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Integration Design Strategies for Modern Home Products in Tea Culture Spaces

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Abstract: ***Background:*** Driven by evolving consumer demands and digital technologies, modern home products are reshaping contemporary tea culture spaces. Previous research has focused primarily on new Chinese-style expressions, teahouse furniture, and smart technologies, yet has paid insufficient attention to how such products jointly construct spatial atmosphere, behavioral experiences, and cultural identity under digital intervention. ***Purpose:*** This study examined the collaborative role of modern home products in tea culture spaces, explaining how materials, interfaces, furniture scale, environmental control, and behavioral rhythms promote the experiential translation of traditional tea culture imagery in contemporary spaces. Additionally, the study proposes integrated design strategies under low-intervention digitalization. ***Methods:*** Drawing on genius loci theory, emotional design theory, and the concept of low-intervention digitalization, this study selected the Shanghai J-Office Five-Dimensional Tea Culture Space and Zhejiang Damushan Teahouse as high- and low-intervention cases, respectively. The two cases were compared in terms of stylistic integration, functional adaptation, and cultural translation. ***Results:*** The results indicate that the high-intervention tea culture spaces better support composite functions, spatial flexibility, scenario transformation, and environmental control, although excessive technological presence may weaken immersion and ritual rhythms. Conversely, low-intervention spaces emphasize atmosphere, dwelling experiences, and natural perception, strengthening place identity and cultural experience, although their adaptability to composite functions remains limited. ***Conclusion:*** In conclusion, the role of modern home products in tea culture spaces is no longer limited to furniture configuration or technological intervention; rather, their value lies in coordinating traditional cultural imagery with contemporary living needs.

***Keywords*:** Tea culture spaces; modern home products; low-intervention digitalization; cultural translation; spatial experience

1. Introduction

Tea culture spaces have long focused on tea drinking while serving functions of cultural communication, aesthetic experience, and spiritual perception. Traditional tea culture spaces usually rely on bamboo and wood materials, enclosed layouts, and natural light and shadow to create a quiet atmosphere, where users gradually form spatial perception and cultural experiences during dwelling, communication, and tea drinking. Driven by changing consumer demands and the advancement of smart technologies, the utilization of modern tea culture spaces is evolving. Spatial functions have gradually shifted from solely tea-drinking activities to composite demands including communication, leisure, and display. Additionally, modular furniture, smart devices, and new materials altered the organization and experiential dynamics of traditional tea spaces. Existing studies on the renewal of tea culture spaces and the integration of modern design mainly address new Chinese-style expression, teahouse design, tea-furniture innovation, smart home technologies, and modern interpretations of the teahouse (Chen, 2021; Chen,

2025; Decreux, 2014; Holl, 2020; Hu, 2025; Li & Zhou, 2021; Zhang & Liu, 2023). Some studies emphasize the expression of traditional cultural elements in modern tea spaces and the continuation of material language and spatial atmosphere, whereas others discuss the implementation of smart devices from the perspectives of environmental comfort and spatial experience. Nevertheless, insufficient attention has been paid to how modern home products simultaneously affect spatial atmosphere, behavioral experiences, and cultural perception within the same space. In particular, under the continuous influence of digital technologies, how to coordinate modern functional requirements with the atmosphere of traditional tea culture remains a critical issue in tea culture space research.

Against this background, this study examines the furniture system, smart equipment system, decorative material system, and spatial interface system in modern tea culture spaces as its primary units of analysis. Selecting Shanghai J-Office Five-Dimensional Tea Culture Space and Zhejiang Damushan Teahouse as comparative cases, drawing on genius loci theory, emotional design theory, and the concept of low-intervention digitalization, this study discusses the intervention modes of modern home products from the perspectives of spatial organization, behavioral experiences, and cultural expression. This study argues that with the integration of modern home products into tea culture spaces, their value lies in coordinating materials, interfaces, furniture scale, environmental control, and behavioral rhythms, thereby facilitating the experiential translation of traditional tea culture imagery in contemporary spaces. Low-intervention digitalization can serve as an appropriate path for modern technology to integrate with tea culture spaces; its key elements lie in invisible technological support, the maintenance of behavioral continuity, and the stable generation of place atmosphere. As shown in Figure 1, the research framework progresses from theoretical foundations and problem identification to mechanism analysis, comparative case study, and integrated strategy generation, with genius loci theory, emotional design theory, and low-intervention digitalization providing the principal theoretical basis.

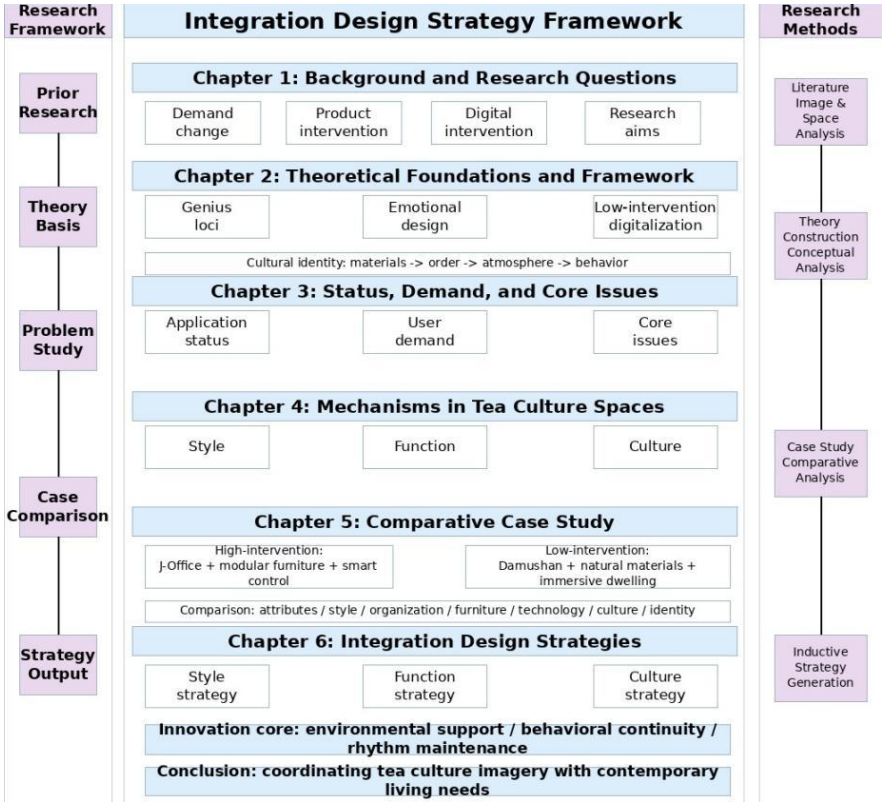


Figure 1. Research framework for integrating modern home products into tea culture spaces
Note. Created by the author(s) based on case analysis

2. Theoretical Foundations

2.1 Research Objects and Core Concepts

The "modern home products" discussed in this study do not refer narrowly to furniture or decorative objects, but rather to an integrated home system that participates in the construction of tea culture spaces and influences spatial experiences. In light of the actual applications in modern tea culture spaces, this study classifies the research objects into four categories: furniture systems, smart equipment systems, decorative material systems, and spatial interface systems. The furniture system mainly supports tea drinking, dwelling, and behavioral organization, encompassing tea tables, seating, storage furniture, and modular pieces. The smart equipment system refers to technological devices that optimize the spatial environment and experiences, such as smart lighting, temperature and humidity regulation, environmental control, and digital interaction devices. The decorative material system emphasizes the role of bamboo, wood, stone, glass, and composite materials in creating the spatial atmosphere. The spatial interface system includes partitions, screens, and variable interfaces used to organize spatial relationships. In this study, the term "tea culture space" refers to a composite space centered on tea drinking that is characterized by cultural communication, aesthetic experiences, and social interaction. It includes not only traditional teahouses but also modern teahouses, composite tea-drink spaces, and tea culture venues that combine display and leisure functions. Compared with traditional tea spaces, modern tea culture spaces pay greater attention to multi-scenario utilization and the composite expression of spatial experiences.

In addition, the concept of "low-intervention digitalization" proposed in this study refers to a moderate mode of digital technology integration in tea culture spaces. Its purpose is not to foreground technological displays or maximize interaction efficiency, but rather to maintain the continuity of tea-drinking behaviors, bodily perceptions, and place atmosphere through invisible environmental support. It does not replace core tea-drinking activities or dilute the cultural atmosphere of tea culture spaces, but instead aims to coordinate modern functional requirements with traditional cultural experiences.

2.2 Genius Loci and Spatial Identity Theory

The theory of *genius loci* was proposed by Norberg-Schulz (1980). Its core view is that a place is not merely physical space, but a cohesive, integrated whole composed of environmental atmosphere, spatial characteristics, and cultural meaning. Individuals form an understanding of a place through their perception of materials, light and shadow, spatial boundaries, and environmental relationships, and gradually develop a sense of belonging and identity. Norberg-Schulz (1980) argued that only when space responds to individuals' psychological experiences and ways of life can they truly achieve the experience of "dwelling." In tea culture spaces, *genius loci* is mainly reflected in the creation of the tea culture atmosphere and spatial imagery. Weng (2018) noted that Chinese teahouse spaces not only perform tea-drinking functions but also carry traditional cultural expressions, and their place characteristics are usually shaped through bamboo and wood materials, enclosed layouts, and object displays. At the same time, tea furniture not only meets functional needs but also affects users' psychological comfort and cultural belonging through material experiences, spatial organization, and visual perception (Guo, 2025). As tea culture spaces increasingly shift toward socialization and experiential design, the formation of spatial identity also places greater emphasis on environmental experiences and behavioral participation (Liu, 2025).

The environmental atmosphere, spatial relationships, and dwelling experiences in tea culture spaces are closely related to the environmental perceptions emphasized by genius loci theory. From this perspective, the influence of modern home products on place identity can be analyzed through three dimensions: stylistic integration, functional adaptation, and cultural translation.

2.3 Emotional Design Theory

Emotional design theory was proposed by Donald A. Norman, who argued that user experiences with products depend not solely on function itself but also on emotional perception. Norman (2004) divided emotional experience into three levels: visceral, behavioral, and reflective. The visceral level emphasizes the user's immediate perception of a product's appearance, materials, color, and spatial atmosphere; the behavioral level focuses on convenience and comfort in use; and the reflective level stresses the cultural meanings carried by products and the sense of identity formed through long-term engagement. In tea culture spaces, emotional experience comes not only from tea drinking itself but also from the spatial environment and the design of home products. Guo (2025), from the perspective of environmental psychology, pointed out that tea furniture design should not only satisfy basic functional needs but also attend to the user's psychological comfort and emotional experiences to enhance willingness to stay and spatial identity. In addition, the application of emotional factors in home design should be based on functional satisfaction and should avoid weakening practical utility through excessive formal expression (Li et al., 2024). Emotional design theory, therefore, provides an analytical perspective for understanding the relationship between modern home products and spatial experiences. Different types of home products influence not only the realization of spatial functions but also users' emotional perception through materials, light environments, and cultural imagery.

2.4 Low-Intervention Digitalization

With the development of smart home and environmental-control technologies, lighting adjustment, temperature and humidity control, environmental sensing, and digital interaction have gradually entered interior design and have changed how spatial environments are regulated and experienced. Existing studies mostly discuss the value of digital technologies in terms of environmental comfort, operational efficiency, personalized services, and smart control, emphasizing their positive role in improving spatial environmental quality and optimizing user experiences (Chen, 2025; Hu, 2025; Lyu & Gong, 2025; Yin, 2025). However, tea culture spaces are centered on tea drinking and place greater emphasis on dwelling experiences, behavioral rhythms, and environmental perceptions. Their spatial atmosphere is usually quiet, restrained, and immersive. Therefore, compared with general smart home models that emphasize device visibility, operational convenience, and high-frequency interaction, tea culture spaces require a form of digital intervention that weakens technological presence, maintains behavioral continuity, and serves the environmental atmosphere. The term "low-intervention digitalization" used in this study does not deny the application of digital technologies in tea culture spaces. Rather, it emphasizes that technology should shift from "explicit display" to "invisible support," and from "interaction center" to "environmental background," thereby avoiding the excessive coverage of tea-drinking rhythms, bodily perceptions, and cultural atmosphere by technological logic. At the level of technological visibility, digital devices should avoid screen-centered, strongly interactive, and symbolic displays. Technology should not replace core behaviors, such as tea drinking, communication, and dwelling, but should function as auxiliary environmental support. In atmospheric regulation, lighting, temperature, humidity, sound environment, and environmental stability systems can be used to maintain spatial rhythms and immersive experiences.

In tea culture spaces, the difference between low-intervention digitalization and general smart home technology does not lie in whether digital technology is used, but in whether technology retreats into the background layer of spatial experience, whether it mainly provides environmental support rather than behavioral substitution, and whether it can maintain the quiet, restrained, and immersive qualities emphasized by tea culture spaces. Therefore, this study adopts the following three criteria for judging low-

intervention digitalization: first, whether the visual presence of technological equipment is weakened; second, whether technological intervention does not replace core tea-drinking behaviors; and third, whether technological regulation helps maintain the continuity of spatial atmosphere, behavioral rhythms, and cultural experiences (see Table 1).

Table 1. Analytical dimensions and criteria for low-intervention digitalization in tea culture spaces

Analytical level	Characteristics of low-intervention digitalization	Judgment criteria
Technological visibility	Technological equipment does not become the visual center and avoids screen-centered, strongly interactive, and symbolic displays.	Whether technology is weakened to a background presence
Behavioral intervention	The technology does not replace core behaviors such as tea drinking, communication, and dwelling, but rather provides auxiliary environmental support.	Whether technology interferes with or disrupts core tea practices
Atmospheric regulation	Spatial rhythms and immersive experiences are maintained through lighting, temperature and humidity, and sound environment.	Whether technology helps maintain environmental continuity

2.5 Mechanism of Cultural Identity Formation

Genius loci theory, emotional design theory, and the concept of low-intervention digitalization show that the role of modern home products in tea culture spaces is reflected not only at the functional level but also in their close connection with spatial atmosphere, behavioral experiences, and cultural perceptions (Norberg-Schulz, 1980; Norman, 2004; Yang, 2025). Furniture systems, decorative materials, spatial interfaces, and environmental technologies correspond to different experiential levels: materials, colors, and light and shadow mainly affect visceral perception; furniture scale, movement organization, and scenario transformation mainly act on behavioral experiences; and tea culture imagery, environmental memory, and place atmosphere further enter reflective identity. Therefore, cultural identity in modern tea culture spaces is gradually formed through the continuous effects of material relationships, spatial order, environmental atmosphere, and embodied dwelling experiences. Low-intervention digitalization provides environmental support for this process. Its focus is not on intensifying device display or high-frequency interaction but on maintaining the stability and continuity of spatial experiences through invisible means, such as smart lighting, temperature and humidity control, and sound-environment regulation, thereby avoiding disruption to tea-drinking rhythms and cultural atmosphere (see Table 2). Based on these theoretical correspondences, the following analysis unfolds through three dimensions: stylistic integration, functional adaptation, and cultural translation. Stylistic integration mainly responds to visceral perception and place atmosphere, functional adaptation to behavioral experiences and spatial utilization, and cultural translation to reflective identity and the generation of place meaning.

Table 2. Correspondence between theoretical foundations and analytical dimensions of tea culture spaces

Theoretical foundation	Core elements	Corresponding analysis	Analytical objects
Genius loci theory	Place atmosphere and environmental relationships	Spatial field	Material relationships, natural environment, spatial boundaries, place perception
Visceral level of emotional design	Immediate perception and sensory impression	Stylistic integration	Color, materials, light and shadow, form, first visual impression
Behavioral level of emotional design	Use process and behavioral experiences	Functional adaptation	Furniture scale, spatial circulation, comfort, scenario transformation
Reflective level of emotional design	Cultural meaning and long-term identity	Cultural translation	Tea culture memory, cultural identity, spiritual experiences
Low-intervention digitalization	Invisible technological support and environmental regulation	Technological intervention	Smart lighting, temperature and humidity control, sound environment, invisible environmental support

3. Application Status, Demand Analysis, and Core Issues

3.1 Application Status

Changes in consumption and leisure practices drive the transformation of tea culture spaces from traditional tea-drinking venues into composite experiential spaces. In recent years, new-style teahouses, composite tea spaces, and tea culture experience spaces have continued to emerge, and tea drinking is no longer limited to a single consumption behavior but is more closely connected with social interaction, leisure, exhibitions, and emotional experiences. Existing studies indicate that modern tea culture spaces increasingly show trends toward functional integration and experiential evolution, with spatial organization paying more attention to dwelling behavior and environmental perception (Han & Sun, 2024; Liu, 2025). Unlike traditional teahouses that emphasize ritual and static dwelling, modern tea culture spaces pay greater attention to the time users spend in the space, their modes of interaction, and their perceptual experiences. This shift is first reflected in the furniture systems. Traditional tea tables and chairs primarily supported tea-drinking activities, whereas furniture in modern tea culture spaces increasingly possesses composite attributes such as storage, display capabilities, communication, and scenario transformation. The scale of tea tables, seating relationships, material tactility, and layout methods all affect communication distance and spatial comfort. Consequently, the furniture system has transitioned from providing single functional support to actively shaping behavioral organization and spatial experiences (Xie & Wang, 2025). The integration of smart devices has also altered the environmental regulation of tea culture spaces. Unlike smart systems in general commercial environments that emphasize efficiency and interaction, tea culture spaces require quiet, stable, and restrained environmental experiences. Technologies such as smart lighting, temperature and humidity regulation, and background environmental control can improve spatial comfort when introduced in an auxiliary manner; however, overemphasizing technological displays may weaken the immersion of tea-drinking activities. In terms of cultural expression, modern tea culture spaces gradually eschew the direct copying of traditional symbols. Some spaces no longer rely on an abundance of Chinese patterns or decorative displays to reinforce cultural characteristics; instead, they evoke Eastern aesthetic imagery through material relationships, spatial negative space, interface order, and light environments. Given the contemporary evolution of tea culture spaces, modern home products are no longer designed merely to meet basic utilitarian requirements; their integration with spatial atmosphere, behavioral organization, and cultural expression has grown increasingly pronounced (Zhang & Liu, 2023).

3.2 Market and User Demand

Driven by shifts in tea culture consumption, user demands have also transitioned from single tea drinking toward composite experiences. Research indicates that users of contemporary tea culture spaces prioritize not only basic functions but also environmental atmosphere, dwelling comfort, and overall spatial experiences (Li, 2024; Liu, 2025). Particularly under the influence of socialization and experiential design, the capacity of a space to provide a comfortable dwelling environment, reasonable movement paths, and flexible modes of use has gradually become a critical factor affecting user satisfaction. Spatial environments and behavioral participation are closely connected, and comfort and environmental stability directly influence users' willingness to stay and their overall experience. Users' concerns about spatial aesthetics are also changing. Some tea culture spaces still rely on the stacking of traditional elements as their primary expressive mechanism, which in actual scenarios can easily lead to formal convergence and a monotonous spatial atmosphere. Compared with a simple emphasis on Chinese symbols, modern users are more concerned with material relationships, spatial temperament, and environmental integrity, hoping that the space will both retain the Eastern imagery of tea culture and adapt to contemporary lifestyles.

At the same time, emotional experience has gradually become an important part of tea culture spaces. Studies suggest that environmental atmosphere, immersion, and the interaction between people and space affect users' perception of and identification with

place (Li et al., 2024). The roles of furniture systems, spatial organization, and environmental facilities are no longer limited to satisfying basic use requirements; they also participate in the formation of cultural experience and emotional perception. User demands have shifted from traditional tea-drinking functions toward composite needs that integrate environmental atmosphere, behavioral experience, and emotional perception. Nevertheless, existing tea culture spaces still show certain mismatches among stylistic expression, functional organization, and cultural experience, and the following section further discusses these core issues.

3.3 Identification of Core Issues

Existing cases demonstrate that modern home products have widely entered tea culture spaces; however, the improvement of spatial quality does not depend entirely on product renewal itself. Some projects have introduced smart devices and modern furniture, yet have failed to establish a spatial-experiential system consistent with tea culture, resulting in disconnections among environmental atmosphere, behavioral organization, and cultural expression. In stylistic expression, some modern tea culture spaces rely heavily on wood materials, Chinese patterns, and symbolic displays to reinforce cultural features during renewal; this approach can easily produce visual convergence and superficial cultural expression (Jiang & Jiang, 2025; Zhang & Xu, 2023). In functional organization, as tea-drinking activities increasingly incorporate social, leisure, and cultural-experiential attributes, spatial needs have become more complex. However, some spaces continue the organizational model of traditional teahouses and respond insufficiently in furniture configuration, movement paths, and scenario transformation, thereby affecting the dwelling experiences and spatial adaptability (Xie & Wang, 2025). In addition, although some tea culture spaces exhibit strong Chinese visual characteristics, their cultural expression often remains at the level of formal reproduction. Innovations in materials, craft transformation, and digital pattern design also indicate that cultural expression should move from symbolic addition toward experiential generation (Zeng, 2025; Zhang & Su, 2025). How to use modern home products to coordinate spatial experiences, functional demands, and cultural expression, therefore, remains an issue requiring further study in tea culture space design.

4. Mechanisms through Which Modern Home Products Affect Tea Culture Spaces

4.1 Reconstructing Spatial Style and Visual Order

The intervention of modern home products first changes the stylistic presentation of tea culture spaces and acts on users' visceral perceptions through color, materials, light and shadow, and interface relationships. In *genius loci* theory, traditional tea spaces usually rely on bamboo and wood materials, enclosed layouts, and object displays to create quiet and implicit place atmospheres. Under the influence of contemporary use demands, however, tea culture spaces have begun to combine social, display, and leisure functions, and spatial expression has shifted from single cultural symbols to the integrated organization of material relationships, spatial order, and environmental experiences. The development of materials and crafts provides new expressive paths for tea culture spaces and makes the visceral level of emotional design a critical basis for stylistic integration. Some spaces no longer rely on the direct copying of traditional elements; instead, they reorganize the spatial atmosphere through material textures, color control, light and shadow changes, and interface relationships, enabling users to form sensory judgments about the temperament of tea culture at the initial stage of entering the space. For example, the combined use of wood, glass, metal, and composite materials not only preserves the implicit characteristics of Eastern aesthetics at the visual level but also enhances the contemporary quality of the space through material contrast and interface openness, thereby coordinating traditional imagery with modern perception (Zeng, 2025; Zhang & Su, 2025; Zhang & Xu, 2023). Consequently, in actual spatial use, the role of modern home

products has moved beyond functional support. Through the joint construction of visceral perception and place atmosphere, these products influence users' initial cognition of spatial temperament, cultural attributes, and place characteristics.

In modern tea culture spaces, the continuation of traditional aesthetic imagery does not imply the mechanical copying of traditional materials; rather, it is reflected in the coordinated expression of tonal relationships, material textures, and spatial temperament. To illustrate more clearly the changing characteristics of materials and tonal relationships in modern tea culture spaces, this study summarizes the typical applications of traditional tones, traditional materials, and modern materials (see Figure 2).

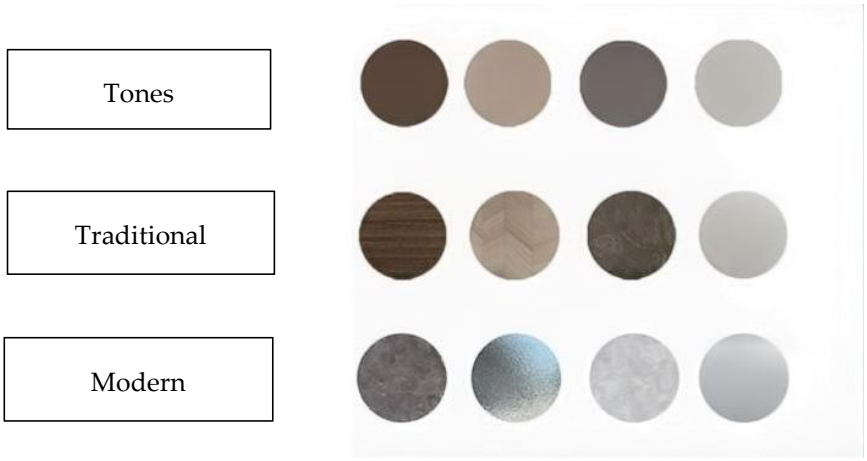


Figure 2. Traditional tones, traditional materials, and modern materials
Note. Created by the author(s) based on case analysis

As shown in Figure 2, material expression in modern tea culture spaces exhibits a trend from single traditional materials toward the integration of traditional and modern materials. Traditional materials such as wood and stone still contribute to the creation of a cultural atmosphere, whereas the introduction of glass, metal, and composite materials further enhances spatial openness and contemporaneity.

4.2 Organizing Behavioral Experience and Spatial Function

Modern tea culture spaces are no longer restricted to traditional tea-drinking activities. Their utilization is often accompanied by communication, rest, display, and cultural experiences, making the behavioral level of emotional design a critical basis for functional adaptation. Consequently, the realization of spatial functions is influenced not only by site conditions but also by furniture configuration, interface organization, movement paths, and environmental facilities. In actual use, the scale of tea tables, seating relationships, spatial layout, and movement paths directly affect communication distance, body posture, and dwelling states, whereas different interface forms regulate spatial openness, privacy, and the efficiency of scenario transformation. At the same time, low-intervention digital technologies, such as lighting, temperature and humidity regulation, and sound-environment control, can invisibly improve spatial comfort and provide relatively stable environmental conditions for tea-drinking activities without directly replacing core tea practices. Compared with traditional tea spaces, the role of modern home products has expanded. This expansion is reflected not only in functional support but also in users' perceptions of spatial rhythm, environmental atmosphere, and dwelling experiences. Reasonable spatial configuration can improve the efficiency of scenario transformation and enhance the adaptability among composite activities such as tea drinking, communication, rest, and display, enabling different use demands to shift continuously within the same space.

4.3 Participating in Cultural Translation and Place Identity

Cultural perception in tea culture spaces is not constructed from a single decorative symbol; rather, it is gradually formed through users' embodied dwelling, contact with objects, environmental perception, and emotional memories, a process directly related to the reflective level of emotional design. Traditional tea spaces often strengthen the overall experience through materials, object displays, and spatial atmosphere; consequently, people gradually develop sustained memories of the space during dwelling, communication, and tea drinking, thereby generating place identity. In some current tea culture space designs, projects have begun to reduce the direct use of traditional elements and no longer rely solely on wooden latticework, Chinese patterns, or object displays to emphasize the feature of "tea culture." Instead, they create an atmosphere through material relationships, spatial blankness, and light-environment treatment. For example, the combination of wood, stone, and glass preserves certain cultural features while better matching contemporary spatial utilization. Studies of tea rooms and tea-space aesthetics similarly show that cultural perception can be generated through spatial organization, ritual rhythm, natural atmosphere, and aesthetic principles rather than through symbolic decoration alone (Decreux, 2014; Holl, 2020; Yan & Firzan, 2024; Yang, 2025). The integration of home products further affects the formation of spatial experiences. Different furniture scales, interface relationships, and spatial organizations lead to different dwelling states. Some spaces focus more on quiet experiences, while others balance communication and display. Compared with the direct emphasis on cultural symbols, the continuous relationship between spatial atmosphere and behavioral experience more effectively affects users' understanding of tea culture spaces and is subsequently transformed into cultural memories, spiritual experiences, and place identity.

It can thus be seen that the role of modern home products in tea culture spaces is not a one-dimensional functional supplement; rather, it unfolds through the progressive mechanism of "sensory perception-behavioral experience-cultural identity." Color, materials, light and shadow, and interface relationships first affect users' visceral perception; furniture scale, movement organization, and environmental facilities further influence behavioral experiences; and spatial atmosphere, dwelling memories, and tea culture imagery ultimately enter reflective identity. In this process, low-intervention digitalization provides environmental support by weakening technological presence, maintaining behavioral continuity, and stabilizing place atmosphere, thereby creating conditions for the experiential translation of tea culture imagery.

5. Case Studies of Tea Culture Spaces

This study selected representative modern tea culture space cases for analysis, focusing on how modern home products and digital technologies, after integration, affected spatial organization, behavioral paths, and place perception through the coordination of material expression, spatial interfaces, furniture scale, environmental control, and behavioral rhythms. Case selection is based primarily on the following criteria: first, the space contains relatively evident intervention by modern home products; second, the space demonstrates characteristics of traditional tea culture translation; and third, the case reflects the contemporary trend toward composite uses of tea culture spaces. This study adopted a comparative approach between a high-technology-intervention case (J-Office) and a low-technology-intervention case (Damushan Teahouse). The former placed greater emphasis on digital technologies and composite spatial use, whereas the latter paid more attention to the natural environment and immersive experience. They represented, respectively, an urban composite tea culture space and a natural immersive tea culture space.

5.1 Shanghai J-Office Five-Dimensional Tea Culture Space

Shanghai J-Office Five-Dimensional Tea Culture Space is a typical composite tea culture space. Its design emphasized multi-scenario transformation and digital technology embedding, making it representative among contemporary urban tea culture spaces. Through modular furniture and digital technology integration, the space integrated traditional tea culture with modern office and social scenarios.

1) Stylistic Integration

In terms of stylistic expression, J-Office Five-Dimensional Tea Culture Space did not directly copy traditional teahouses. Instead, it reorganized the atmosphere of tea culture through modern spatial language. The overall space constructed visual order through restrained material utilization, concise interface relationships, and relatively strong spatial blankness. While retaining a quiet and introverted atmosphere, it weakened the traditional tea space's excessive reliance on Chinese symbols. Compared with spatial forms that simply used wooden components, traditional patterns, or decorative displays to intensify a "Chinese feeling," this case relied more on material relationships, scale proportions, and light environments to create Eastern imagery. In this way, traditional cultural expression shifted from symbolic reproduction to the generation of spatial experiences, alleviating problems of stylistic convergence and superficiality in modern tea culture spaces (see Figure 3).



Figure 3. Exterior view of J-Office Five-Dimensional Tea Culture Space
Note. Reproduced from ARCHINA, n.d. Retrieved June 30, 2026, from https://www.archina.com/index.php?a=show&g=works&id=1357&m=index.

2) Functional Adaptation

In terms of spatial organization, this case enhanced the adaptability of behavioral experiences through the combination of open and semi-enclosed spaces. Different functional areas did not use rigidly closed boundaries. Instead, independent dwelling units were formed through interface changes, visual organization, and furniture layouts, allowing tea drinking, communication, and short stays to transition within the same space. The treatment of walls and partitions also weakened the strong spatial closure of traditional teahouses while enhancing social attributes under a certain degree of privacy. Compared with tea spaces that suffered from single functional organization, this case paid more attention to the coordination between behavioral paths and modes of dwelling, providing the space a certain degree of flexibility (see Figure 4).



Figure 4. Detail photograph of the curved concrete wall
Note. Reproduced from ARCHINA, n.d. Retrieved June 30, 2026, from https://www.archina.com/index.php?a=show&g=works&id=1357&m=index.

3) Cultural Translation

At the level of concrete experience, the first-floor tearoom jointly created a stable spatial rhythm through furniture scale, lighting environments, and enclosure relationships. The tea table and seats maintained an appropriate communication distance, and different dwelling areas formed relatively clear hierarchical relationships, meeting communication needs while retaining the spatial sense required for quiet experiences. Environmental lighting and background atmospheric control strengthen the dwelling experience, making technological intervention appear more as environmental optimization than as explicit interaction. Through the modern home system, this case formed a coordinated relationship among stylistic construction, behavioral organization, and cultural experiences, responding to the demand for environmental experience in modern tea culture spaces (see Figure 5). In sum, J-Office tended to improve spatial compositeness through modular furniture and environmental technologies, reflecting the advantages of modern home products in functional integration and scenario transformation. However, when technological presence was too strong, spatial experience inclined toward an efficiency logic, thereby weakening the sense of ritual and dwelling rhythm of traditional tea-drinking activities.



Figure 5. First-floor tearoom of J-Office
Note. Reproduced from ARCHINA, n.d. Retrieved June 30, 2026, from https://www.archina.com/index.php?a=show&g=works&id=1357&m=index.

5.2 Zhejiang Damushan Tea Culture Space

Zhejiang Damushan Tea Culture Space emphasized the intrinsic relationship between the natural environment and tea culture, and its overall design presented low-intervention characteristics. Compared with urban tea spaces that emphasized digital technology embedding, this case paid more attention to the role of natural materials, environmental atmosphere, and emotional experiences in cultural perception, and the space relied more on changes in natural light and environmental perception to generate experiences. The case did not emphasize explicit digital technology intervention. Its spatial environment depended more on natural light, material relationships, and site conditions to form experiences, while technology remained primarily at the level of basic environmental support. It was therefore closer to the low-intervention digitalization discussed in this study.

1) Stylistic Integration

The spatial expression of Damushan Teahouse did not adopt the common new Chinese decorative path. Instead, the construction of spatial atmosphere was largely entrusted to the site environment and spatial experience. The building maintained a strong relationship with the tea garden, water body, and terrain. The interior space did not form an obvious visual center, but created a relatively quiet atmosphere through restrained materials, simplified interfaces, and landscape penetration. Compared with spatial forms that relied on traditional symbols to reinforce "tea culture imagery," this case placed more emphasis on the perceptual relationship between people and the environment, shifting cultural experience from visual identification to spatial experience and thereby strengthening the recognizability of place (see Figure 6).



Figure 6. Exterior view of Damushan Teahouse
Note. Reproduced from Damushan Teahouse / DnA Design and Architecture, by Archiposition, 2018. Retrieved June 30, 2026, from https://www.archiposition.com/items/20180711023627.

2) Functional Adaptation

In terms of spatial organization, Damushan Teahouse paid greater attention to dwelling experiences and behavioral rhythms than to zoning based solely on function. A transitional relationship was maintained among the internal areas. As users moved through the space, changes in sightlines and environments accompanied their movement, and the spatial experience presented a gradual shift from openness to relative quietness. Public activity areas and private tea-drinking spaces were both connected and appropriately differentiated, allowing communication, dwelling, and solitude to be completed within the same spatial system. This organizational method avoided problems of single function or fragmented experiences in some tea culture spaces and makes spatial utilization more consistent with the rhythm and dwelling sense emphasized by tea culture activities (see Figure 7).



Figure 7. Light, shadow, and spatial interface (shadows of plane trees)
Note. Reproduced from Damushan Teahouse / DnA Design and Architecture, by Archiposition, 2018. Retrieved June 30, 2026, from https://www.archiposition.com/items/20180711023627.

3) Cultural Translation

At the level of cultural expression, this case did not restrict tea culture to the level of objects or decorative style. Instead, it strengthened cultural perception through the natural environment, changes in light, and spatial atmosphere. The moderate weakening of the boundary between interior and exterior rendered natural scenery part of the spatial experience, and users were more likely to form tranquil and relaxed emotional experiences during dwelling, allowing cultural identity to shift from "viewing" to "experiencing." Compared with tea spaces that emphasized formal expression, this case paid greater attention to the relationship between place atmosphere and behavioral experience. This approach demonstrated that the renewal of tea culture spaces does not necessarily depend on an abundance of traditional symbols; environmental atmosphere and behavioral experience can also participate in the formation of cultural perception (see Figure 8). Through the natural environment, spatial blankness, and changes in light and shadow, Damushan Teahouse strengthened immersive experiences and regenerated tea culture imagery through embodied dwelling and environmental perception. It was therefore more conducive to the formation of place perception and cultural identity, although its adaptability to multi-scenario composite use and functional transformation remained relatively limited.



Figure 8. Southern meditation space and circular scenic window
Note. Reproduced from Damushan Teahouse / DnA Design and Architecture, by Archiposition, 2018. Retrieved June 30, 2026, from https://www.archiposition.com/items/20180711023627.

5.3 Comparative Case Analysis

J-Office Five-Dimensional Tea Culture Space and Damushan Teahouse differed significantly in spatial type, environmental conditions, and modes of use, and different spatial attributes corresponded to different modes of intervention. The former was located in an urban environment and paid greater attention to composite spatial use, combining communication, display, and dwelling functions. The latter relied on a tea-garden environment and paid more attention to quiet experiences and the formation of spatial atmosphere.

J-Office involved a relatively high degree of intervention by modern home products and technological equipment. Its open layout, interface changes, and furniture combinations enhanced the flexibility of spatial transformation and enabled it to respond to multi-scenario needs in urban tea culture spaces. By contrast, Damushan Teahouse treated spatial rhythm in a more restrained way. Furniture and interfaces had weaker visual presence, and users' dwelling states were influenced more by the natural environment, changes in light, and spatial relationships. Although the two types of space used different modes of expression, neither remained at the simple accumulation of traditional elements. Whether through material selection, spatial blankness, or the handling of the relationship between people and environment, both attempted to respond to the experience of tea culture in the contemporary context. The renewal of tea culture spaces does not imply the simple continuation of traditional forms, nor does it depend entirely on technological intervention. Rather, it must establish coordination among material expression, functional organization, environmental control, and behavioral rhythms according to spatial attributes and actual use needs.

Both cases demonstrated that modern home products are no longer merely ancillary facilities in the space. They had strong connections with spatial organization and behavioral experience. Differences in furniture scale, environmental control, and spatial interfaces affected dwelling modes and overall experience (see Table 3). For modern tea culture spaces, how to balance functional demands with cultural atmosphere remains an important issue that must be further addressed in the renewal process.

Table 3. Comparative analysis of J-Office and Zhejiang Damushan Tea Culture Space

Dimension	J-Office Five-Dimensional Tea Culture Space	Damushan Teahouse	Implications for this study
Attributes	Urban composite tea culture space with communication, display, and dwelling functions	Natural immersive tea culture space emphasizing environmental experience and static dwelling	Differences in tea culture space types determine the focus of spatial organization
Style	Forms a modern tea-space atmosphere through concise interfaces, material control, and open relationships	Forms a quiet atmosphere through site environment, natural penetration, and restrained expression	Stylistic construction should shift from copying traditional symbols to shaping spatial atmosphere
Spatial organization	Combines openness and semi-enclosure to adapt to communication and multi-scenario use	Strengthens dwelling rhythm and experiential continuity through spatial transitions	Spatial organization should respond to behavioral modes and use contexts
Furniture	Emphasizes communication and composite use while considering display and dwelling	Places greater emphasis on dwelling experience and environmental perception; furniture organization is restrained	Furniture systems should match spatial attributes and behavioral needs
Technology	Smart lighting is evident and strengthens spatial comfort	Technological intervention is weakened, with greater reliance on natural environmental experience	Technological intervention should serve, rather than dominate, spatial experience
Culture	Reconstructs tea culture atmosphere through modern interfaces and spatial order	Strengthens cultural perception through natural environment and spatial experience	Tea culture expression should emphasize experiential generation rather than formal reproduction
Identity	Emphasizes open communication and urban spatial attributes	Emphasizes quiet dwelling and natural place experience	Place characteristics influence the formation path of cultural identity
Insights	More oriented toward a modern communication-oriented tea space	More oriented toward an immersive experiential tea space	Stylistic integration - functional adaptation - cultural translation

The comparison indicated that high-intervention tea culture spaces paid greater attention to functional composition and spatial flexibility and could respond to multi-scenario use demands in urban environments. However, when technological presence was strong, immersion was also occasionally weakened. Low-intervention tea culture spaces paid greater attention to environmental atmosphere and behavioral rhythms and used natural materials and spatial blankness to strengthen cultural perception, although they exhibited limited adaptability to composite functions. The comparison indicated that there is no single optimal model for modern tea culture spaces. Instead, a balance between technological intervention and place experience must be established in relation to spatial attributes, user demands, and cultural-expression goals.

6. Integration Design Strategies for Tea Culture Spaces

The theoretical discussion and case analysis presented above demonstrate that modern home products have become important factors influencing the tea culture space experience. Their roles are reflected in visceral perception, behavioral experience, reflective identity, and low-intervention environmental support. At the present stage, the problems faced by tea culture spaces do not arise entirely from technological interventions or stylistic changes themselves, but more from a lack of coordination among material expression, spatial interfaces, furniture scale, environmental control, and behavioral rhythms, resulting in disconnections among spatial atmosphere, use demands, and cultural expression. Based on the case-study results, this study translated *genius loci*, the three-level structure of emotional design, and the concept of low-intervention digitalization into specific design strategies, discussing them from the perspectives of stylistic integration, functional adaptation, and cultural translation.

6.1 Stylistic Integration Design Strategy

In the renewal of modern tea culture spaces, wood materials, Chinese patterns, and traditional objects are still widely used for spatial expression. Such approaches can maintain a Chinese atmosphere, but in some projects they may also lead to formal convergence and superficial cultural presentation (Jiang & Jiang, 2025). The preceding cases demonstrated that the stylistic construction of tea culture spaces does not depend entirely on the direct reproduction of traditional elements; the organization of material relationships, spatial order, and environmental atmosphere also affects the formation of spatial temperament. J-Office Five-Dimensional Tea Culture Space created a restrained spatial atmosphere through interface relationships, material combinations, and spatial blankness, while Damushan Teahouse strengthened immersive experiences through the natural environment, spatial penetration, and site relationships. Although the two cases had different spatial attributes, neither used traditional symbols as its main form of expression. Instead, both responded to contemporary spatial needs while retaining tea culture imagery. The stylistic renewal of tea culture spaces should not rely solely on the direct stacking of traditional symbols. It should instead use the coordination of material textures, interface order, light and shadow relationships, and spatial scale to transform traditional tea culture imagery into perceptible spatial temperament.

6.2 Functional Adaptation Design Strategy

Activities in modern tea culture spaces increasingly show composite characteristics. In addition to tea drinking, communication, leisure, display, and short stays are also increasing. Traditional spatial organization centered on static tea drinking can no longer fully respond to diverse use needs. The realization of spatial functions is influenced not only by site conditions but also by furniture configuration, interface relationships, and environmental facilities. The scale of tea tables, seating relationships, and storage systems affects communication distance and dwelling experiences, and the openness of spatial interfaces also affects activity transformation and environmental perception. J-Office Five-

Dimensional Tea Culture Space enhanced the flexibility of scenario transformation through the combination of open and semi-enclosed spaces, whereas Damushan Teahouse maintained the continuity of dwelling experiences through spatial transitions and environmental changes. Although the two spatial organizations differed, both reflected the relationship between spatial configuration and behavioral modes.

The matching relationship between functional organization and use modes directly affects behavioral experiences in emotional design. The coordination of furniture systems, spatial interfaces, movement organization, and environmental facilities helps improve the adaptability, comfort, and experiential continuity of spatial use (Xie & Wang, 2025). Technologies such as smart lighting, temperature and humidity regulation, and sound-environment control are more suitable for low-intervention spatial integration, functioning as background support for behavioral experiences rather than becoming the visual or interaction center of spatial experience (Yin, 2025).

6.3 Cultural Translation Design Strategy

Cultural expression in tea culture spaces does not depend entirely on Chinese furniture, traditional patterns, or object displays. Spatial atmosphere, dwelling experiences, behavioral rhythms, and environmental memory also influence reflective cultural perception. Some tea culture spaces exhibit strong Chinese visual characteristics, but if they lack a connection with tea-drinking activities and spatial order, cultural expression can easily remain at the formal level. J-Office Five-Dimensional Tea Culture Space created a tea culture atmosphere more through interface relationships and spatial order, whereas Damushan Teahouse strengthened cultural experiences through the natural environment, site relationships, and the process of dwelling. The two spaces differed in their modes of expression, but neither reduced traditional culture to formal reproduction. Instead, both reorganized tea culture imagery in relation to spatial conditions and use demands. The focus of cultural translation is not the addition of traditional symbols, but the coordination between spatial experiences and behavioral modes, through which tea culture is transformed from a visible symbol into a place experience that can be dwelt in, perceived, and remembered. The continuous effects of material relationships, spatial scale, light and shadow order, and environmental atmosphere influence users' long-term perception of tea culture spaces and transform traditional tea culture imagery into cultural identity and spiritual experiences in contemporary spaces (Li, 2024; Yan & Firzan, 2024; Yang, 2025).

7. Conclusion

This study found that the role of modern home products in tea culture spaces has shifted from single functional support toward the joint participation of spatial experiences, behavioral organization, and cultural perception. Their core value does not lie simply in increasing furniture functions or smart technologies, but in promoting the experiential translation of traditional tea culture imagery in contemporary spaces through the coordination of materials, interfaces, furniture scale, environmental control, and behavioral rhythms. The comparison between J-Office Five-Dimensional Tea Culture Space and Zhejiang Damushan Teahouse demonstrated that high-intervention tea culture spaces were more conducive to responding to composite functional demands in urban contexts, but when technological presence was too strong, it could weaken the ritual sense and immersive experiences of tea-drinking activities. Low-intervention tea culture spaces were more conducive to the generation of place atmosphere, natural perception, and cultural identity, but their adaptability to multi-scenario functions remained relatively limited. Therefore, modern tea culture spaces do not have a single optimal model. A balance between technological intervention and place experience must be established according to spatial attributes, use demands, and cultural-expression goals. Low-intervention digitalization can serve as an appropriate path for modern technology to

integrate with tea culture spaces. Its key lies in invisible technological support, the maintenance of behavioral continuity, and the stable generation of place atmosphere, thereby reducing the excessive coverage of tea-drinking rhythms, bodily perceptions, and cultural atmosphere by technological logic.

Due to limitations in the number of cases and the scope of this study, this article mainly focuses on typical tea culture spaces and does not further analyze spatial differences across regions and operating models. Future research should incorporate more cases and actual use conditions to further examine the relationship between modern home products and tea culture spaces.

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