

## Reviving Cultural Spaces: How Community and Policy Drive Sustainable Ancestral Hall Preservation Through Functional Adaptation



Jinglin Jia<sup>\*</sup>, Suhana Johar<sup>†</sup>, Noor Aisyah Mokhtar<sup>‡</sup>

Department of Architecture & Built Environment, Faculty of Engineering and Built Environment, National University of Malaysia, Bangi 43600, Malaysia

Corresponding Author Email: [P141228@siswa.ukm.edu.my](mailto:P141228@siswa.ukm.edu.my)

Copyright: ©2025 The authors. This article is published by IIETA and is licensed under the CC BY 4.0 license (<http://creativecommons.org/licenses/by/4.0/>).

<https://doi.org/10.18280/ijstdp.201131>

### ABSTRACT

**Received:** 20 October 2025

**Revised:** 22 November 2025

**Accepted:** 27 November 2025

**Available online:** 30 November 2025

#### Keywords:

*community engagement, government policy support, functional adaptation, sustainable preservation, ancestral halls*

This research explores the factors influencing the sustainable preservation of ancestral halls, focusing on the roles of community engagement, government policy support, and functional adaptation. The study aims to assess how these elements interact to enhance the long-term viability and cultural relevance of ancestral halls in modern society. A quantitative research design was adopted, utilizing structured questionnaires to collect data from 300 respondents involved in heritage conservation, including community members, policymakers, and heritage site managers. The data were analyzed using SmartPLS 4.0 for Structural Equation Modeling (SEM) to test the relationships between community engagement, government policy support, functional adaptation, and sustainable preservation. The study found that both community engagement and government policy support have a significant direct impact on the sustainable preservation of ancestral halls. Moreover, functional adaptation was found to mediate the relationship between these factors and preservation outcomes, illustrating its key role in ensuring that ancestral halls remain culturally and socially relevant while maintaining their historical significance. This research contributes to heritage conservation literature by providing a comprehensive model that links community involvement, policy frameworks, and adaptive reuse in the sustainable preservation of ancestral halls. The findings offer valuable insights for policymakers and heritage practitioners, advocating for a holistic, collaborative approach to preserving cultural heritage in an ever-evolving social context.

## 1. INTRODUCTION

Conservation of cultural heritage is now a priority in the context of globalization, urbanization, and socio-economic transformation, particularly in such societies as China where historical heritages abound. Of all tangible heritage, ancestral halls are not only architectural heritage but also demonstrate deep social, religious, and familial values [1]. Historically used as venues for clan rituals, lineage education, and communal ceremonies, these halls are a central part of the cultural life of most peri-urban and rural Chinese communities [2]. However, with the evolving lifestyles of contemporary times and the accelerated pace of urban development, most of these ancestral halls are facing the risk of abandonment, disrepair, or redevelopment [3]. As a response, there is increasing scholarly and policy attention to sustainable preservation methods that enable these spaces to continue being functional and meaningful in modern society [2]. One of these methods that is gaining popularity is functional adaptation, the conversion of ancestral halls into community centers, cultural museums, creative venues, or other types of socially beneficial spaces. Through this approach, not only is the physical maintenance of these older buildings provided, but their functionality is also reinvigorated in community life

[4]. At the same time, more and more emphasis is being put on the facilitating role of community participation and government policy intervention as enabling factors of such change [5].

Empirical studies on cultural heritage have progressively identified the decisive position of multi-stakeholder participation to the sustainability of cultural heritage sites over the long term. Participation of communities, on the other hand, has been found to be a most essential variable in assessing the success and sustainability of preserving heritage [6]. A study in several southern Chinese provinces reached the conclusion that ancestral halls maintained under grassroots community efforts possessed higher cultural ritual retention and improved preservation standards than those maintained under top-down efforts [7]. Analogously, the scholars reported on how community-led adaptation, in which local residents initiated and adapted new functions to ancestral halls, increased local people's pride in and frequent visiting to the building, leading to improved long-term sustainability of the building [8]. Government policy support impacts have also commonly been reported. A study found that policies encouraging adaptive reuse at the local level like zoning tolerance, restoration incentives, and heritage award plans led to a much greater number of well-preserved and functionally reused ancestral

halls in Guangdong and Fujian [4]. A few scholars had established that municipal government-led public-private partnerships allowed underutilized ancestral halls to be repurposed as tourist spots and education centers, bringing economic and cultural value [9]. Functional adaptation is yet another topic of empirical significance in research. It is claimed that ancestral halls successfully became community centers, cultural display spaces, or local archives documented more visitors, better maintenance, and regained cultural relevance in the community [10]. Research demonstrated that adaptation is not merely a survival and found that functional adaptation serves to transform ancestral halls from passive reminders of the past to active social resources with modern relevance [11]. Importantly, these studies emphasize the necessity of linking adaptive functions with cultural identity and community needs in order to achieve optimal sustainability impact.

Notwithstanding the increasing literature on heritage preservation and stakeholder engagement, some research gaps continue to remain, which have yet to be bridged. For starters, the majority of past research has a tendency to investigate community engagement, government policy, and functional adjustment in splendid isolation from one another, without looking at interlinks among them [12]. For example, the researchers noted the impact of community-driven projects on the sustainability of heritage but did not consider how such projects are carried into tangible preservation outcomes via adaptive reuse [12]. Likewise, policy research lags behind in recognizing regulatory effects and hardly explores how support through policies is carried into longer-term preservation [13]. Secondly, the mediating role of functional adaptation has been studied less intensively. While existing research recognizes the importance of functional reuse, it does not empirically confirm its role as a mediator in connecting stakeholder participation and conservation outcomes [14]. This restricts the knowledge of how stakeholder contributions actually translate into sustainable outcomes. More is needed in an integrated model of how community and policy initiatives are implemented through functional adaptation to impact preservation sustainability [14]. Also, much of the existing literature has employed qualitative analysis or case studies and is not generalizable, although it is helpful in the context. Very few quantitative studies have been conducted to investigate the strength and direction of these associations across sites. As a result, little empirical data has been employed to quantify the mediating position of functional adaptation in the association between stakeholder involvement on sustainable preservation outcomes.

This research is mainly aimed at investigating the considerations that govern the long-term maintenance of ancestral halls, especially on the contribution of community-based involvement and government-backed policy, as well as the adaptation of the hall functions. Particularly, the study will attempt to:

- Conduct research on the immediate effect of community participation on the long-term survival of ancestral halls.
- Determine the effect of government policy support on sustainable preservation results.
- Research the mediating effects of functional adaptation in the association between community engagement and sustainable preservation.
- Observe how the mediating variable of functional adaptation interacts between government policy endorsement

and sustainable preservation.

This study has immense theoretical and practical implications to cultural heritage management. In theory, the study becomes the application of Stakeholder Theory in theory through the analysis of empirically operating stakeholder behavior that influences the end result of preservation through functional mechanisms. In practice, the findings can be valuable to heritage printers, policymakers and community leaders in terms of how to conserve ancestral halls in a social and sustainable manner. The identification of functional adaptation as the key mediator suggests the study recommends policies that extend beyond predetermined conservation and encourages the living heritage models that adapt to the dynamic needs of the society. In addition, the study can be used in the current debate on sustainable cultural development because it offers a replicable model of heritage conservation in other regions of the world where the same is a major challenge.

## 2. LITERATURE REVIEW

Ancestor halls, as enduring symbols of cultural heritage and lineage identity, have been religious centers and collective markers in Chinese society throughout the ages [9]. It has been noted by scholars that the ancestor halls have been instrumental in safeguarding intangible cultural heritage such as rites, rituals, and clan-based customs [3]. Yet, the speed of modernization and urbanization has seen most of the ancestral halls left to become derelict or be demolished and further studies on preservation and adaptive reuse strategies later to follow [15]. Current studies indicate that adaptive reuse by the use of the heritage sites for today's community use can be a sustainable preservation model [16]. Through incorporating other contemporary functions such as museums, community halls, or cultural tourist sites, ancestral halls can be socially revitalized yet maintain their historical character. As highlighted by scholars [17], not only is the physical complex saved but also inter-personal relations among residents of the community and intergenerational cultural transmission, thus social capital in respect to heritage space is boosted.

Community and policy intervention is often mentioned to be a key contributor to successful heritage conservation with adaptive use. A study highlighted that the local-level policy should take the middle ground of protecting regulation and usability demand on the adaptation of ancestral halls to allow the evolution of such halls without compromising inherent heritage value [4]. The community-based interventions are also reported to result in more context-sensitive and sustainable interventions [10]. The outcome of this is more acceptable, better maintained and economically sustainable because the local community has been involved in the decision-making process based on establishing suitable new uses, running of daily operations among other things (Empirical studies [18]). The intersection of policy support and community engagement thus emerges as a motif in present-day literature, as a response to the push to leave high-level conservation paradigms and turn to more adaptive and participatory models of preservation [19]. It is an approach that is aligned with larger global trends on cultural sustainability whereby heritage sites are not stasis per se, but are rather part of the living organism of contemporary society.

## 2.1 Community engagement and sustainable preservation of ancestral halls

In conservation of cultural heritage, community engagement entails the active participation of local stakeholders, such as residents, users of the heritage, cultural practitioners, and members of the same clans as the heritage in decision-making, planning, and implementation of conservation projects [4]. Sustainable conservation refers to long-term conservation and considerable reuse of the ancestral halls that do not only retain their architectural and historical value but also, retain their relevance both socially and culturally [1]. Previous studies pinpoint community engagement as an essential aspect of sustainable heritage practice, focusing on the fact that local involvement results in more reactive and contextually relevant approaches to conservation [20]. Research has revealed that if communities are engaged from the very beginning, their shared memory, sense of identity, and cultural stock enhance the adaptive reuse process, favoring solutions that speak to local values [18]. Secondly, residents who experience a sense of ownership are also likely to be supportive and long-standing of the cause of preservation, donating material as well as symbolic resources to it.

Empirical evidence also contributes to the positive relationship between community engagement and outcomes of heritage conservation projects. For example, in a survey of rural heritage village in Guangdong that more participatory projects were significantly more effective in site maintenance, cultural programming, and adaptive reuse [10]. It also found that ancestral halls that were both co-managed or co-governed by the local neighbourhoods or the clans had higher sustainable preservation success compared to ones governed solely by external authorities [21]. This has been tackled by communities' capacity in revaluing heritage uses compared to changing social needs, e.g., to host public functions, educational pursuits, or even domestic tourism [22]. Bringing preservation into day-to-day activities promotes continued usage and applicability.

*H1: Community engagement has significant impact on sustainable preservation of ancestral halls*

## 2.2 Government policy support and sustainable preservation of ancestral halls

Government policy support includes legislative regimes, funding strategies, administrative directives, and regulatory implementation intended to facilitate the protection, adaptation, and sustainable utilization of heritage sites [20]. For ancestral halls, as they tend to exist in a complicated nexus of public, private, and clan ownership, official policy interventions can establish the enabling conditions for preservation and reuse [23]. Sustainable conservation, previously explained, involves more than maintenance of physical facilities but continued infusion of heritage locations into current affairs in ways that continue to express cultural importance [8]. Empirical data has demonstrated ways that specific policy programs such as heritage conservation area, adaptive reuse incentive schemes, and guidelines to participatory plans have generated tangible results in outcomes in heritage [11]. Specifically, the Chinese government's focus on "cultural revitalization" and the regeneration of rural areas since the 13th Five-Year Plan has highlighted the policy-level significance of the preservation of ancestral halls in the context

of larger development objectives [5].

Empirical research indicates a definitive link between support from government policy and sustainable heritage results. A study by Li and team is just one example, having discovered that ancestral halls located in areas with strong heritage regulations and funding incentives in cities such as Foshan and Guangzhou had much better preservation quality and ongoing public usage [9]. In addition, scholars reported that heritage policies incorporating adaptive reuse policies that are adjustable such as commercial or educational reuse of historic buildings made the spaces more economically viable and functional [24]. Also, local governments shared resources in terms of restoration and maintenance through public-private partnerships without leaving communal ownership of the same [14]. The sustainability of the preservation of ancestral halls will require the policy support of the government, which is confirmed by these empirical findings, especially as an agent of structural, financial, and legal conditions susceptible to preservation and adaptation.

*H2: Government policy support has significant impact on sustainable preservation of ancestral halls*

## 2.3 Functional adaptation of halls as mediator

The adaptation and transformation of old buildings such as ancestral halls into new, socially significant functions that do not impair the cultural and historical value of these buildings is called functional adaptation [3]. This approach enables heritage sites to remain in use and keep serving the purposes in contemporary society. In line with the local needs, functional adaptation may take different forms and may be a utilization of the traditional ancestral halls as venues of cultural education, community affairs, exhibitions, or even innovation industries [9]. Participation as the World Heritage Committee describes it as the active and involved participation of local stakeholders in the process of making decisions about heritage can significantly influence the process of why and how such functional changes occur [25]. In most instances, communities would propose and promote adaptations that would respond to the local identity and reflect the modern social conditions [24]. According to the recent study, the change in the approach to the functional orientation of the heritage spaces that are co-created by the communities in question is more context-relevant and sustainable, which leads to better preservation consequences in the long term [11].

The functional adaptation is validated by empirical evidence to be a mediator between community participation and sustainable heritage outcomes. They authored an article where local people were involved to make use of ancestral halls as a library, cultural center, or other communal learning facilities that the consequences were not only an increase in site conservation but also a rise in community cohesion and continuity of use [15]. Similarly, it is found that the maintenance level and the rate of abandonment of the southern Chinese heritage halls were higher when the original purpose was changed into the needs of the community [16]. These findings suggest that community involvement is not a single variable, but rather it only has an influence indirectly by its impact on the success with which these buildings are reused to different purpose.

*H3: Functional adaptation of halls mediates the relationship between community engagement and sustainable preservation of ancestral halls*

Functional adaptation, within the context of heritage

conservation, not only serves as a reuse policy but also as a result that policy instruments tend to foster [25]. Support from government policy, including planning law, economic incentives, and adaptive reuse codes, sets the conditions under which functional changes in ancestral halls can be initiated and implemented. Such policies can involve support for rehabilitation work, tax incentives for adaptive reuse, or technical support for culturally sensitive redesign [20]. Functional adaptation is made a real mechanism whereby policy goals are rendered operational [14]. Secondly, residents who feel a sense of ownership are also likely to be supportive and long-term of the preservation cause, contributing material as well as symbolic resources to it.

Empirical evidence also contributes to the positive relationship between participation and outcomes of heritage conservation projects. For instance, in survey of rural heritage village in Guangdong that more participatory projects were significantly more effective in site maintenance, cultural programming, and adaptive reuse [22]. Similarly, it is discovered that those ancestral halls which were co-managed or co-governed by the clans or local neighborhoods achieved more sustainable preservation outcomes than those governed entirely by outside powers [16]. This has been accounted for by the capability of communities to reinterpret heritage functions in relation to evolving social needs, e.g., to support public functions, educational activities, or even home tourism [26]. Including conservation in daily use promotes long-term use and relevance.

**H4:** *Functional adaptation of halls mediates the relationship between government policy support and sustainable preservation of ancestral halls*

## 2.4 Theoretical framework supporting the research

To introduce relationships and organization of this research model, Stakeholder Theory offers strong theoretical support. Its origin comes from Freeman and Phillips [27], where Stakeholder Theory focuses on the fact that organizations and subsequently cultural heritage initiatives need to be concerned with stakeholders' interests, power, and involvement when doing strategic planning and securing long-run sustainability. In ancestral hall preservation, the stakeholders include government agencies, local communities, cultural practitioners, and users of facilities, each playing significant roles in determining the outcome of preservation. The theory aligns with the hypotheses that community participation and government policy assistance are not ancillary factors but central drivers in guaranteeing the sustainable preservation of heritage facilities. With this aim in view, the theory of functional adaptation comes into limelight as a process by which stakeholders convert their participation and policy choices into actual adaptive impacts allowing for the further use and application of ancestral halls. This mediating function captures dynamic tension between stakeholder power and structural alteration, affirming recent empirical research that conservation is optimally functional when stakeholder agency drives context-responsive adaptation [21]. Framing this model within Stakeholder Theory serves the research by advancing participatory administration and cooperation of multiple actors as critical for the sustainability of heritage, particularly balancing cultural authenticity and modern practicality. Figure 1 presents the conceptual framework, which positions functional adaptation as a central mediator between stakeholder influence and sustainable preservation outcomes.

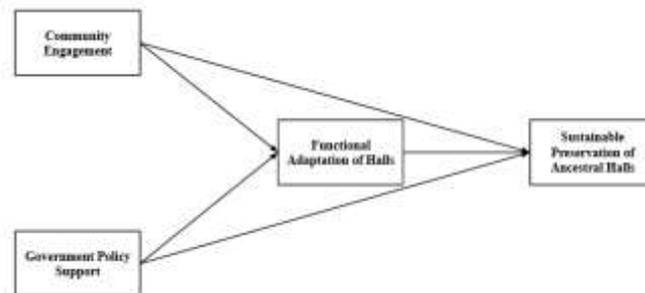


Figure 1. Conceptual framework

## 3. METHODOLOGY

### 3.1 Research design

The current study used a quantitative approach in examining the interrelations among community involvement, support from government policies, functional adaptation, and sustainable preservation of the ancestral halls. Cross-sectional survey design was used to gather data across various stakeholders participating in the ancestral hall preservation processes. This method permitted testing of these variables at one moment in time so that the snapshot of dynamics operative in the conservation efforts of such heritage sites would be possible. The design has been chosen to enable the hypothesis of relationships between the prime variables, as well as the mediating effect of the functional adaptation, to be investigated by statistical inference. To determine the reliability and validity of the systematic questionnaire, a questionnaire was developed based on literature available and expert advice. This allowed the research to be able to compare the measured variables and test the research hypotheses critically.

### 3.2 Population

The population used in this study covered individuals and organizations that were involved in either the preservation, management, or use of ancestral halls. These are the local citizens, local heritage societies, policymakers and heritage conservation professionals. Specifically, the research targeted the stakeholders in those locations with ancestral halls forming part of the local culture where special attention was given to those regions where heritage conservation activities were going on. The target population therefore consisted of community leaders, those working in the local government, managers of heritage sites, and individuals who are directly involved in the day-to-day running or management of the ancestral halls. The population was demarcated to give a wide coverage of all the key players who were either participating in or affected by the sustainable conservation of such heritage sites.

### 3.3 Sample size and sampling technique

The nature of the quantitative study led to the selection of participants using non-probability purposive sampling strategy since the focus was on the people who were expertly engaged in the practice of preserving ancestral halls or had a lot of knowledge about it. The sampling ensured the sample consisted of individuals with the necessary experience and

knowledge, and hence it was appropriate to address the research goals. The study desired to obtain 300 respondents which was deemed to be sufficient to conduct significant statistical analysis and hypothesis testing of the hypothesized relationships. The sample was chosen based on different areas which were known to have ancestral halls to make representation of different backgrounds. The purposive sampling technique facilitated the researcher to sample respondents with the required knowledge and experience such that, the obtained data will be useful and reliable to the purpose of the research.

### 3.4 Data collection procedure

The management of a structured questionnaire was used in collecting information concerning the research. The questionnaire was used to elicit the experience and perception of the respondents towards community involvement, government policy facilitation, functional adaptation, and sustainable preservation of ancestral halls. The survey was carried out in person and face to face method to derive explicit instructions and get better response rates. This also helped the researchers to have the on-spot explanation in case the respondents had any questions regarding the items of the questionnaire. The questionnaire was given in open areas and at community gatherings in matters that concerned heritage conservation, hence making sure that the sample had people directly working on the conservation process or people who were directly affected by the conservation process. The major part of the respondents was approached using a self-completion method, which was only utilized in cases of necessity that helped to complete instructions. The time taken to complete the questionnaire was a few months in order to allow possible delay or scheduling clash. Confidentiality and informed consent were also maintained as all ethical considerations were observed in data collection.

### 3.5 Measurement scales

The measurement of all constructs in the study was done using the scales adopted in the validated research on heritage conservation and stakeholder engagement in the past. The Community Engagement items were based on study by Khadijah et al. [4], Government Policy Support [20], Functional Adaptation [15], and Sustainable Preservation [16]. The 5-6 Likert-scale items (1 = strongly disagree to 5 = strongly agree) were used to measure each construct, with such samples as: Local residents actively participate in preservation decisions and Policies encourage adaptive reuse of ancestral halls. The questionnaire was translated into Chinese and then returned to the translators who were bilingual experts to make sure that the translated variant is accurate and semantically equivalent.

### 3.6 Data analysis

Data gathered were statistically processed through Partial Least Squares Structural Equation Modeling (PLS-SEM) through SmartPLS 4.0, a recommended statistical software program widely applied across social sciences studies for the estimation of complex associations between latent variables. PLS-SEM best fits to test causal relationships and confirm theoretical models where interdependence among variables are not understandable or highly complex. The analysis was

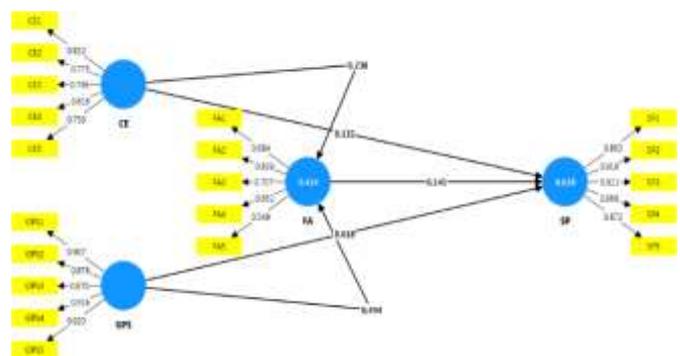
two-phased: the first phase was the test of the measurement model to establish the validity and reliability of the constructs, and the second phase was structural model testing to confirm the mediating effects and hypotheses of functional adaptation. Construct validity in the measurement model was confirmed against composite reliability (CR), average variance extracted (AVE), and loadings. The structural model was subsequently validated utilizing the imposition of path coefficients, R-squared ( $R^2$ ) estimates, and bootstrapping to test for the significance of interactions between the variables. The application of PLS-SEM enabled in-depth testing of the impact of government policy support and community participation on sustainable preservation and the mediating role of functional adaptation within this relationship. The findings offered empirical support to the research hypotheses, and validated the theoretical model along with the hypothesized model.

## 4. RESULTS

Table 1 displays the study constructs' internal consistency and convergent validity with Cronbach's alpha, composite reliability (CR), and average variance extracted (AVE). All four constructs—government policy support, sustainable preservation, community engagement, and functional adaptation have strong internal consistency beyond the threshold value of 0.70 for Cronbach's alpha. Composite reliability for all the constructs is greater than 0.80 as well, depicting strong construct reliability. The AVE values of all the constructs are above the minimum threshold of 0.50, indicating that the constructs account for more than 50% of the variance in their indicators. Together, these values indicate that the measurement model is both valid and reliable, and can be used for further structural modelling.

**Table 1.** Construct reliability and validity

| Construct                 | Cronbach Alpha | CR    | AVE   |
|---------------------------|----------------|-------|-------|
| Community Engagement      | 0.848          | 0.892 | 0.622 |
| Functional Adaptation     | 0.746          | 0.819 | 0.579 |
| Government Policy Support | 0.940          | 0.954 | 0.806 |
| Sustainable Preservation  | 0.931          | 0.948 | 0.784 |



**Figure 2.** Measurement model

Table 2 and Figure 2 present the outer loading of all measurement items, which represent the degree of the relationship between observed indicators and their corresponding latent constructs. Under community engagement, the items have strong loadings between 0.758

and 0.832, which shows that each item is meaningfully contributing to the latent variable. Functional adaptation items have good loading values ranging from 0.549 to 0.839; even though fa5 has the lowest loading, it is still higher than the threshold value of 0.4 and was thus kept. Items related to government policy support have extremely high loadings ranging from 0.870 to 0.920, reflecting great indicator reliability. In the same manner, items under sustainable preservation load between 0.863 and 0.911, validating their strong measurement strength. All the indicators exceed the minimum outer loading requirement, guaranteeing that the indicators truly reflect the corresponding constructs.

**Table 2.** Construct outer loading

| Variable                  | Item | Outer Loading |
|---------------------------|------|---------------|
| Community Engagement      | CE1  | 0.832         |
|                           | CE2  | 0.775         |
|                           | CE3  | 0.758         |
|                           | CE4  | 0.816         |
|                           | CE5  | 0.759         |
| Functional Adaptation     | FA1  | 0.684         |
|                           | FA2  | 0.839         |
|                           | FA3  | 0.707         |
|                           | FA4  | 0.652         |
|                           | FA5  | 0.549         |
| Government Policy Support | GPS1 | 0.907         |
|                           | GPS2 | 0.876         |
|                           | GPS3 | 0.870         |
|                           | GPS4 | 0.916         |
|                           | GPS5 | 0.920         |
| Sustainable Preservation  | SP1  | 0.863         |
|                           | SP2  | 0.910         |
|                           | SP3  | 0.911         |
|                           | SP4  | 0.869         |
|                           | SP5  | 0.872         |

Table 3 presents the Heterotrait–Monotrait (HTMT) ratio estimates used to assess discriminant validity among the constructs. All HTMT values fall below the recommended threshold of 0.85, indicating that the constructs exhibit acceptable discriminant validity. The HTMT estimate between community engagement and functional adaptation is 0.522, suggesting a moderate yet acceptable level of association that still supports their empirical distinction. The highest HTMT value is 0.819, observed between government policy support and sustainable preservation; although relatively higher, it remains within acceptable limits. Overall, the findings confirm that each construct represents a distinct dimension within the proposed model without substantial conceptual overlap.

**Table 3.** Discriminant validity (HTMT)

|                           | CE    | FA    | GPS   | SP |
|---------------------------|-------|-------|-------|----|
| Community Engagement      |       |       |       |    |
| Functional Adaptation     | 0.522 |       |       |    |
| Government Policy Support | 0.579 | 0.664 |       |    |
| Sustainable Preservation  | 0.585 | 0.593 | 0.819 |    |

Table 4 shows explanatory power and fit of the model by R<sup>2</sup> values, adjusted R<sup>2</sup>, Q<sup>2</sup> predict, and standardized root mean square residual (SRMR). That for functional adaptation is 0.414, meaning that about 41.4% of the variance in it is explained by its predictors. For sustainable preservation, there is a higher R<sup>2</sup> of 0.628, and it indicates that about 63% of its variance is explained by the model. The values of Q<sup>2</sup> predict of 0.398 for functional adaptation and 0.606 for sustainable

preservation indicate good predictive relevance. In addition, the value of SRMR at 0.069 is far below 0.08, indicating a good model fit. All these indicators together confirm the robustness and high predictive ability of the model.

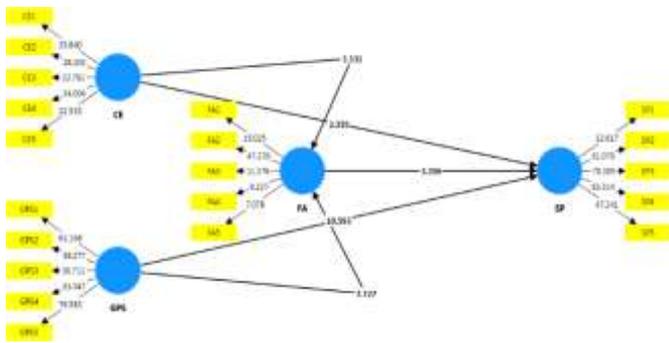
**Table 4.** R-square statistics model goodness of fit statistics

| Construct                | R <sup>2</sup> | Adjusted R <sup>2</sup> | Q <sup>2</sup> Predict | SRMR  |
|--------------------------|----------------|-------------------------|------------------------|-------|
| Functional Adaptation    | 0.414          | 0.411                   | 0.398                  | 0.069 |
| Sustainable Preservation | 0.628          | 0.624                   | 0.606                  |       |

Table 5 and Figure 3 present the structural model and hypothesis test results. The direct relationship from community participation to sustainable conservation is substantial ( $\beta = 0.132$ ,  $t = 2.255$ ,  $p = 0.012$ ), evidencing hypothesis 1. Government policy support also has a significantly stronger direct relationship with sustainable conservation ( $\beta = 0.618$ ,  $t = 10.593$ ,  $p = 0.000$ ), corroborating hypothesis 2. Both relationships are validated through the intervening role of functional adaptation. It strongly mediates the relationship between government support for community participation and sustainable preservation ( $\beta = 0.032$ ,  $t = 2.294$ ,  $p = 0.011$ ), confirming hypothesis 3. Likewise, it mediates the relationship between support for government policies and sustainable preservation ( $\beta = 0.070$ ,  $t = 3.088$ ,  $p = 0.001$ ), confirming hypothesis 4. All paths are significant, confirming the hypothesized model and asserting that both direct and mediated effects are significant in explaining sustainable ancestral hall preservation.

**Table 5.** Direct path analysis

|  | $\beta$ | T-Value | P-Value | Result    |
|--|---------|---------|---------|-----------|
| Community engagement has a significant impact on sustainable preservation of ancestral halls   | 0.132   | 2.255   | 0.012   | Supported |
| Government policy support has a significant impact on sustainable preservation of ancestral halls  | 0.618   | 10.593  | 0.000   | Supported |
| Functional adaptation of halls mediates the relationship between community engagement and sustainable preservation of ancestral halls      | 0.032   | 2.294   | 0.011   | Supported |
| Functional adaptation of halls mediates the relationship between government policy support and sustainable preservation of ancestral halls | 0.070   | 3.088   | 0.001   | Supported |



**Figure 3.** Structural model

In Table 6, the mediation outcomes show that Functional Adaptation is a mediating value in the examined relationships, but in a partial manner. To start with, the indirect impact of Community Engagement on Sustainable Preservation via Functional Adaptation is statistically significant ( $b = 0.032$ ,  $t = 2.294$ ,  $p = 0.011$ ) with the 95% confidence interval [0.00466, 0.05934] not containing zero. This shows that increased rates

of community involvement led to better functional adaptation that consequently increased sustainable preservation. Nonetheless, since the mediation is partial, it implies that community involvement has a direct effect on sustainable preservation despite its effect on it via functional adaptation. In the same way, Government Policy Support to Sustainable Preservation by way of Functional Adaptation ( $b = 0.070$ ,  $t = 3.088$ ,  $p = 0.001$ ) also has an effect (indirect), but the confidence level [0.02, 0.011] once again does not include zero. It implies that enhanced governmental policy-based support contributes to the enhancement of functional adaptation mechanisms, which, in turn, reinforces the sustainable preservation results. The partial mediation shows that although the functional adaptation captures a significant part of this relationship, the government policy support is directly influencing sustainable preservation in a manner not well explained by the mediator. Comprehensively, these results demonstrate that functional adaptation is a significant route where the promotion of sustainable preservation is facilitated by community involvement and government policy as well, yet not the only mechanism generating the effects.

**Table 6.** Mediation results

| IV (→) DV  | Mediator              | Indirect Effect ( $\beta$ ) | SE (Approx) | T-Value | P-Value | 95% CI (Approx)    | Mediation         |
|--|-----------------------|-----------------------------|-------------|---------|---------|--------------------|-------------------|
| Community Engagement → Sustainable Preservation      | Functional Adaptation | 0.032                       | 0.01395     | 2.294   | 0.011   | [0.00466, 0.05934] | Partial mediation |
| Government Policy Support → Sustainable Preservation | Functional Adaptation | 0.070                       | 0.02267     | 3.088   | 0.001   | [0.02557, 0.11443] | Partial mediation |

## 5. DISCUSSION

The results of this study give a multi-dimensional and rich vision of the complex processes of community participation, governmental policy assistance, and functional adaptation in the sustainable preservation of ancestral halls. With the constant challenge of urbanization on cultural heritage and the socio-economic change and shifting community needs, the findings of this research demonstrate the need to look at the topic of heritage preservation in a multi-dimensional manner. Research has indicated that conservation of ancestral halls is not an activity that can be sustained by a unilateral effort but rather holistically through which local-level engagement, good policy and adaptive reuse meet. This study gives us a better idea of how these variables relate to one another and a helpful clue as to how we can maintain the importance of ancestral halls in a sustainable manner without sacrificing their cultural, social, or economic viability through the analysis of the mediating role of functional adaptation. The present discussion further examines how these mutually supporting variables community participation, policy support, and operational adaptation are used to determine the outcome of the ancestral hall conservation, but with a more implication in the mediator capacities of these variables and the cultural sustainability outcomes in the long-term.

Results of this research study provide excellent evidence to explain the first hypothesis that the participation of people plays an important role in sustainable conservation of ancestral halls. This is in accordance with the previous research study, which argues that heritage sites reflect higher rates of use, conservation, and cultural preservation in instances that the community is part of the adaptation and conservation process [2]. The key to the further usage and maintenance of ancestral

halls is an active involvement of local stakeholders in decision-making process, donation of resources, or guardianship of the culture. In this work, communities were not just passive receivers of conservation, but collaborators in the design of the preservation policies that maintained their ancestral halls as the centres of their culture and social life. The extent of involvement by the community in defining the adaptive role of such halls i.e., educational and cultural roles or even modern day business enterprises was used to make sure that ancestor halls would not be turned into ancient ruins. This coincided with the study of who concluded in their study that community-based adaptive reuse contributed much to the maintenance of integrity and vitality in the heritage sites [1]. Moreover, we have also confirmed that the locally initiated projects demonstrated significantly better results of local ownership and mobilization of resources, which directly affected the long-term conservation [28]. These findings highlight the relevance of shifting conservation practices to be more participatory and less expert-driven and more citizen-oriented and locally oriented since it strengthens the social fiber and preserves the heritage to future generations.

At the same time, our evidence was also consistent with the second hypothesis that the state policy support is the key element to play in the sustainable conservation of the ancestral halls, which also indicates the important role of the institutional and regulatory framework in the protection of heritage. Our findings are in line with the findings presented by other researchers who reported that heritage conservation policies that encourage adaptive reuse and generate economic benefits to heritage sites lead to superior preservation outcomes [10]. Government policies such as zoning laws, subsidies for restoration projects, and grants for cultural events played a key role in preserving the structural and functional

integrity of ancestral halls. In particular, our study establishes the way in which public-private collaborations led by municipal governments was an innovative force for the revitalization of ancestral halls and reconstructing them into forms of use consonant with what are thought to be contemporary demands, such as tourism, people's education, and small enterprises. This is seconded by scholars who argued that government support was typically the deciding factor in the successful restoration of heritage sites, with the funds and facilities needed for complex pieces of preservation work [13]. Flexibility in policy was also a significant contributor, as it allowed heritage sites to modernize without undermining their history and culture. In the case of multi-purpose buildings such as a museum, party hall, or a community center, for example, laws that facilitated the reuse of the ancestral halls preserved such buildings both physically and socially [14]. This was especially dominant in the urban settings where developmental forces would most probably destroy the cultural phonemes. The results of the research confirm the relevance of policy to overcome the gap between the protection of historical heritage and the current urbanization in such a way that ancestral halls can adjust to the modern needs without losing their value of heritage. The two hypotheses all indicate that government patronage and the grassroots action are complementary and that neither can be used independently of the other to promote sustainable preservation of ancestral halls [16]. These findings indicate that a synergistic preservation model comprising of grassroots action and top-down policy models are necessary to the long-term sustainability of these cultural icons.

The empirical evidence of this study also comes robustly in support of the third hypothesis that functional adaptation is a mediating variable between community participation and sustainable preservation of ancestral halls [3]. This finding emphasizes the extremely crucial role performed by functional adaptation in fulfilling the role of connecting community input and preservation results on a long-term basis. Functional adaptation here refers to the process by which ancestral halls are reformulated to suit contemporary social, cultural, or economic demands but not at the expense of their historical and cultural significance. This is reflected in the research that local communities, when they are involved in the preservation and adaptation process, actively participate in deciding on the new uses of ancestral halls in a way that the ancestral halls are made up-to-date in accordance with modern needs without any loss of their heritage values. According to Ren et al. [15], our findings illustrate that community adaptive reuse of ancestral halls makes conservation practice more sustainable because the new functions mirror the local needs, values, and customs in a proximate way. For example, the transformation of ancestral halls into cultural centers, learning centers, or public function areas was not only well-learned but actually adopted by the populace, creating a sense of ownership and responsibility towards the ongoing maintenance of the sites [17]. The findings of the study underline that the key unifying factor is functional adaptation, as such to make sure that the engagement of the community is not symbolic, but has tangible, enduring preservation results. With communities developing concepts of how ancestral halls are to be repurposed, their cultural and emotional investment on the spaces makes the preservation work more sustainable and resilient, forming long-term social and cultural attachment.

Similarly, the fourth hypothesis that established whether functional adaptation would be a mediator between

government policy support and sustainable conservation was also found to be supported. This shows great understanding of how the functional adaptation and government policy interact to achieve the sustainable preservation of the ancestral halls. Policy support in itself, however important, tends to be insufficient without efficient methods of adapting heritage sites to cater to today's needs [23]. The research confirmed that while local authorities have to make regulatory frameworks, funds, and institutional support available, the policies create room for operational adjustments under which ancestral halls can remain relevant. But through functional adaptation, or rededication to new purposes, government policies can have their maximum influence on preservation [8]. Government policies that facilitate the adaptive reuse of ancestral halls, for instance, by permitting other uses, providing funding to restore them, or promoting collaborative efforts between the private and public sectors, worked better if they enabled functional adaptation. As proposed, whether policy conservation will be effective rests significantly on the extent to which they allow sites of preservation to adapt [20]. The research finds that functional adaptation is not only an *ex post facto* tool but also a forward-looking mediator for conservation, whereby the policies of government can be converted into practical solutions for the conservation of cultural heritage. In addition, the functional adaptation here makes sure that the cultural, economic, and social worth of the ancestral halls is not lost in order to continue existing in the modern society [14]. Thus, the paper highlights that the development of functional adaptation is the most powerful process of transforming government aid into sustainable results, which proves the argument that successful conservation of traditional halls should be based on the strategic policy frameworks and context-specific adaptations.

In general, as demonstrated in the study, community engagement, government policy intervention, and adaptive functionality are not only synergistic but also inherently linked agents of sustainable preservation of ancestral halls. The findings reiterate the importance of the stakeholders in harmony in which the government policies and communities combine to develop preservation models that not only succeed, but are sustainable. Moreover, the mediation criticality of functional adaptation provides that, as a conducive to long-term preservation, heritage sites have to evolve to meet needs as they are without compromising their historic and cultural value. This study in its emphasis of these dynamics offers a framework that policymakers, heritage practitioners, and communities can use in the attainment of improved and more comprehensive preservation policies. Finally, the research will add to the bigger discussion of heritage sustainability and demonstrate how the future of ancestral halls can be, in terms of adaptation, survival, and additional contribution to local identity and livelihood.

## 6. CONCLUSIONS

To recap it all, the study contains insightful ideas of a complex process of sustainable conservation of traditional halls because it reveals the outstanding position of the roles played by community involvement, encouragement of government policies, and functional adjustment. The study leads to the unveiling of the fact that preservation is not a process that is easy to undertake but a multi-faceted process whereby local inhabitants with the assistance of positive

government policies lead hand in hand to transform such ancient monuments into modern demands. By introducing the mediating role of functional adaptation, this paper expands the existing knowledge base of heritage conservation by emphasizing that conservation is not just a physical revival but a dynamic, sustained integration of ancient halls into modern social, cultural and economic contexts. The affirmation of the four hypotheses offers a comprehensive framework of the cultural heritage preservation showing the interdependence of the local involvement, policy frameworks and adaptive reuse in making heritage sites viable and relevant. The practical and theoretical knowledge obtained in this research opens up the prospects of more inclusive and meaningful conservation efforts, and the approach to building a better understanding of how cultural heritage can be preserved in a more rapidly evolving world. Ultimately, this study proposes a more participatory and dynamic heritage conservation approach that compromises the integrity of historical integrity in the goals of contemporary society so that ancestral halls can become an indispensable part of the community life in the future.

### 6.1 Implications

This research has policy implications to the heritage conservation practitioners, policymakers as well as local communities that want to preserve ancestral halls. The results support the necessity of integrative approach to preservation that balances community involvement, support of state policy, and functional adaptation as the elements that can impact a sustainable preservation policy. The study highlights the value of developing inclusive policies to the policy makers not only to maintain the physical integrity of ancestral halls, but also to be adaptively reused to address the changing needs of the modern-day world. This may include incentives to adaptive reuse and also coming up with adaptive zoning policies that promote the multifunctional use of heritage sites in a way that will make such sites economically sustainable and socially incorporated. The need to engage local communities in conservation activity is a key feature in the research to practitioners in the field of heritage as it is observed that the active engagement of local communities is fundamental in the development of adaptive use that is consistent with the local values and current requirements. Such projects however can be made to be sustained in the long term by community-led projects through encouraging local ownership and group responsibility to the protection of cultural heritage provided that the government policy supports the same. Moreover, the mediating role of functional adaptation ensures the successful conservation is based on the restructuring of the ancestors halls into the activity spaces dedicated to the activities which can be used today, such as cultural centers, civic places, or schools and which can attract the protracted occupation and investment. Insisting on the necessity of cooperation between various stakeholders, this study provides a good pattern towards the successful accomplishment of the sustainable heritage conservation that would not only preserve the cultural identity but also meet the requirements of current society.

Theoretical implication of the study goes ahead to broaden the knowledge of the interaction between a multiplicity of factors, to be specific, community participation, governmental policy pep and functional adaptation in influencing sustainable conservation of cultural heritage that is, ancestral halls. By adopting the Stakeholder Theory as the theoretical framework, the study advances our theoretical understanding of heritage

preservation as a multi-dimensional process that depends on the involvement of multiple stakeholders, specifically, on the institutional and grassroots levels. Though the previous research studies have tended to examine these factors individually, this study is very crucial as it empirically examines the interplay of the three factors, community, policy and adaptation hence giving a more integrated model of preservation. Moreover, the functional adaptation mediating role challenges orthodox conceptualization of preservation as a static or material phenomenon, but recommends that conservation of heritage is based on a dynamic process of re-appropriation of heritage places to respond to the demands of the present without becoming out of touch with the cultural. The paper provides value to theoretical knowledge by demonstrating that functional adaptation is not only a reactions process but a proactive tool, in which the stakeholders can mediate between preservation process and the social, cultural, and economic reality. Moreover, the findings extrapolate the Stakeholder Theory through demonstrating how distinct engagement levels of stakeholders, including local communities to government agencies, can be adjusted to yield sustainable outcomes. In essence, the study contributes to the heritage management and sustainability research areas in that it offers a new conceptual framework that combines both cultural continuity and functional flexibility as the key to long-term preservation.

### 6.2 Limitations and future directions

Despite the informative content which this research presented, a few of its limitations ought to be mentioned and these also show the path on which future research ought to follow. As a matter of fact, the study was restricted to a specific group of ancestral hall in a geographically confined geographical space, which may in turn narrow-down the generatability of the results to other geographical space or cultural setting with divergent heritage conservation initiatives or agencies. Future studies can further extend the study to include other geographical areas or cross-cultural analysis to establish whether the relationships between community participation, government policy support, and functional adaptation are universal to type of heritage sites and culture. The other limitation is that the data is used is self-reported by the community members and policymakers and is therefore likely to be biased or inaccurate. Future studies might also utilize mixed-methods approaches, combining quantitative information and detailed qualitative interviews or case analysis, in order to gain a more comprehensive view of the perception and engagement of stakeholders with preservation activities. Additionally, though this study reveals the variable influence of the functional adaptation it does not look into full implications of the adaptations in the long term such as the feasibility of further use of these areas or what it may mean to the overall development of the community. The long-term effectiveness of functional adaptations on the sustainability of the ancestral halls as investigated in subsequent studies could include the investigation of the economic, social and cultural returns of the ancestral halls over time. Finally, given that the preservation of heritage is also connected with larger tendencies of globalization and modernization, future studies could be performed to understand how local preservation programs are connected with global cultural influences, especially in an increasingly globalized world. Overcoming these limitations and exploring new dimensions, the future

studies can further refine the idea of sustainable heritage conservation and offer practical means of finding the compromise between the past and the present.

## REFERENCES

- [1] Abunie, Y., Teshome, E., Dessiye, M. (2023). Tourism's contribution to sustainable conservation of natural and cultural heritage: Evidence from the Lake Tana Biosphere Reserve. *Cogent Social Sciences*, 10: 2292756. <https://doi.org/10.1080/23311886.2023.2292756>
- [2] Aureli, S., Del Baldo, M. (2022). Stakeholders' consciousness of cultural heritage and the reconciliation of different needs for sustainable development. *Journal of Cultural Heritage Management and Sustainable Development*, 13(4): 964-982. <https://doi.org/10.1108/JCHMSD-10-2020-0156>
- [3] Chen, Y. (2023). Study on Hakka ancestral hall and Hakka culture. *Academic Journal of Humanities & Social Sciences*, 6(4): 060401. <https://doi.org/10.25236/AJHSS.2023.060401>
- [4] Khadijah, U.L.S., Winoto, Y., Shuhidan, S.M., Anwar, R.K., Lusiana, E. (2024). Community participation in preserving the history of heritage tourism sites. *Journal of Law and Sustainable Development*, 12(1): e2504. <https://doi.org/10.55908/sdgs.v12i1.2504>
- [5] Bai, X., Jiao, X., Sakai, T., Xu, H. (2024). Mapping the past with historical geographic information systems: Layered characteristics of the historic urban landscape of Nanjing, China, since the Ming Dynasty (1368-2024). *Heritage Science*, 12: 01400. <https://doi.org/10.1186/s40494-024-01400-4>
- [6] Coletti, C. (2024). Climate change threats to stone cultural heritage: State of the art of quantitative damage functions and new challenges for a sustainable future. *Heritage*, 7(6): 3276-3290. <https://doi.org/10.3390/heritage7060154>
- [7] Gai, A.M., Dwijayani, H., Pattiruhu, F.J., Joesidawati, M.I., Safari, A. (2024). Analysis of the influence of comprehensive environmental study and regional heritage preservation on the growth in the valuation of tourism site towards world class tourism. *Innovative: Journal Of Social Science Research*, 4(3): 7287-7295. <https://doi.org/10.31004/innovative.v4i3.11273>
- [8] Jo, H.H., Yuk, H., Kang, Y., Kim, S. (2023). Conservation of architectural heritage: Innovative approaches to enhance thermal comfort and promote sustainable usage in historic buildings. *Case Studies in Thermal Engineering*, 51: 103500. <https://doi.org/10.1016/j.csite.2023.103500>
- [9] Li, W., Lv, H., Liu, Y., Chen, S., Shi, W. (2023). An investigating on the ritual elements influencing factor of decorative art: Based on Guangdong's ancestral hall architectural murals text mining. *Heritage Science*, 11: 01069. <https://doi.org/10.1186/s40494-023-01069-1>
- [10] Muthuswamy, V.V., Esakki, S. (2024). Exploring sustainable cultural preservation: Strategies, challenges, and community engagement in heritage conservation efforts. *Rita Revista Indexada de Textos Academicos*, (21): 129-146.
- [11] Nam, N.T., Thanh, N.N. (2024). The role of local communities in the conservation of cultural heritage sites: A case study of Vietnam. *Journal of Asian Scientific Research*, 14(2): 179-196. <https://doi.org/10.55493/5003.v14i2.5057>
- [12] Penjor, T., Banihashemi, S., Hajirasouli, A., Golzad, H. (2024). Heritage building information modeling (HBIM) for heritage conservation: Framework of challenges, gaps, and existing limitations of HBIM. *Digital Applications in Archaeology and Cultural Heritage*, 35: e00366. <https://doi.org/10.1016/j.daach.2024.e00366>
- [13] Smith, A.C., Harrison, P.A., Leach, N.J., Godfray, H.C.J., Hall, J.W., Jones, S.M., Gall, S.S., Obersteiner, M. (2022). Sustainable pathways towards climate and biodiversity goals in the UK: The importance of managing land-use synergies and trade-offs. *Sustainability Science*, 18(1): 521-538. <https://doi.org/10.1007/s11625-022-01242-8>
- [14] Su, X., Tan, J. (2023). Regional energy transition path and the role of government support and resource endowment in China. *Renewable and Sustainable Energy Reviews*, 174: 113150. <https://doi.org/10.1016/j.rser.2023.113150>
- [15] Ren, Z., Tang, Z., Li, B. (2024). Construction and geo-distribution of the architectural characteristics of clan ancestral halls along the Yile-Xijing historical trail in Lechang. *Buildings*, 14(6): 1550. <https://doi.org/10.3390/buildings14061550>
- [16] Zhang, F.L., Ayoungman, F.Z., Islam, M.S. (2023). Institutional capital, ancestral hall, and the reshaping of ancient rule: An empirical analysis of the new energy of Chinese heritage elements in rural revitalization. *Journal of the Knowledge Economy*, 15(1): 2726-2760. <https://doi.org/10.1007/s13132-023-01243-7>
- [17] Zhang, Y. (2022). The ancestral hall and ancestor veneration narrative of a Huizhou lineage in Ming-Qing China. *Journal of Asian Architecture and Building Engineering*, 22(4): 2006-2019. <https://doi.org/10.1080/13467581.2022.2153059>
- [18] Mohamed, M.F., Fatimah, W.M.Y. (2023). Potential strategies for revitalizing UKM mosque in enhancing community engagement. *Jurnal Kejuruteraan*, SI6(1): 325-338. [https://doi.org/10.17576/jkukm-2023-si6\(1\)-28](https://doi.org/10.17576/jkukm-2023-si6(1)-28)
- [19] Spector-Bagdady, K., Armoundas, A.A., Arnaout, R., Hall, J.L., Yeager McSwain, B., Knowles, J.W., Price, II, W.N., Rawat, D.B., Riegel, B., Wang, T.Y., Wiley, Jr, K., Chung, M.K. (2023). Principles for health information collection, sharing, and use: A policy statement from the American Heart Association. *Circulation*, 148(13): 1061-1069. <https://doi.org/10.1161/CIR.0000000000001173>
- [20] Ahmed, S., Mahmoud, M. (2024). Preserving heritage areas within the framework of sustainable investment for historic government ministry buildings after their move to the new administrative capital. *International Design Journal*, 14(1): 95-109. <https://doi.org/10.21608/idj.2023.242323.1096>
- [21] Widayati, S., Setiyaningsih, L.A., Affandi, A.S., Saputra, A.D., Sufoyanto, S., Cahyaningsih, D.S. (2023). Preserving the local wisdom of Sukowilangun Village through cultural rituals towards a cultural heritage tourism village. *Bulletin of Community Engagement*, 3(2): 119. <https://doi.org/10.51278/bce.v3i2.907>
- [22] Dai, M.L., Fan, D.X.F., Wang, R., Ou, Y.H., Ma, X.L. (2023). Does rural tourism revitalize the countryside? An

- exploration of the spatial reconstruction through the lens of cultural connotations of rurality. *Journal of Destination Marketing & Management*, 29: 100801. <https://doi.org/10.1016/j.jdmm.2023.100801>
- [23] Zhang, Y., Li, W., Cai, X. (2023). A cultural geography study of the spatial art and cultural features of the interior of Lingnan ancestral halls in the Ming and Qing dynasties. *Journal of Asian Architecture and Building Engineering*, 22(6): 3128-3140. <https://doi.org/10.1080/13467581.2023.2215846>
- [24] Nikolić, M., Šćekić, J., Drobnjak, B., Takač, E. (2024). Examined in theory—Applicable in practice: Potentials of sustainable industrial heritage conservation in a contemporary context—The case of Belgrade. *Sustainability*, 16(7): 2820. <https://doi.org/10.3390/su16072820>
- [25] Wang, S., Zhang, J., Wang, F., Dong, Y. (2023). How to achieve a balance between functional improvement and heritage conservation? A case study on the renewal of old Beijing city. *Sustainable Cities and Society*, 98: 104790. <https://doi.org/10.1016/j.scs.2023.104790>
- [26] Kim, M.J., Hall, C.M., Chung, N., Kim, M., Sohn, K. (2023). Does using public transport affect tourist subject well-being and behaviour relevant to sustainability? Value-attitude-behaviour theory and artificial intelligence benefits. *Current Issues in Tourism*, 27(10): 1666-1682. <https://doi.org/10.1080/13683500.2023.2214721>
- [27] Freeman, R.E., Phillips, R.A. (2002). Stakeholder theory: A libertarian defense. *Business Ethics Quarterly*, 12(3): 331-349. <https://doi.org/10.2307/3858020>
- [28] Mayengo, G., Ngonyoka, A., Mtili, B., Ojija, F., Mng'ong'o, M.E. (2024). Coexistence through sustainable conservation strategies for sitatunga *Tragelaphus spekii* in African ecosystems. *Wildlife Biology*, 2025(1): 01274. <https://doi.org/10.1002/wlb3.01274>