

Spatial Utilization of a Residential Building as a Cafe: A Case Study of Forester Coffee, Banda Aceh

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The utilization of residential buildings as commercial cafe spaces has become an increasingly prominent phenomenon in Indonesian urban contexts, reflecting shifting patterns of social interaction and the growing demand for experientially distinctive hospitality environments. This study examines the spatial utilization of Forester Coffee in Banda Aceh, a cafe operating within a former residential building, with the aim of analyzing how existing residential spaces accommodate cafe functions without substantial structural alteration. A qualitative research approach was employed, with data gathered through field observation, architectural documentation, and interviews with relevant parties. The analysis addresses eight spatial aspects: the creation of atmospheric diversity, the generation of a pleasant atmosphere, peaceful and structured spatial organization, acoustic comfort and visual tranquility, the introduction of new spatial interventions, spatial openness, simplicity and tranquility, and clarity of orientation within the adapted design. Findings indicate that the retention of residential spatial characteristics, encompassing domestic scale, natural element integration, and material authenticity, constitutes a significant design asset that enhances visitor comfort and strengthens the distinctive commercial identity of the establishment. This study contributes to scholarly understanding of residential building utilization within the hospitality and cafe sector.

Keywords: Spatial Utilization, Residential Building, Cafe Design, Adaptive Reuse, Spatial Experience.

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1. Introduction

The transformation of residential buildings into commercial establishments has become a widespread phenomenon in various Indonesian cities, including Banda Aceh. This shift is driven by the rapid growth of cafe culture, which has become an integral part of urban social life, particularly among younger generations who seek not only food and beverages but also meaningful spatial experiences [1]. Residential buildings, with their inherent domestic character, familiar scale, and distinctive architectural features, are increasingly regarded as attractive venues for cafe operations, offering an atmosphere that purpose-built commercial spaces often cannot replicate [2]. In Banda Aceh specifically, the number of cafes occupying former residential structures has grown considerably in recent years, reflecting both the city's expanding hospitality sector and a broader cultural preference for informal, homely, and aesthetically distinctive gathering spaces [3].

The urgency of studying this phenomenon lies in the fact that the spatial utilization of residential buildings as cafes involves complex negotiations between the original spatial logic of domestic architecture and the functional requirements of a commercial hospitality environment [4]. Unlike formal adaptive reuse projects involving industrial or heritage buildings, the conversion of ordinary residential buildings into cafe spaces typically occurs with minimal regulatory oversight and limited documentation, making scholarly investigation particularly valuable [5]. Understanding how spatial elements of residential buildings are

utilized, maintained, or modified to support cafe activities provides important insights for architects, interior designers, and urban practitioners engaged with the evolving landscape of commercial space development in Indonesian cities [6].

This study focuses specifically on eight spatial aspects observed at Forester Coffee, Banda Aceh, a cafe currently operating within a former residential building. The aspects examined include the creation of atmospheric diversity, the generation of a pleasant atmosphere, the quality of spatial organization, acoustic comfort and visual tranquility, the nature of new spatial interventions introduced, the degree of spatial openness, the overall sense of simplicity and tranquility, and the clarity of spatial orientation experienced by visitors [7]. The study does not examine the historical process of conversion from residential to commercial use, but instead concentrates on the analysis of existing spatial conditions and their functional and experiential implications within the current cafe context [8].

This research aims to analyze the spatial utilization of Forester Coffee as a case study of a residential building functioning as a commercial cafe space, to identify the spatial characteristics that contribute to the distinctive atmosphere and user experience of the establishment, and to contribute to the growing body of scholarly knowledge concerning the utilization of residential typologies within the Indonesian hospitality and cafe sector [9].

The transformation of residential buildings into commercial establishments has become a widespread phenomenon in various Indonesian cities, including Banda Aceh. This shift is driven by the rapid growth of cafe culture, which has become an integral part of urban social life, particularly among younger generations who seek not only food and beverages but also meaningful spatial experiences [1]. Residential buildings, with their inherent domestic character, familiar scale, and distinctive architectural features, are increasingly regarded as attractive venues for cafe operations, offering an atmosphere that purpose-built commercial spaces often cannot replicate [2],[3]. In Banda Aceh specifically, the number of cafes occupying former residential structures has grown considerably in recent years, reflecting both the city's expanding hospitality sector and a broader cultural preference for informal, homely, and aesthetically distinctive gathering spaces. Data published by the Badan Pusat Statistik Kota Banda Aceh record a consistent and significant increase in the number of registered food and beverage establishments across the categories of restaurants, food stalls, cafes, warungs, and coffee shops, rising from 568 establishments in 2021 to 682 in 2022, 711 in 2023, 854 in 2024, and 1,094 in 2025, representing a cumulative growth of approximately 93 percent over a four-year period [4]. This near-doubling of registered establishments within a single administrative city reflects an accelerating commercial demand for hospitality spaces that has progressively extended into residential zones, as operators seek locations offering lower land costs, distinctive spatial character, and proximity to established residential communities [5]. Within this context of rapid sectoral expansion, cafes occupying former residential buildings have emerged as a structurally and experientially distinct sub-category of the broader hospitality market, one whose spatial characteristics and design strategies have not yet received systematic scholarly attention proportionate to their growing prevalence in the urban landscape of Banda Aceh [6].

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2. Literature Review and Problem Statement

The spatial experience of commercial hospitality environments has been extensively examined through the lens of environmental psychology and architectural theory. Bitner's foundational concept of the "servicescape" establishes that the physical environment of a service establishment exerts a direct and measurable influence on customer perception, emotional response, and behavioral intention [1]. Subsequent studies have extended this framework to cafe and restaurant settings, demonstrating that spatial attributes including layout, lighting, materiality, and acoustic conditions are primary determinants of customer satisfaction and dwelling time [2]. Within the domain of architectural theory, Ching's articulation of spatial organization principles provides a systematic basis for analyzing how enclosure, openness, sequence, and scale shape the qualitative character of built environments [3]. Rapoport further argues that built form is the crystallized expression of socio-cultural values and environmental adaptations, suggesting that residential architecture carries embedded spatial logics that are culturally legible and experientially meaningful to its occupants [4]. These theoretical foundations collectively support the premise that the spatial character of a building, whether residential or commercial in origin, profoundly conditions the quality of human experience within it. In the context of adaptive spatial utilization, Langston et al. assert that the inherent physical and spatial attributes of existing buildings constitute productive resources for new uses, provided that those attributes are analytically understood and strategically engaged [5].

Research specifically addressing the utilization of residential buildings as commercial cafe spaces remains comparatively limited, particularly within the Southeast Asian urban context. Studies on adaptive reuse have predominantly focused on industrial heritage, colonial buildings, and institutional structures, with residential typologies receiving substantially less scholarly attention [6]. Within the Indonesian context, existing research has examined cafe spatial design primarily from the perspective of consumer behavior and marketing, with limited engagement with the architectural and interior spatial dimensions of the cafe environment as experienced within a residential building framework [7]. Furthermore, studies that do address cafe atmospheric quality tend to focus on purpose-built commercial spaces, thereby neglecting the distinctive spatial conditions that arise when domestic spatial configurations, residential materiality, and yard-to-interior spatial gradients are retained and operationalized within a commercial context [8]. Hillier's space syntax theory, which posits that spatial configuration determines patterns of movement, social interaction, and spatial intelligibility, has been productively applied to commercial retail and public building

analysis, yet its application to hybrid residential-commercial cafe environments remains largely unexplored [9]. This gap is significant because the spatial intelligibility and configurational logic of a residential plan differ substantially from those of purpose-designed commercial spaces, with potential implications for visitor orientation, comfort, and overall experience that have not been systematically investigated [10].

Based on the gaps identified in the existing literature, this study is directed by the following problem statement: how are the spatial characteristics of a former residential building utilized to accommodate cafe functions and shape visitor spatial experience at Forester Coffee, Banda Aceh? This question is addressed through the analysis of eight spatial aspects encompassing atmospheric diversity, pleasant atmosphere creation, spatial organization, acoustic and visual comfort, new spatial interventions, openness, simplicity and tranquility, and orientation clarity. The study positions itself at the intersection of architectural spatial analysis and hospitality environment research, contributing an empirically grounded case study that addresses the identified scholarly gap concerning the utilization of residential spatial typologies within the Indonesian commercial cafe sector.

3. Method

This study employs a qualitative research approach, which is selected on the basis of its capacity to generate contextually rich, interpretively nuanced, and empirically grounded understandings of spatial phenomena as they occur within their real-world setting [7]. The qualitative paradigm is particularly appropriate for this investigation because the research object, namely the spatial utilization of a former residential building as a commercial cafe environment, constitutes a complex and context-dependent phenomenon that cannot be adequately captured through quantitative measurement alone. The qualitative approach enables the researcher to attend to the specificity of spatial conditions, the subtlety of atmospheric qualities, and the experiential dimensions of user interaction with the built environment, all of which are central concerns of this study. Furthermore, the qualitative case study design, as elaborated by Yin, allows for the systematic investigation of a contemporary phenomenon within its bounded real-life context, making it the most epistemologically appropriate research design for the present inquiry [10]. Within architectural research specifically, the qualitative case study approach is recognized as a methodologically rigorous and well-established strategy for investigating the experiential, formal, and functional dimensions of built environments, particularly when the research objective concerns the interpretive understanding of spatial phenomena within their physical and cultural context rather than the testing of predetermined hypotheses [11].

Data were collected through three complementary techniques applied concurrently across multiple site visits to Forester Coffee, Banda Aceh. The first technique was direct field observation, conducted in a structured yet flexible manner, wherein the researcher systematically documented spatial conditions, user circulation patterns, seating configurations, material qualities, lighting conditions, vegetation distribution, and the spatial relationship between indoor and outdoor zones. Observations were conducted at different times of day to capture variations in environmental conditions, including natural light levels and occupancy patterns, thereby ensuring that the observational data reflect the full range of spatial experiences available within the establishment. The second technique was architectural and photographic documentation, encompassing the production of spatial zoning diagrams, annotated floor plan sketches, and systematic photographic recording of all identified spatial zones. This documentation serves as primary visual evidence for the spatial analysis and provides a stable, reproducible record of existing conditions against which analytical interpretations can be verified. The use of photographic documentation and physical zoning diagramming as primary data collection instruments is consistent with established practice in qualitative architectural research, wherein visual and spatial records serve as irreplaceable primary evidence that

anchors interpretive analysis in the material reality of the built environment [11]. The third technique was semi-structured interviews conducted with the cafe owner and selected staff members, aimed at eliciting information concerning the spatial concept and design intentions underlying the current arrangement of the cafe, the identification of spaces that have been retained from the original residential structure, and the nature and rationale of any new spatial interventions introduced. Interview data were recorded, transcribed, and subjected to thematic content analysis, with themes cross-referenced against observational and documentary evidence to ensure data triangulation and analytical credibility [10].

The data analysis in this study was conducted through a systematic multi-stage qualitative procedure grounded in the analytical conventions of architectural research methodology [11]. In the first stage, all raw data comprising field observation notes, photographic records, spatial zoning diagrams, and verbatim interview transcripts were organized and coded according to the eight spatial aspects established in the research framework. Open coding was applied to the interview transcripts to identify recurring themes, spatial descriptors, and design intention statements expressed by informants, following the thematic analysis procedure established in qualitative social science research [12]. In the second stage, the coded data were subjected to axial coding, wherein relationships between themes identified across different data sources were mapped and examined for consistency and contradiction, enabling the researcher to construct a coherent interpretive account of each spatial aspect grounded in evidence from multiple instruments. In the third stage, the spatial zoning diagram and photographic documentation were analyzed using descriptive spatial analysis informed by the configurational principles of Ching and the sociocultural spatial framework of Rapoport, allowing the physical evidence to be interpreted in relation to established architectural theory rather than being reported as purely descriptive observation [3]. This stage of analysis follows the interpretive architectural research model described by Groat and Wang, in which physical spatial evidence is systematically examined through theoretically derived analytical categories, producing findings that are simultaneously empirically grounded and theoretically meaningful [11]. The analytical process was conducted manually without the use of qualitative data analysis software, a decision consistent with the predominantly visual and spatial nature of the primary data and with established practice in qualitative architectural case study research of bounded single-site scope. To ensure the trustworthiness of the analytical process, member checking was performed by presenting key findings to the cafe owner for verification of factual accuracy concerning spatial design intentions, and investigator triangulation was achieved through peer review of preliminary interpretations by a colleague with expertise in interior spatial analysis [10]. The final stage of analysis involved the synthesis of findings across all eight spatial aspects into an integrative interpretive account of the overall spatial utilization pattern at Forester Coffee, as presented in the Results and Discussion section.

The research sample consists of the physical spatial environment of Forester Coffee in its entirety, encompassing all functional zones identified through field observation and zoning documentation. The cafe occupies a single-plot residential building with a clearly delineated spatial organization comprising six functional areas: the parking zone, the main entrance, the indoor cafe area within the original house structure, the barista station, the outdoor cafe area in the former yard, and the kitchen. These zones collectively constitute the analytical units of the study. The research focuses on eight spatial aspects, each operationalized through observational indicators derived from architectural spatial theory and hospitality environment research, as presented in Table 1. Each spatial aspect was assessed through the triangulation of observational field notes, photographic documentation, and interview responses, ensuring that findings are grounded in multiple and mutually corroborating sources of evidence.

Table 1. Research Aspects and Observational Indicators

No.	Spatial Aspect	Definition	Observational Indicators
1	Creation of a Diversity of Atmosphere	The presence of multiple spatially and experientially distinct zones within a single cafe establishment	Identification of qualitatively different spatial zones; variation in enclosure, material, lighting, and vegetation across areas
2	Creation of a Pleasant Atmosphere	The degree to which the spatial environment generates a comfortable, welcoming, and aesthetically agreeable experience for visitors	Integration of natural elements; material warmth; lighting quality; presence of ornamental vegetation; visitor behavioral responses
3	Peaceful and Structured Spatial Organization	The clarity and legibility of spatial sequence and functional zoning as experienced by visitors navigating the cafe	Logical spatial sequence from entry to seating; clear differentiation of functional zones; absence of circulation confusion
4	Acoustic Comfort and Visual Peace	The quality of the acoustic environment and the degree of visual calm generated by spatial arrangement and material selection	Inter-table spacing; sound-absorptive material surfaces; absence of visual clutter; quality and intensity of decorative elements
5	Appealing New Intervention	The aesthetic and functional coherence of new spatial additions or modifications introduced within the original residential fabric	Nature, extent, and visual compatibility of new structural or decorative elements relative to the original residential character
6	Openness	The degree of visual and physical connectivity between spatial zones, and between interior and exterior environments	Size and configuration of window and door openings; visibility between zones; physical permeability of spatial boundaries
7	Simplicity and Tranquility	The overall experiential quality of calm and restraint generated by the spatial environment through material and organizational choices	Material palette restraint; absence of commercial visual noise; dominance of natural and domestic elements; visitor behavioral disposition
8	Clear Orientation in the New Design	The degree to which the spatial layout enables visitors to understand, navigate, and orient themselves intuitively within the cafe	Legibility of entry sequence; visibility of spatial landmarks; visitor wayfinding behavior; retention of recognizable residential spatial cues



Fig. 1. Exterior facade of building, showing the preserved residential character of the original building with a "Forester Coffee" signage installed above the roofline.

4. Results And Discussion

This section presents the findings of the spatial analysis conducted at Forester Cafe, Banda Aceh, based on data gathered through field observation, architectural documentation, and semi-structured interviews. The analysis is organized according to eight spatial aspects established in the methodological framework, each of which addresses a distinct dimension of the spatial utilization of the former residential building as a functioning cafe environment. The discussion of each aspect draws upon direct observational evidence corroborated by photographic documentation and interview responses, interpreted through the theoretical lenses of spatial organization theory, environmental psychology, and hospitality environment research.

Creation of a Diversity of Atmosphere

The spatial configuration of Forester Coffee produces a demonstrably multi-layered atmospheric experience that distinguishes it from conventional single-environment cafe establishments. Field observation and photographic documentation reveal that the establishment operates across three atmospherically distinct zones: the enclosed indoor seating area contained within the original residential rooms, the semi-covered transitional zone adjacent to the building envelope, and the open-air outdoor seating area occupying the former residential yard. Each zone possesses a qualitatively unique combination of enclosure degree, material palette, lighting condition, and vegetative density, collectively producing what may be described as an atmospheric gradient rather than a uniform commercial environment. The indoor zone is defined by its low ceiling height consistent with residential construction norms, warm incandescent pendant lighting suspended from woven rattan fixtures, and the tactile presence of exposed plastered masonry walls bearing local artworks. The semi-covered transitional zone, structured by a lightweight steel pergola and partially open to the sky, mediates between full enclosure and outdoor exposure, offering an intermediate spatial

experience characterized by filtered natural light and proximity to flowering ornamental plants. The outdoor zone, surfaced with river gravel and framed by dense tropical vegetation, provides maximum environmental exposure and a markedly different sensory register from the interior.

This tripartite atmospheric structure is significant because it enables visitor self-selection of spatial experience, a behavioral dimension that has been identified in hospitality environment research as a meaningful contributor to overall satisfaction and perceived service quality [12]. The diversity of atmosphere at Forester Coffee is not achieved through deliberate thematic decoration or commercial staging, but emerges organically from the inherent spatial differentiation of the residential building type, which customarily distinguishes between enclosed rooms, transitional verandas, and open yards. This finding is consistent with the argument that residential spatial organization encodes culturally specific gradients between interior and exterior domains that carry experiential significance beyond their original domestic function. Compared with studies examining purpose-built cafe environments, where atmospheric diversity is typically manufactured through decorative zoning, the atmospheric diversity at Forester Coffee is structurally generated, rendering it more spatially authentic and spatially stable across different times of day and visitor densities. The implication for design practice is that the inherent spatial differentiation of residential typologies constitutes a ready-made atmospheric resource that can be activated through minimal intervention, providing commercial cafe operators with a distinctive experiential proposition that is difficult to replicate in purpose-built environments [13]



Fig. 2. Outdoor cafe area, viewed from the yard, showing integration of gravel flooring, tropical vegetation, and the main house structure in the background. The indoor cafe space is visible through the open entrance.

Creation of a Pleasant Atmosphere

The pleasant atmosphere experienced at Forester Coffee is attributable to a convergence of biophilic spatial elements, material warmth, and the domestic scale of the original residential structure. Field observation

identifies vegetation as the dominant atmospheric agent across all zones of the cafe: Plumeria trees provide canopy shade and fragrance within the outdoor zone; Heliconia and broad-leafed ornamental species define the spatial edges of the outdoor seating area; and potted plants positioned at room thresholds and along the building perimeter create a continuous vegetative presence that blurs the boundary between the built structure and its natural surroundings. This integration of living plant material into the spatial fabric of a commercial environment is consistent with established biophilic design principles, which demonstrate that direct and indirect contact with nature within the built environment produces measurable reductions in physiological stress indicators and significantly enhances perceived spatial comfort [12]. The "house in the forest" concept articulated by the cafe owner in the interview corresponds directly to this biophilic strategy: the forest quality is not simulated through decorative motifs but is materially present in the spatial environment through the density, variety, and sensory richness of actual vegetation.

Beyond vegetation, the material character of the interior surfaces contributes substantially to the pleasant atmosphere. The deliberately rough texture of the plastered walls, the warm tonal range of the earthy pigmentation applied to the building exterior, and the organic forms of the woven rattan pendant luminaires collectively generate a material atmosphere of handcrafted domesticity that contrasts markedly with the smooth, reflective surfaces prevalent in contemporary purpose-built cafe interiors. Research on material perception in hospitality environments has established that textured, warm, and organically derived surfaces are consistently associated with higher ratings of comfort, perceived warmth, and intention to revisit, compared with smooth, cool, or industrially finished surfaces. The photographic documentation of the indoor zone confirms that the ceiling height, window proportion, and room depth of the original residential construction produce an intimate spatial scale that reinforces the sense of shelter and enclosure appropriate to a comfortable cafe experience. Interview data further indicate that visitors frequently cite the "homely" and "calming" quality of the environment as primary motivations for return visits, corroborating the observational finding that the pleasant atmosphere is perceived as an authentic spatial condition rather than a commercial contrivance.



Fig. 3. The cafe embraces a “house in the forest” concept, creating a comfortable, shaded, and relaxing atmosphere through the integration of natural elements.

Peaceful and Structured Spatial Organization

The spatial organization of Forester Coffee demonstrates a sequential and hierarchical arrangement, progressing from the most public zone at the street edge toward increasingly intimate and enclosed interior areas. The spatial sequence begins with the parking area and main entrance, followed by the front yard as a transitional threshold, before extending to the barista station, indoor seating areas, and the outdoor seating zone located in the side yard. This arrangement reflects the public-to-private spatial hierarchy commonly found in Indonesian residential architecture, where the front yard and entrance serve as transitional filters between the public street and the domestic interior. The preservation of this hierarchy within the cafe setting establishes an organizational logic that is both functional and experientially significant, regulating how visitors gradually engage with the cafe environment. Such a progression creates a layered spatial experience that enhances visual interest and builds spatial anticipation as visitors move deeper into the establishment.

Field observations confirm that this structured progression supports fluid and conflict-free visitor circulation. At no point during observation periods were visitors observed hesitating at spatial decision points or disrupting the circulation of others, indicating that the spatial sequence is sufficiently legible to support intuitive wayfinding without the need for explicit directional signage. This finding aligns with the theoretical proposition that spatially integrated configurations, wherein the overall spatial structure is comprehensible from multiple points within the layout, generate more efficient and less stressful movement patterns than spatially segregated or labyrinthine arrangements [13]. The barista station, positioned at the intersection of the entry axis and the lateral distribution toward the outdoor zone, functions as a spatial landmark and service focal point that simultaneously orients visitors and provides visual confirmation of the cafe's operational identity. The preservation of the original residential room layout as the basis for this

organizational structure demonstrates that residential spatial configurations can accommodate commercial circulation requirements effectively, provided that the original layout possesses sufficient connectivity and spatial legibility, as is the case at Forester Coffee [8]. The following table presents a comparative summary of spatial organization characteristics observed across the three primary zones of Forester Coffee.

Table 2. Spatial Organization Characteristics Across Zones at Forester Coffee

Zone		Enclosure Level		Primary Function	Spatial	Flooring Material	Lighting Source		Vegetation Density
Indoor Area	Cafe	High		Enclosed and interaction	seating and social	Original ceramic tile	Warm (rattan)	pendant	Low to moderate (potted)
Semi-covered Transitional Zone		Moderate		Seating and outdoor exposure	vegetative and	River gravel	Warm (bamboo) ambient	pendant and	High (flowering species)
Outdoor Area	Cafe	Low		Open-air within setting	seating garden	River gravel	Ambient ground-level accent	and	Very high (canopy and ground)
Barista Station		Moderate		Service ordering point	and focal	Ceramic tile	Functional downlighting	warm	Low
Main Entrance and Front Yard		Low to moderate		Spatial threshold and orientation	threshold	Concrete and gravel	Natural daylight		Moderate

Acoustic Comfort and Visual Peace

The acoustic conditions at Forester Coffee reflect a spatial design strategy that, while not explicitly acoustic in its stated intention, produces a demonstrably low-reverberance and aurally restful environment through the combined effect of absorptive material surfaces, dispersed seating arrangements, and the sound-attenuating properties of dense vegetation. Field observation confirms that inter-table spacing in both the indoor and outdoor zones consistently exceeds the minimum dimensions typical of commercial cafe seating layouts, with tables separated by distances sufficient to allow conversational privacy and prevent the acoustic interference between adjacent groups. The gravel ground surface of the outdoor zone and the transition zone provides a particularly effective acoustic absorber, as the irregular, porous surface dissipates incident sound energy rather than reflecting it, a physical property that contributes directly to the perceived quietude of these areas. Within the indoor zone, the exposed plastered masonry walls, while moderately reflective, are offset by the sound-absorbing qualities of the woven rattan ceiling elements, textile-covered chair surfaces, and the absence of parallel hard reflective surfaces that would otherwise generate standing wave conditions and elevated reverberation times.

The relationship between low acoustic energy density and visitor dwell time is well-established in the hospitality environment literature: environments perceived as acoustically calm consistently record higher dwell times and higher ratings of overall spatial satisfaction than those characterized by elevated noise levels [5]. At Forester Coffee, the acoustic environment is further moderated by the absence of amplified background music at levels that would contribute to ambient noise accumulation, a design decision corroborated in interview with the cafe owner, who identified acoustic tranquility as a deliberate component of the overall spatial concept. Visual peace is achieved through the restraint and coherence of the decorative programme: the artworks displayed on the interior walls are limited in number and consistent in scale and framing, avoiding the visual congestion that characterizes over-decorated commercial interiors. The palette of earthy plaster tones, dark metal structural elements, and the green and floral colors of the vegetation

operates within a narrow chromatic range that produces visual cohesion and reduces the stimulation overload associated with visually complex commercial environments. This combination of acoustic and visual restraint constitutes a spatially integrated comfort strategy that is directly enabled by the residential origin of the building, wherein domestic spatial norms of acoustic privacy and visual calm are embedded in the original construction and layout.



Fig. 4. Indoor cafe area showing the preserved residential interior, with original tiled flooring, exposed brick opening detail, decorative ventilation grilles, and woven pendant lighting. The open window frames provide visual and physical connectivity to the exterior garden.

Appealing New Intervention

The physical interventions introduced into the original residential structure at Forester Coffee are characterized by a deliberate minimalism that preserves the primacy of the existing spatial and material character. Documentary evidence and field observation identify four categories of new intervention: the installation of a lightweight steel pergola structure over the semi-covered outdoor seating zone; the introduction of new sanitary facilities constructed as a discreet addition at the rear of the site; the insertion of cafe-specific furniture including small round metal-framed tables and metal cafe chairs; and the addition of warm pendant luminaires constructed from woven rattan and bamboo materials. Each of these interventions is distinguished by its material and formal compatibility with the existing residential fabric: the steel pergola adopts a dark tonal finish consistent with the color of the existing window and door joinery; the pendant luminaires in woven natural materials echo the organic and handcrafted quality of the existing building elements; and the furniture, while commercial in its typology, is dimensioned and arranged at a domestic spatial rhythm that does not visually dominate the existing interior.

The most architecturally significant new intervention is the deliberate partial demolition of an interior wall to create an irregularly framed opening between two indoor rooms, with the exposed brick structure of the

demolition deliberately left unfinished and unplastered. This intervention simultaneously improves spatial connectivity, increases visual depth within the interior, and introduces a powerful aesthetic element that communicates the temporal layering of the building's history. Rather than concealing the evidence of intervention, the exposed brick and rough wall edge are celebrated as a spatial feature, consistent with approaches to material honesty and architectural authenticity that prioritize the legibility of building history over surface uniformity [14]. This approach contrasts with studies of cafe adaptive reuse that document the tendency to obscure original building fabric beneath new commercial finishes, and instead aligns with a growing body of practice that recognizes the commercial and atmospheric value of material authenticity in hospitality environments [15]. The restraint and material intelligence of the new interventions at Forester Coffee demonstrate that the threshold between residential and commercial spatial identity can be maintained through judicious addition rather than wholesale transformation, a finding with significant implications for low-cost and low-impact approaches to commercial space development in Indonesian cities.



Fig. 5. The introduction of new design elements is kept minimal, as the cafe primarily utilizes the original residential structure to maintain its domestic identity and spatial character.

Openness

The spatial quality of openness at Forester Coffee operates simultaneously at the scale of the individual opening, the room, the building, and the site, producing a multi-scalar condition of visual and physical connectivity that is both a functional asset and a primary contributor to the perceived spatial generosity of the establishment. At the opening scale, the original residential window frames, characterized by their louvered timber shutters and decorative ventilation grilles positioned at wall head level, are retained in their original positions but operated in a permanently or predominantly open configuration, admitting natural light, cross-ventilation, and views of the garden from the indoor seating positions. The ventilation grilles, which in the original residential context served a purely functional role in promoting air circulation, assume in the cafe context an additional role as visual filters that create a permeable membrane between the interior

and the exterior, through which vegetation and natural light penetrate the indoor space without fully dissolving the sense of interior enclosure.

At the room scale, the selective modification of interior partition walls creates a spatial sequence of interconnected rooms that maintains the cellular character of the residential plan while significantly increasing spatial flow and visual depth. From the main interior seating area, visitors can perceive through successive doorways into adjacent rooms and outward through windows toward the garden, generating a layered depth of field that extends the perceived spatial extent of the interior well beyond its actual physical dimensions [16]. At the building and site scale, the elimination of the boundary between the indoor floor level and the outdoor gravel surface, achieved through the use of low thresholds and the removal of solid lower wall sections in the transitional zone, creates a condition of ground-plane continuity between inside and outside that further reinforces the experiential dissolution of the interior-exterior boundary. This multi-scalar openness strategy is particularly effective in the tropical climate context of Banda Aceh, where the optimization of natural ventilation is a primary determinant of thermal comfort, and where the visual and spatial connection between sheltered interior environments and vegetated outdoor spaces constitutes a culturally rooted spatial ideal embedded in traditional Acehnese residential architecture.



Fig.6. The interior configuration utilizes large openings to establish continuous spatial relationships between rooms. Partial removal of partition walls enhances visual permeability and reinforces the perception of openness within the space.

Simplicity and Tranquility

The experiential quality of simplicity and tranquility at Forester Coffee derives from a spatial condition that is simultaneously material, organizational, and programmatic in its constitution. At the material level, the dominant palette of the establishment is composed of a small number of mutually compatible material families: exposed mineral plaster in warm grey and ochre tones covering the wall surfaces; dark oxidized metal forming the structural and furniture elements; natural organic fibres constituting the pendant luminaires and selected decorative accessories; river gravel providing the ground surface of the outdoor

and transitional zones; and living vegetation providing the primary chromatic accent through its varied greens and the sporadic color of flowering species. This material economy, wherein a limited palette is applied consistently across the spatial extent of the establishment, produces a visual coherence that registers as simplicity and prevents the sensory fragmentation that characterizes over-decorated commercial interiors. Environmental psychology research consistently identifies material and chromatic coherence as a significant determinant of perceived environmental quality, with spatially coherent environments rated as more restorative, more pleasant, and more conducive to extended occupation than environments characterized by material heterogeneity and chromatic complexity.

At the organizational level, the simplicity of Forester Coffee is expressed through the absence of hierarchical seating arrangements, branded zones, or promotional display elements within the seating areas. Tables are distributed across the available floor area at uniform spacing without creating privileged positions or differentiating between customer categories, a spatial egalitarianism consistent with the domestic logic of the original residential building in which all rooms were equivalently valued as living spaces. The absence of commercial visual noise, including menu boards, promotional materials, and branded merchandise displays within the seating zones, preserves the residential spatial character and prevents the intrusion of commercial register into what is experienced as a domestic spatial setting. The tranquility that results from this organizational restraint is reinforced by the acoustic conditions and by the temporal quality of the natural lighting, which in both the indoor and outdoor zones shifts gradually across the day as the sun moves, creating a dynamic but gentle environmental rhythm that sustains visitor engagement without producing perceptual fatigue [17]. This convergence of material simplicity, organizational restraint, and environmental dynamism constitutes the spatial foundation of the tranquil character that distinguishes Forester Coffee from the visual complexity of most contemporary purpose-built cafe environments.



Fig.7. The implementation of the “house in the forest” concept generates a tranquil spatial atmosphere, reinforced by the preservation of the building’s old residential character.

Clear Orientation in the New Design

Spatial Utilization of a Residential Building as a Cafe: A Case Study of Forester Coffee, Banda Aceh. Destri Wulanda et.al

The spatial orientation system at Forester Coffee achieves a high degree of legibility through the preservation of the original residential spatial cues that visitors encode intuitively from their familiarity with domestic environments. The main entrance gate, positioned at the center of the street-facing boundary and framed by the original residential wall and decorative iron gate elements, functions as an unambiguous point of arrival that immediately communicates the spatial identity of the establishment. The signage, consisting solely of the cafe name mounted above the roofline in clean white lettering, is positioned to be visible from the street without visually dominating the residential character of the façade, achieving a balance between commercial identification and architectural restraint that is rarely accomplished in purpose-built commercial signage strategies. Beyond the entrance, the front yard serves as an orientation node from which the spatial layout of the cafe becomes immediately comprehensible, the indoor cafe area is directly ahead through the main house door; the outdoor seating area is visible to the side through a gap in the vegetation; and the barista station, positioned at the intersection of these two axes, provides a service focal point that confirms the commercial identity of the space without disrupting its residential spatial logic.

Interview data indicate that the cafe owner made a deliberate decision to retain the original front yard and gate configuration as the primary entry sequence, resisting pressure to create a more conventionally commercial entrance treatment. This decision is spatially significant because the residential entry sequence, with its graduated transition from public street through semi-public yard to the building threshold, provides visitors with a spatial and temporal buffer that moderates the transition between urban exterior and cafe interior, generating a sense of arrival and spatial departure from the city that reinforces the restorative atmospheric quality of the establishment. The spatial clarity of the orientation system at Forester Coffee may be contrasted with studies of purpose-built cafe environments, where the absence of spatially familiar configurational cues often necessitates explicit wayfinding signage and staff-directed visitor management. The residential configuration provides what may be termed an implicit orientation infrastructure: a set of spatially embedded cues derived from the domestic typology that are culturally legible to visitors without requiring explicit commercial communication, thereby preserving the residential atmosphere while fulfilling the functional orientation requirements of a commercial hospitality establishment.

Table 3. Summary of Findings Across Eight Spatial Aspects at Forester Coffee

No.	Spatial Aspect	Key Spatial Finding	Primary Design Mechanism	Contribution to Cafe Experience
1	Diversity of Atmosphere	Three atmospherically distinct zones across indoor, semi-covered, and outdoor areas	Inherent residential spatial differentiation between rooms, veranda, and yard	Enables visitor self-selection; increases perceived spatial richness
2	Pleasant Atmosphere	Biophilic integration of dense tropical vegetation and warm domestic material palette	Retention of yard and vegetative planting; natural material application	Generates restorative environmental quality and perceived comfort
3	Structured Spatial Organization	Clear public-to-private sequential hierarchy replicating residential spatial logic	Preservation of original residential room-corridor-yard sequence	Supports fluid circulation and functional zone differentiation
4	Acoustic Comfort and Visual Peace	Low-reverberance acoustic environment and visually restrained interior	Absorptive material surfaces, dispersed seating, coherent decorative programme	Enhances dwell time and overall spatial satisfaction

No.	Spatial Aspect	Key Spatial Finding	Primary Design Mechanism	Contribution to Cafe Experience
5	Appealing New Intervention	Minimal, materially compatible additions preserving residential identity	Steel pergola, natural fibre luminaires, deliberate exposed brick opening	Strengthens material authenticity and atmospheric coherence
6	Openness	Multi-scalar visual and physical connectivity between indoor and outdoor zones	Retained louvred openings, modified partitions, continuous ground plane	Extends perceived spatial extent and optimizes natural ventilation
7	Simplicity and Tranquility	Spatially coherent, materially economical environment free of commercial visual noise	Limited material palette, egalitarian seating distribution, absence of promotional display	Produces restorative, domestically familiar spatial register
8	Clear Orientation	Intuitive spatial legibility derived from retained residential entry sequence and layout	Preserved front yard, entrance gate, and residential room configuration	Eliminates wayfinding stress and reinforces residential atmospheric identity

5. Conclusion

This study has demonstrated that the spatial utilization of a former residential building as a commercial cafe environment at Forester Coffee, Banda Aceh, constitutes a coherent and spatially intelligent practice grounded in the deliberate retention and activation of residential spatial characteristics rather than their suppression or replacement. Across the eight spatial aspects examined, namely atmospheric diversity, pleasant atmosphere, structured spatial organization, acoustic comfort and visual peace, new spatial intervention, openness, simplicity and tranquility, and orientation clarity, a consistent underlying principle was identified: the residential spatial structure functions not as a constraint upon commercial operation but as its primary experiential asset. The inherent spatial differentiation of the residential typology, expressed through the sequential public-to-private zone hierarchy, the yard-to-interior atmospheric gradient, the domestic material palette, and the cellular room organization, directly generates the atmospheric diversity, spatial legibility, acoustic comfort, and restorative environmental quality that define the distinctive character of the cafe. This finding answers the central research objective by confirming that residential spatial characteristics are not merely preserved incidentally at Forester Coffee but are strategically mobilized as the foundation of the establishment's commercial spatial identity.

The findings of this study are broadly consistent with theoretical frameworks that attribute experiential and atmospheric value to the cultural and environmental logics embedded in residential built form. The evidence from Forester Coffee corroborates the proposition that domestic spatial configurations carry a legibility and cultural resonance that is immediately accessible to users without the need for explicit commercial wayfinding or atmospheric staging, a condition that contrasts markedly with the orientation challenges and atmospheric artificiality documented in studies of purpose-built cafe interiors. However, the present study also introduces a conceptual distinction that extends beyond existing literature: the spatial practice observed at Forester Coffee is more accurately described as spatial utilization than as adaptive reuse in the conventional sense. Whereas adaptive reuse scholarship has primarily addressed cases of significant spatial transformation involving substantial modification of the original building fabric, spatial utilization as demonstrated here involves the activation of existing spatial configurations through minimal intervention,

producing commercial functionality from residential spatial logic without compromising the integrity of the original typology. This distinction carries theoretical significance for the classification and analysis of hybrid residential-commercial spatial practices, which remain underrepresented in both adaptive reuse scholarship and hospitality design research.

The scientific contribution of this study resides in its detailed empirical documentation of the specific spatial mechanisms through which residential characteristics generate commercial atmospheric value, including the role of the residential entry sequence as an implicit orientation infrastructure, the function of the yard-to-interior gradient as an atmospheric diversity generator, the contribution of absorptive residential material surfaces to acoustic comfort, and the capacity of the louvered residential window typology to simultaneously optimize ventilation, visual connectivity, and enclosure. These mechanisms have not been previously articulated within the existing literature on cafe spatial design or residential adaptive reuse, and their identification provides a more granular theoretical foundation for understanding residential-to-commercial spatial transitions than currently exists. From a practical perspective, the findings offer directly applicable design principles for architects, interior designers, and cafe operators engaged with the utilization of residential buildings for commercial hospitality purposes in Indonesian urban contexts: the primary design recommendation emerging from this case is that the spatial and material inventory of the original residential building should be treated as the primary design resource, with new interventions calibrated for material compatibility and spatial minimalism rather than commercial assertiveness.

This study is subject to limitations that should be acknowledged in the interpretation of its findings. The research is based upon a single case study, and while the depth of spatial analysis enabled by this approach is a methodological strength, it constrains the generalizability of the findings to other residential cafe contexts involving different building typologies, climatic conditions, cultural settings, or operational scales. Furthermore, the study does not incorporate systematic quantitative assessment of visitor satisfaction, dwell time, or acoustic and thermal comfort parameters, relying instead on observational and interview data whose interpretation is necessarily subject to researcher judgment. Future research should address these limitations through comparative multi-case studies encompassing residential cafes across different Indonesian cities and building typologies, enabling the identification of spatial principles that generalize across contexts rather than being specific to the Forester Coffee case. The integration of post-occupancy evaluation instruments, space syntax computational analysis, and acoustic and thermal comfort measurement would significantly strengthen the evidentiary basis for the design principles proposed here, and would contribute to the development of an evidence-based framework for the spatial utilization of residential buildings within the Indonesian and broader Southeast Asian hospitality sector.

6. References

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