) in Hasnain (2018)).

Adaptive reuse for tropical urban heritage buildings holds greater promise as many historic buildings already embody climate-friendly aspects like lofty ceilings, wide openings and permeable envelopes, that may be transformed upon re-activation, to enhance daylighting, airflow and thermal comfort. This casts adaptive reuse in a wider context, no longer just a conservation strategy, but as a spatial regime for environmental and experiential performance. However, the review of adaptive reuse literature is conducted through the lens of either physical preservation, economic viability or ecological efficiency. Less focus, however, has been devoted as regards the impact of adaptive reuse on interior experiences at the level of users, as in commercial spaces where heritage value itself continues to be renegotiated throughout daily life through consumption, daily use, and social interaction. This limitation is relevant when this principle of adaptive reuse is considered in coffee shops due to their use as central user interaction spaces that focus on the interior atmosphere, the comfort and the identity of which contribute to user engagement.

Simultaneously, discussions surrounding sustainability in architectural and interior design are shifting towards regenerative design principles. This approach goes beyond merely focusing on environmental sustainability; it actively promotes the replenishment of ecological systems while enhancing human quality of life (Mang & Reed (2012) in Savitri et al (2025)). In interior spaces, regenerative design emphasizes creating environments that act as restorative mediators, where factors like natural light, passive ventilation, material authenticity, and multisensory experiences all contribute to mental comfort and spatial quality. Nonetheless, regenerative design within adaptive reuse interiors, especially in commercial heritage contexts, requires further exploration as it relates to fostering emotional and experiential connections for users.

Regenerative design goes beyond traditional sustainability by transforming the objective of design from merely reducing negative impacts to proactively revitalizing ecological and social systems. In the realm of interior architecture, this viewpoint suggests that spaces should not only function efficiently but also enhance wellbeing, foster psychological rejuvenation, and encourage meaningful interactions between people and their environments. Consequently, regenerative design highlights aspects such as natural illumination, passive airflow, material authenticity, multisensory experiences, and environmental adaptability as vital elements of the spatial experience. When it comes to adaptive reuse in heritage interiors, regenerative design provides a valuable perspective since it aligns

environmental efficiency with cultural preservation. Historic structures often possess inherent passive attributes that can be reactivated through thoughtful design; their original materials and spatial qualities contribute to an authentic and restorative ambiance. This makes regenerative design particularly pertinent for heritage coffee shops, where patrons enjoy both the physical comfort of the environment and the rich historical significance of the building.

However, much of the existing literature on regenerative design tends to concentrate on building systems, ecological concepts, or overarching sustainability frameworks. There is a lack of research linking regenerative design specifically to commercial heritage interiors, with even fewer investigations addressing how regenerative characteristics influence place attachment and wellbeing among distinct user groups. This article positions regenerative design not merely as a technical or ecological framework but as a human-centered approach in interior spaces that elucidates how adaptive reuse environments gain emotional importance.

This concept has often been applied in environmental psychology to develop a framework describing how emotional ties between individuals and places form. Gifford (2014) and Scannell and Gifford (2010) in Wang et al (2026) characterize place attachment by integrating person-related dimensions with processes linked to specific locations, highlighting that attachment arises from lived experiences and repeated interactions. Place attachment refers to affective or cognitive bonds formed between a person and meaningful place. Thus, place attachment offers an essential link in making sense of why sustainability of adaptive reuse interiors should not only be synonymous with physical preservation, increased energy efficiency, or resource conservation. If attachment is a function of comfort, memory, identity, and emotional resonance, such sustainability of the interiors should also be judged in the context of their capacity to support users' wellbeing and meaningful spatial experience.

Place attachment refers to the emotional connection that individuals develop with particular environments through their experiences, usage, and the meanings they ascribe to those settings. Scannell and Gifford (2010) in Savitri et al (2025) frame place attachment as a product of the interplay between Person, Process, and Place. This suggests that such attachment arises not only from the physical attributes of an environment but also from factors like perception, emotion, memory, and repeated engagement. In interior spaces, place attachment occurs when individuals engage with a space beyond its functional purpose, beginning to perceive it as meaningful, comfortable, familiar, and relevant to their identity. Within heritage contexts, this attachment can be heightened by elements such as historical continuity, material authenticity, and the symbolic significance of the built environment. Original architectural features, signs of aging, and stories from the past can deepen users' emotional and cognitive connections to a place. However, it is important to note that attachment is not solely derived from heritage value; it is also influenced by the current functionality of the space, whether it feels usable, safe, comfortable, atmospherically appealing, and socially significant.

This is particularly crucial in commercial interiors, like coffee shops, where user attachment relies on both functional support and experiential quality. While there has been research into place attachment in public spaces and heritage sites, and occasionally coffee shops, there remains a lack of focused studies specifically investigating how place attachment develops within adaptive reuse coffee shop interiors. This gap becomes more pronounced when considering female users whose experiences may be more significantly influenced by aspects such as comfort, safety, privacy, ambiance, and emotional resonance.

The focus on female consumers is not intended to claim an essential difference between men and women, but to examine a situated user group whose experience of public-commercial interiors is strongly shaped by comfort, safety, visibility, atmosphere, accessibility, and social appropriateness. In coffee shops, female consumers do not only consume beverages; they also work, study, socialize, rest, and construct personal identity through spatial experience. Preliminary mapping in this research also showed that women formed a significant proportion of coffee shop respondents, indicating the relevance of examining how female users perceive and attach meaning to adaptive reuse interiors.

Therefore, this study uses a gender-sensitive perspective to understand how interior design mediates between heritage value, contemporary coffee culture, and women's lived experience of place.

Female consumers' experiences in public-commercial interiors are shaped by more than functional access. They involve perceived comfort, safety, visibility, privacy, atmosphere, and the ability to perform social and personal activities without spatial discomfort. In the context of coffee shops, women may use the space for working, studying, relaxing, socializing, and constructing social identity. This makes the coffee shop not merely a consumption setting but a semi-public third place where emotional comfort and social appropriateness influence attachment. Within adaptive reuse heritage interiors, these experiences become more complex because users encounter both contemporary lifestyle needs and historical-material traces of the building. Therefore, examining female consumers' place attachment provides a way to understand how interior design mediates between gender-sensitive spatial experience, heritage continuity, and wellbeing.

Coffee shops have transformed into significant urban venues that address various needs beyond mere consumption. In contemporary city environments, they serve as third spaces or informal settings, situated between home and work, where individuals can socialize, unwind, engage in professional tasks, and express their identities. This idea expands upon Oldenburg's (1989) in Setiati (2015) theory of third places in everyday urban life, highlighting the importance of accessible and socially supportive locations in shaping urban experiences. While coffee shops facilitate casual interactions, they also embody aspects of remote work, studying, or solitary activities.

Within the framework of adaptive reuse, the role of coffee shops as third spaces becomes increasingly intricate. Coffee shops within urban settings function as "Third Spaces," providing neutral environments conducive to social interaction and community engagement (Oldenburg (1989) in Savitri et al(2025)). They hold commercial significance related to both the symbolic and material features of heritage structures while creating an environment where current urban routines converge with historical continuity. Thus, coffee shops housed in heritage buildings transcend mere beverage consumption; they become intersections of architecture, memory, ambiance, and lifestyle.

Research on coffee shops as 'third spaces' has predominantly focused on their impact on social dynamics, lifestyle choices, or urban culture. However, there has been a lack of studies examining them as adaptive reuse interiors that simultaneously foster heritage value, environmental quality, and user attachment. This consideration is especially relevant in Bandung, where heritage coffee shops have established themselves as essential spatial typologies within the modern city's coffee cultural landscape.

Place attachment has been widely discussed, but its application to adaptive reuse commercial interiors hasn't been well addressed, especially in heritage coffee shops, where historical narratives, contemporary functions, and sensory experiences interweave. Most adaptive reuse and conservation research mainly studies physical preservation, authenticity, environmental performance, and economic viability, while the gendered experience of interior space has received limited attention. In similar fashion, place attachment studies frequently treat users as a generalized category and do not sufficiently consider the ways in which comfort, safety, visibility, privacy, atmosphere, and identity influence women's spatial experiences in public-commercial contexts.

There exists a body of literature indicating a connection among adaptive reuse, third spaces, place attachment, and regenerative design; however, these concepts have seldom been integrated into a cohesive analytical framework. Research on adaptive reuse typically emphasizes aspects such as preservation, viability, and authenticity. In contrast, studies focusing on third spaces primarily address social infrastructure and urban lifestyles. Meanwhile, investigations into place attachment are largely concerned with the emotional connections individuals have to specific locations, whereas literature on regenerative design is chiefly focused on environmental restoration and the performance of buildings. This sub-field operates at the intersection of these four domains in relation to commercial heritage interiors.

Adaptive reuse refers to the practice of maintaining and repurposing old structures for new functions, which fosters continuity of identity while minimizing environmental effects. Third space

describes the role of coffee shops as neutral social environments that exist between home and work, facilitating informal interactions and daily urban experiences. Place attachment reflects the emotional connections individuals develop toward a location through repeated interactions and the significance derived from those experiences. The convergence of these concepts underscores the main argument of this study that heritage coffee shops evolve into human-centered regenerative spaces when renovated buildings not only retain their functional relevance but also offer social comfort, safety, and spatial harmony for present-day users. Consequently wellbeing emerges from a blend of historical continuity, social infrastructure, and emotional ties to a place.

Specifically, there are three significant gaps that this research addresses. Firstly, prior studies on adaptive reuse frequently overlook the significance of interior experiences in fostering emotional attachments within heritage commercial settings. Secondly, regenerative design has rarely been applied at the level of adaptive reuse coffee shop interiors as a human-centered experiential framework. Thirdly, investigations into place attachment have not commonly examined female consumers as a primary focus, despite the substantial influence that gendered spatial experiences have on perceptions of comfort, safety, ambiance, and social meaning in public-commercial spaces.

Consequently, this study examines heritage coffee shops in Bandung that feature adaptive reuse interiors where regenerative elements, third-space functionalities, and heritage narratives intersect—ultimately influencing place attachment among female customers. Through this approach, the article advocates for a comprehensive understanding of interior design as a facilitator of environmental performance, cultural continuity, and overall human wellbeing.

To address this gap, this study conducted a comparative study on two adaptive reuse heritage coffee shops in Bandung, Jabarano Coffee Braga and Two Hands Full Dago. It examines the roles of interior design components, environmental quality, and heritage storytelling in the context of female consumers' place attachment and wellbeing. This research is innovative in the sense that it bridges adaptive reuse, heritage conservation, gender-sensitive spatial experience, and regenerative interior design as a single framework. It also mentions the Functional Threshold, the notion that the fundamental functional and environmental qualities should be met from which a more complex emotional and symbolic attachment to heritage interiors emerges.

Therefore, this research endeavors to: (1) identify the mechanisms behind place attachment formation among female consumers within adaptive reuse heritage coffee shops; (2) explore how this attachment evolves through perception and repeated exposure; and (3) propose recommendations for interior adaptive reuse strategies considering both heritage values and gendered spatial experiences during planning phases. In doing so, this study contributes significantly to existing literature on adaptive reuse alongside regenerative design while positioning interior space at a crucial intersection of cultural continuity along with environmental performance tailored towards human wellbeing amid today's urban environments.

Methods

Research Design

This study employed a comparative case-study design using convergent mixed methods. The case-study approach was selected because the research examines two specific adaptive reuse heritage coffee shops in Bandung, while the convergent mixed-methods strategy allows qualitative spatial interpretation and quantitative measurement of place attachment to be analyzed in parallel and integrated during interpretation.

Qualitative Phase

The qualitative phase used focused ethnographic observation to understand how female consumers experienced, occupied, and interpreted the interior spaces in everyday use. Observations were conducted during weekday and weekend visits to capture variations in spatial use, seating preference,

duration of stay, social interaction, and work-related activities. Visual documentation was used to record spatial configuration, lighting condition, material expression, furniture arrangement, and the presence of heritage elements. Semi-structured interviews were conducted with selected female consumers and relevant stakeholders to explore perceptions of comfort, safety, atmosphere, heritage meaning, and emotional attachment.

Quantitative Phase

The quantitative phase involved a survey of 38 female consumers who had visited the selected adaptive reuse coffee shops. The questionnaire used a five-point Likert scale and was developed from the dimensions of place attachment (Scannell & Gifford, 2010) and adaptive reuse interior experience. The data were analyzed using descriptive statistics, Pearson correlation, and exploratory factor analysis to identify latent dimensions shaping female consumers' place attachment. It encompasses four dimensions:

1. Functional attachment (comfort and utility within the space),
2. Identity alignment (symbolic meanings associated with self),
3. Social attachment (sense of belonging and interaction), and
4. Affective heritage attachment (emotional connection to historical significance).

Research Setting and Case Selection

The research is carried out in Bandung, Indonesia, a city known for its rich colonial architectural heritage and the rapidly growing coffee culture. The two adaptive reuse coffee shops were selected to serve as case studies for this purpose: Jabarano Coffee Braga and Two Hands Full Dago. Purposive criteria guide the selection of these cases:

1. They each are in heritage buildings with preserved architectural elements,
2. These serve as modern coffee shops that are urban third spaces, and
3. Both show disparate spatial identities. Jabarano Coffee represents a monumental colonial-commercial typology, Two Hands Full a domestic-modernist typology. This comparison enables a reflection of the effect contrasting spatial arrangements and heritage representation have on the user experience and attachment to place.

Research Validity and Reliability

To bolster the validity and reliability of this study, several strategies were employed:

1. Utilizing mixed-methods triangulation
2. Expert validation of the questionnaire
3. Consistency checks on selected themes during coding
4. Applying standard statistical criteria in factor analysis

These measures ensure that findings are firmly rooted in empirical evidence while maintaining theoretical rigor.

Spatial Findings

The first study case is Jabarano Coffee Located at 15 Braga Street, Bandung, Jabarano Coffee occupies a heritage building of great historical and architectural standing along the city's iconic colonial corridor. The building may have been built before 1919. Various tasks at various times have made the building's functions permanent, most notably becoming NV Frits Sluymers & Co., the Preangerbode newspaper office, West Java Regional Craft Council (Dekranas) office, and then the PLN headquarters. In the Bandung Heritage inventory it can be verified that the building retains the significant colonial features which reinforce its historic character such as the façade, spacious layout, and high ceilings. Its newly-named Jabarano Coffee reflects an adaptive reuse approach that has turned the former institutional building into a multipart public and cultural entity. The interior combines maintained colonial motifs with more modern design elements, nostalgic elements, and items of art that bring out local history and heritage. The site was refurbished in 2017, renovated and redeveloped under Icon Hub in 2020 to

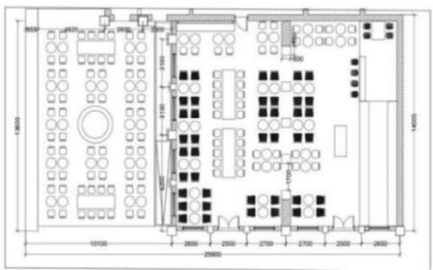
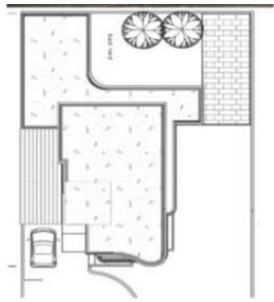
become Icon Hub Braga 15 by PLN Icon Plus, West Java Provincial Government, and Jabarano Coffee. Launched in October 2023, it has served not only as a coffee shop selling West Java coffee but also as a cultural space for art exhibitions, community events, and heritage-based urban regeneration. The architectural façade is shown in figure 2 inside the table. and interior layout Jabarano Coffee are shown in figure 4 inside the table.

Jabarano Braga has become one of the most popular coffee shops on Braga Street. Its architectural integrity is maintained, with essential elements of the original façade such as doors, windows, and columns, carefully preserved. In contrast, the interior has been uniquely transformed using contemporary materials to evoke a cozy vintage ambiance. This is particularly evident in the use of natural brown-toned wood on the coffee bar and select wall sections. The patterned gypsum ceilings reflect the charm of traditional domestic spaces. The lighting design combines downlights with modern strip accent lighting, generating a warm atmosphere that complements the natural light streaming in through the large front and side windows. The seating options are diverse, featuring everything from upholstered single chairs to wooden dining chairs, accommodating various arrangements for visitors who come alone, in pairs, or in larger groups. The ambience of Jabarano Coffee interiors is shown in figure 6 in the table, while the seating pattern is shown in figure 8 in the table.

The second study case is Two Hands Full Coffee, located in Drie Locomotief, a Dutch colonial building on Dago Street No. 113 Bandung, was designed by A.F. Aalbers and completed in 1936. Part of a row of three adjacent villas at Nos. 111–113–115, the building is known for its streamlined façade and early use of concrete, reflecting Aalbers' modernist approach. While No. 111 is now inactive and No. 115 remains residential, No. 113 has been adaptively reused as a mixed-use heritage property accommodating Pizza Place in the pavilion, Mont Clar Interior on the ground floor, and Two Hands Full Coffee with a vinyl store on the upper floor. Spatially, the ground floor functions as a furniture exhibition area with strong daylight penetration from extensive glazing, a rear outdoor zone, and dual stair access to the second floor. The upper floor operates as the café area, supported by a kitchen on the southern side, multiple outdoor seating areas, rooftop access via a spiral stair, and two vertical connections to the floor below. In terms of materiality, the building retains key heritage elements, including tegel flooring, brick walls, and largely original gypsum ceilings on the upper level, while the lower floor combines gypsum, exposed, and wood-pattern ceiling finishes. The architectural façade of Two Hands Full Coffee is shown in figure 3 in the table and interior layout is shown in figure 5 in the table.

The interior of Two Hands Full Coffee is relatively compact, accommodating fewer than 30 patrons, including the coffee bar area. Seating arrangements consist of two-seater and four-seater tables, along with some upright wooden or rattan chairs designed for work purposes. Additionally, bench sofas are placed against the walls, paired with round tables that can support laptops and beverages. The cozy ambiance is enhanced by the low ceiling height, which contributes to a homely feel. Various storage elements adorn parts of the room, showcasing items such as books, packaged ground coffee for sale, and vintage decorations like vinyl records and posters. Illumination comes from pendant lights and standing lamps that create an intimate and inviting atmosphere. Although the tables are situated fairly close together, privacy is not significantly compromised due to visitors maintaining a low noise level. A highlight of the café is its outdoor terrace featuring seating with umbrellas; this area offers a more relaxed vibe compared to indoors and showcases a lush environment that adds to the unique charm of the space. The interior ambience of Two Hands Full Coffee Dago is shown in figure 6 in the table, while the seating pattern is shown in figure 8 in the table 1.

Table 1. The interior ambience of Two Hands Full Coffee Dago

Items	Jabarano Coffee Braga	Two Hands Full
Architectural Façade	 Figure 1. Facade and interior layout Jabarano Coffee Braga (Source: researcher, 2025)	 Figure 2. Facade Two hands Full Coffee Dago (Source: researcher, 2025)
Interior Layout	 Figure 3. Interior layout Jabarano Coffee Braga (Source: researcher, 2025)	 Figure 4. Interior layout Two hands Full Coffee Dago (Source: researcher, 2025)
Interior Ambience	   Figure 5. Interior ambience Jabarano Coffee Braga (Source: researcher, 2025)	   Figure 6. Interior ambience Two hands Full Coffee Dago (Source: researcher, 2025)

Seating Pattern



Figure 7. Seating pattern in Jabarano Coffee Braga (Source: researcher, 2025)

Figure 8. Seating pattern in Two Hands Full Coffee Dago (Source: researcher, 2025)

Analysis

Through urban design, architecture, and interior experience, Jabarano Coffee Braga and Two Hands Full Dago explore the contemporary importance of adaptive reuse within Bandung's heritage environment. At the urban scale, both projects revive historically significant buildings in strategically key corridors, Braga is transformed into a symbolic colonial-commercial axis and Dago an urban residential-mixed corridor, thereby helping to preserve the continuity of Bandung's historic cityhood, while bringing in new kinds of public life. Architecturally, the latter two examples preserve and recast unique features of heritage: Jabarano foregrounds the representational and monumental nature of a colonial urban building, while Two Hands Full provides evidence of the domestic and intimate, modernist atmosphere of Drie Locomotief.

Internally, both spaces translate old heritage building expressions into contemporary coffeehouses that can facilitate social connection, sensory relaxation, and spatial identity, with different patterns of use and occupation. Their significance lies not only in preserving architectural heritage, but also in demonstrating how historic buildings can remain socially relevant through new contemporary functions. Within the context of Bandung's expanding coffee culture, the two case studies underline the extent to which adaptive reuse has evolved as a significant tactic in the cultural context of coffee shops becoming hotbeds, places that can be spaces where heritage, quotidian urban life and contemporary consumption meet and cohere into meaningful places where heritage and contemporary urban life intersect.

Qualitative Data Analysis

The qualitative data were collected and examined using inductive thematic analysis. The analytical process comprises the following stages:

1. Familiarization with the data, achieved through iterative readings of field notes and interview transcripts,
2. Open coding to identify prevalent themes in experiences,
3. Organizing codes into more extensive thematic constructs, and
4. Interpreting themes in relation to regenerative design and place attachment theory. This process emphasizes key experiential dimensions such as material authenticity, atmospheric quality, and social affordance, all of which can be explored within this document.

Quantitative Data Analysis

The survey data from 38 female consumers were analyzed to identify the latent dimensions of place attachment in adaptive reuse heritage coffee shops. The Kaiser-Meyer-Olkin value of 0.82 and the significant Bartlett's Test of Sphericity ($p < 0.001$) indicate that the data were suitable for exploratory factor analysis. The analysis produced three factors with eigenvalues above 1.0, explaining 74.8% of the total variance. The first factor, Regenerative Functional Utility, accounted for 32.4% of the variance and included natural lighting, thermal comfort, digital accessibility, and spatial flexibility. The second factor, Psychosocial Resonance and Identity, explained 24.2% of the variance and was associated with identity alignment, social belonging, and visual-social engagement. The third factor, Affective Heritage Attachment, explained 18.2% of the variance and included historical continuity and appreciation of original materials. These findings suggest that female consumers' place attachment is not formed only through heritage appreciation, but through the interaction between functional comfort, social identity, and affective responses to historical materiality.

Exploratory Factor Analysis (EFA) on the latent dimensions of place attachment among 38 female consumers in Bandung's adaptive reuse heritage coffee shops was performed. A Varimax Rotation Principal Component Analysis was performed. The Kaiser-Meyer-Olkin value was 0.82, and Bartlett's Test of Sphericity was significant ($p < 0.001$), indicating that the data were acceptable for factor extraction. The three factors with eigenvalues above 1.0 accounted for a total of 74.8% of the analysis and represent the predictors. It is the constructs of Regenerative Place Attachment. Regenerative Functional Utility explained 32.4% of the variance, which was larger than anything else. This factor encompasses comfort (thermal and visual), natural light, passive ventilation, spatial flexibility, digital access and facility support. High loadings for thermal and visual comfort (0.88), digital connectivity (0.82) as well as spatial flexibility (0.75) show that functional and environmental performances form the basis for attachment to space. These results reinforce a Functional Threshold construct: comfort, usability, and accessibility are required before deeper emotional or symbolic bonding is expected.

Second, Psychosocial Resonance and Identity related to 24.2% of the variance. This factor comprises identity alignment, social affordance, and aesthetic engagement. Given the high loadings for identity alignment (0.86), social affordance (0.79), and aesthetic engagement (0.71), adaptive reuse coffee shops are seen as not just places for consumption for female consumers but as spaces for self-expression, social interaction, and a certain type of lifestyle representation.

Third, Affective Heritage Attachment accounted for 18.2% of the variance. This element mirrors emotional reactions to historical continuity and material authenticity, with significant loadings for historical continuity (0.84) and material honesty (0.76). These findings suggest that heritage components enhance affective attachment when they are observed to be authentic, meaningful, and connected to contemporary spatial experience. In summary, this quantitative examination indicates that place attachment in adaptive reuse heritage coffee shops occurs through the interplay of functional comfort, psychosocial identity, and affective heritage meaning. Out of these dimensions, functional-regenerative qualities provide the strongest foundation, whereas social identity and heritage attachment provide additional emotional and symbolic value for the place. The variable and score of quantitative factor analysis can be seen on table 3.

Table 2. Factors analysis of heritage coffee shops

Variables	Factor 1 (Functional)	Factor 2 (Identity)	Factor 3 (Affective)
Optimization of Natural Light	0.88	0.12	0.15
Thermal Comfort (Passive Cooling)	0.84	0.10	0.21
Digital/Utility Accessibility	0.82	0.25	0.08
Alignment with Modern Identity	0.18	0.86	0.22
Sense of Social Belonging	0.22	0.79	0.31

Visual-Social Performance (Aesthetic)	0.35	0.71	0.28
Resonance of Historical Narrative	0.12	0.19	0.84
Appreciation of Original Material	0.25	0.21	0.76
<i>Eigenvalues</i>	3.12	2.34	1.76
<i>% of Variance</i>	32.4%	24.2%	18.2%
<i>Factors name</i>	Regenerative Functional Utility	Psychosocial Resonance & Identity	Affective Heritage Attachment

Data Integration and Triangulation

This research employs a triangulation strategy where qualitative and quantitative results are combined for enhanced analytical robustness. The qualitative results offer a contextualized view of spatial experiences, while the quantitative results provide empirical validation of observed patterns. This integration will facilitate comparisons between thematic findings and quantitative metrics to evaluate areas where experiential narratives align or differ from measured constructs. This comprehensive approach enables the development of a coherent model of place attachment driven by both subjective experiences and quantifiable variables.

Spatial and experiential findings (qualitative)

The qualitative reflections indicate that both the case studies, Jabarano Coffee Braga and Two Hands Full Dago—show particular spatial layout and experience features based on the context of their adaptive reuse. Jabarano Coffee Braga's spatial experience is characterised by a monumental and organized formality, in a more colonial-commercial sense. The interior consists of 2 dining rooms, with relatively large seating capacity, which are set up with clear zoning system between entrance, seating and coffee bar. A large range of openings, high ceilings and symmetrical arrangements show the openness of views and space. It is also found that both separate and together users frequent space while occupying the space in small groups, stay longer for longer in the weekday mornings. Unlike this, the domestic-modernist nature of Two Hands Full Dago shows that spatial arrangement is more concise and informal, in line with the home-modernist roots of the space. Seating is arranged in compact layouts, consisting of individual chairs and bench seating positioned along the walls.

The interiors and semi-outdoor spaces combine to facilitate a bit less rigid and less structured space, making visits and casual social engagement easier and shorter. Its higher, better-located and more open terrace creates an integrated environment to visually link itself to the wider exterior environment as well, which in turn encourages an added effect of the spatial experience. Following observations and interviews from both accounts, numerous recurring experiential themes are drawn.

These elements comprise environment preferences as to the space comfort, atmospheric aspect as well as the seating and heritage as design elements integration in modern design. There is selective occupation of users according to perceived comfort, light orientation and access to circulation. Furthermore, the presence of heritage-related elements, original or reimagined, plays a role in helping users to appreciate the historical context of the building, though the extent also depends on individual scenarios. These research findings show how the interiors configurations, environmental quality, and heritage expression together contribute to how space is experienced and used, thus lay the ground for the analysis of users' attachment.

Synthesis of Findings

The interplay between qualitative and quantitative analyses reveals a discernible pattern in how spatial experience and place attachment are formed. From the qualitative perspective, factors such as interior design, environmental quality, and atmospheric conditions are significant in influencing user behavior and spatial engagement. This aligns with quantitative findings that highlight functional-regenerative

utility as the key aspect of place attachment. Additionally, both data sets indicate the presence of psychosocial and heritage-related dimensions, albeit with varying degrees of influence.

While functional attributes predominantly shape initial user assessments, elements like social interactions, self-expression through identity, and awareness of heritage play crucial roles in enriching the overall spatial experience. The convergence of qualitative and quantitative insights suggests that place attachment in adaptive reuse coffee shops is influenced by interconnected dynamics that provide a foundation for further interpretation, which is elaborated upon in the discussion section.

Result and Discussion

These findings suggest that place attachment in adaptive reuse heritage coffee shops is not due to heritage appreciation alone but is obtained through a layered process. Functional-regenerative features, especially thermal comfort, natural lighting, spatial flexibility, and digital accessibility are the first layer to work within because they define whether users can stay, work, socialize, and feel physically at ease. This underlies the emergence of a Functional Threshold: heritage narratives and material authenticity become emotionally meaningful only after the interior has first met everyday needs for comfort and usability. By doing so, the research extends adaptive reuse discourse by shifting attention from building survival to user experience, and from visual preservation to lived spatial performance. For female consumers, attachment is shaped by the ability of the coffee shop to support both individual and social modes of use. The interior is valued not only as an aesthetic setting but also as a semi-public environment where users negotiate comfort, visibility, privacy, and social belonging. This finding clarifies that the gender focus of the study should not be interpreted as a claim of universal gender difference, but as a situated analysis of women’s spatial perception in public-commercial interiors. The results show that gender-sensitive adaptive reuse requires attention to seating choice, lighting quality, circulation clarity, acoustic comfort, and the possibility of staying without discomfort.

Reframing Adaptive Reuse as Human-Centric Regenerative Practice

Adaptive reuse in heritage coffee shops should not be considered as simple preservation or cosmetic aesthetic transformation but rather a human-centric regenerative practice that connects environmental performance, spatial experience, and emotional wellbeing. The results reveal that interior characteristics such as natural lighting, passive ventilation, thermal comfort, spatial flexibility, and material authenticity are mediators for users’ comfort and attachment acting as restorative intermediaries in the relationship between users and place. Thus heritage buildings do not appear as passive historical remnants, but are living socio-spatial systems that continue to maintain their relevance through use in relation to the present moment context.

This line of reasoning is a departure from conventional sustainability toward regenerative design (see Table 3).

Table 3. Comparison of conventional sustainability and regenerative design		
Aspects	Conventional Sustainability	Regenerative Design
Main Focus	Less negative impact (doing less harm)	Regenerative life system ub ecological and social
Metric Role	Resource efficiency (energy, water, material)	Improvement of mental health and human interaction
Architecture Approach	Reactive adaptation to climate standard	Proactive biophilic integration, material honesty, natural lighting and airflow optimization
Final Result	Survival	Hollistic grow (thriving)

A key contribution of this study is the concept of the Functional Threshold, which explains that emotional and symbolic attachment can only take place after basic functional and environmental needs have been properly met. The quantitative results showed that thermal comfort, natural lighting, spatial layout, and digital accessibility are the strongest foundation for female consumers' place attachment. This indicates that heritage narratives and aesthetic authenticity, although crucial, are not in themselves sufficient. Place attachment in adaptive reuse interiors starts with embodied comfort and usability and goes on to form more profound affective and symbolic relationships.

Third Place Psychosocial Resonance and Identity Formation

Beyond functional performance, heritage coffee shops also operate as contemporary third places where female consumers negotiate identity, comfort, social presence, and belonging. The findings show that psychosocial resonance is shaped by visual atmosphere, seating flexibility, social affordance, and the ability of the interior to support both individual and collective activities. These spaces are therefore not only places for consumption, but also settings for self-expression, social interaction, and lifestyle representation.

For female consumers, the experience of a coffee shop is strongly influenced by perceived comfort, safety, visibility, privacy, and atmospheric quality. These aspects affect their willingness to stay, return, and develop emotional attachment to the place. Thus, the formation of place attachment is not only related to historical value, but also to how the interior supports women's everyday spatial practices and sense of wellbeing within a semi-public commercial environment.

Affective Heritage Attachment and Narrative Continuity

Affective heritage attachment is achieved when elements of history are genuinely interwoven in a modern lived spatial experience. Original materials, architectural traces, façade character, old flooring, masonry, and spatial proportions can create a feeling of continuity, authenticity, and emotional resonance. But the results also prove that the presence of heritage does not mean that an individual can form attachment. However, users are more likely to respond when historical narratives underpin comfort, accessibility, atmosphere, and relevance to present-day activities. This research situates adaptive reuse within a concept in contemporary literature and art that is about the old and new being combined as part of a living heritage for each side in a new spatial story.

Interior design plays a vital role in the translation of history to the concrete life experience. Instead of placing heritage as a static visual backdrop, adaptive reuse interiors should permit users to confront history through the experience of comfort, memory, identity, and repetitive everyday use.

Towards a Human-Centric Regenerative Interior Framework

From a conceptual standpoint, this study combines four major theoretical domains: adaptive reuse, third spaces (coffee shops), place attachment, and regenerative design. These domains are seen not as distinct perspectives but rather interrelated lenses that help to illuminate how heritage coffee shops in Bandung operate as urban interiors that are human centred. According to Mang, adaptive reuse can give spatial and heritage context to the study at the first level. It is about re-activation of historic buildings in new commercial tasks in a manner that still maintains the structural continuity, architectural character and cultural importance of them. In this study, adaptive reuse is not just considered as a conservation procedure: rather, a socio-technical process that impacts the environmental and aesthetic attributes of indoor space. The theoretical connection among adaptive reuse, third spaces, and place attachment within Bandung's heritage coffee shops that shape conceptual framework can be seen in figure 9.

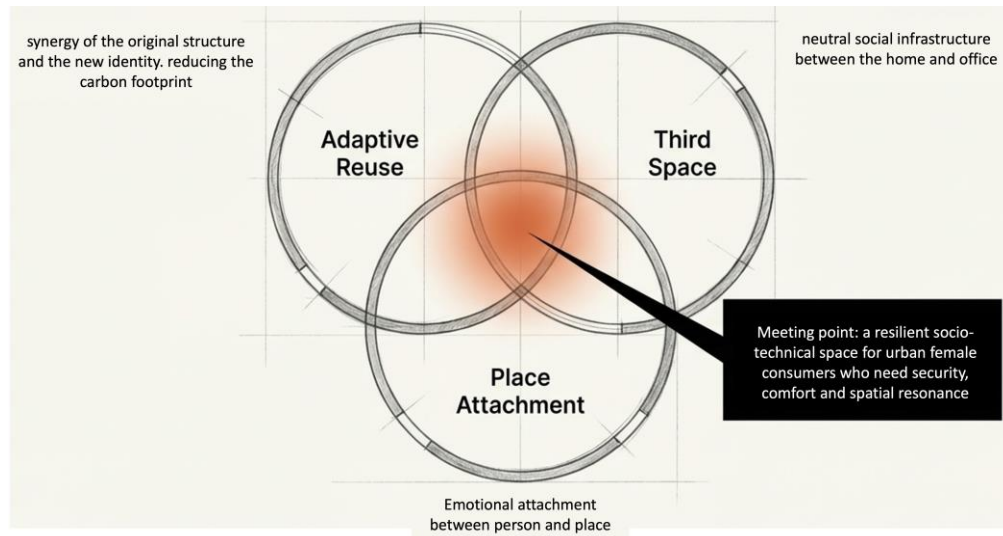


Figure 9. Conceptual framework of resilient socio technical space for female users

Source: researcher, 2025

The coffee shop on the second level can be deemed a modernized third room. A third place based on Oldenburg theory, a coffee shop, hosts functions other than eating: socialising, working remotely, and leisure, reflecting (non-)attempts to assert one's own identity. Occupied by heritage buildings, the former-life and urban-action are experienced in spaces and spaces with historical significance and urban significance now. The coffee shop thus becomes a space where life and cultural memory meet together for business purposes. At the third level, the framework presents regenerative design as the operational perspective of interior performance. Regenerative design in this work is an ability of interior spaces not only to be an efficient means to function, but to be enablers of restoration, wellness and human-environment connection.

Things like natural light, passive indoor conditions, natural formality, authentic materials, multisensory depth, and spatial comfort are treated as regenerative features that shape how the space is perceived by the user and experienced. These regenerative interior conditions create space experience of users (particularly women) and they are situated the primary analytical target of the study. Female users are not only perceiving and experiencing the public-commercial interior as one in relation to its multiple concerns including comfort, safety, privacy, atmosphere, aesthetic resonance and social appropriateness, but also it is being situated through such considerations. In other words, their experience of space is not simply functional but also affective, perceptual, and symbolic. This interior and experience/experience condition, through repeated interaction, allows for place attachment to take shape.

Building on Scannell and Gifford's Person–Process–Place framework, place attachment in this study is conceptualized as emotional attachment that grows from the intersection of user attributes, spatial experience, and place attributes. In adaptive reuse heritage coffee shops, attachment is constructed from the interaction of three dominant dimensions: Functional-regenerative utility (Functional-Regenerative Utility); Psychosocial resonance and identity, and Affective heritage attachment.

In that regard, the conceptual framework maintains that adaptive reuse heritage interiors as functioning as third places with regenerative design characteristics provide the environment for female-customers to build place attachment through perception, lived experience, and repetition. In this paradigm, interior design plays the pivotal role in rendering heritage value and environmental performance into relevant user experience. And this leads the framework to approach heritage coffee shops not simply as a preserved building which fulfills a new role, but rather a humanist socio-spatial space where the questions of cultural continuity, flourishing and affective attachment are continually being dealt with. The framework also informs the examination of how interior design may further the

processes of more adaptive and regenerative adaptive reuse in the context of contemporary urban scenarios.

Bringing together qualitative and quantitative insights, the study suggests that place attachment in adaptive reuse coffee shops forms through three convergent levels: regenerative functional utility, psychosocial resonance, and affective heritage attachment. User experience is built on functional attributes like comfort, lighting, ventilation, spatial flexibility, and accessibility. Then psychosocial resonance arises from identity expression, social interaction, and a sense of belonging, and affective heritage attachment through these processes, in which the historical narratives and material authenticity have emotional import to individuals. This multi-layered relationship provides the foundation for a human-centered regenerative interior structure.

The model considers adaptive reuse as more than a means of protecting buildings, but as a socio-spatial praxis that is intertwined with environmental performance, everyday use, heritage continuity, and emotional value of heritage. In this context, interior design provides a bridging medium between heritage value and embodied experience to enable repurposed buildings to become 'resilient' social and cultural infrastructures.

The results imply that heritage has to be seen not as a museum object that continues to sit on a shelf, but rather a regenerative resource that fuels contemporary urban life. All future projects in adaptive reuse, in tropical and climatically threatened cities, should focus on three design approaches: comfort-driven environmental performance, meaningful heritage preservation, and flexible social affordance. For a starting point, designers should consider thermal comfort, passive cooling, natural lighting, seating comfort, and digital accessibility as the main design criteria because these characteristics constitute the Functional Threshold that create connection and deeper attachment. Second, the original materials, spatial proportions, architectural traces, and historical narratives should be preserved and integrated in a manner that enhances users' emotional experience without affecting usability in the current context. Third, interior designs should accommodate a range of uses: individual work, social gathering, relaxation, and informal community interaction. In this way adaptive reuse may go beyond a past-preserving mechanism and become a design strategy that contributes to preserving meaningful relationships among people, place, memory, and everyday life.

Conclusion

Female consumers' place attachment in Bandung's adaptive reuse heritage coffee shops is developed through three interrelated dimensions: regenerative functional utility, psychosocial resonance and identity, and affective heritage attachment, which are explored in this study. Of these dimensions, functional-regenerative attributes serve as a Functional Threshold. Without these aspects being fully functional in relation to functional use, everyday use cannot build emotional and symbolic attachment to heritage at a deeper level: Thermal comfort, natural lighting, spatial flexibility, material condition, and digital accessibility need to support basic use. In theory, the study supports adaptive reuse, place attachment, and regenerative design discourse; placing interior space as situated between heritage continuity, environmental comfort, and gender-sensitive spatial experience.

In reality according to our findings, an adaptive reuse coffee shop must not only focus on nostalgic aesthetics or a preserved façade. Designers and the managers need to combine environmental comfort, flexible seating, clear circulation, material authenticity, and meaningful stories related to the past in promoting wellbeing, belonging, and repeat use. Its limited sample size and focus on two coffee shops in Bandung limits this study. Future research must empirically test the suggested human-centered regenerative approach more generally using adaptive reuse typologies, larger cohort of respondents, and comparative, gender- or age-based sample designs. Future research could incorporate spatial-behavioral mapping, post-occupancy monitoring, and longitudinal observation to analyze the development of sense of place over time. For future research, this research has limitation because its constrained by its modest sample size and the concentration on two specific case studies

in Bandung. Subsequent studies could widen the comparative analysis to encompass additional adaptive reuse commercial interiors, incorporate a more diverse range of demographic groups, and further evaluate the suggested human-centric regenerative framework across various cultural and urban settings.

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