

MAINTAINING INTEGRITY OF HERITAGE IN ADAPTIVE REUSE OF FORTS/BUILDINGS

Chahat Soni* and Maulik Hajarnis**

Abstract

Converting and re-adapting existing buildings is interesting inasmuch as it combines conservation with contemporary necessities in interior design. This paper explores the importance of preserving authentic structures while adapting them for new uses, and centers around Rajasthan in India – a state that boasts both history and cultural heritage. Based on case studies and expert interviews, this article delineates the main principles as well as potential pitfalls – and solutions – when it comes to combining period features and modern conveniences. Themes found in the thematic analysis include open communication, creative problem-solving, working together to build community participation and educational outreach. These projects not only retain cultural assets but secure both environmental and sustainable mobility. This research also reflects the significance of acting to trigger implications on a broader scale for heritage conservation and sustainability issues following interior design practices.

Keywords: Adaptive reuse, Historical forts, Structural integrity, Interior design, Heritage conservation, Built heritage

Introduction

Adaptive reuse, the process of repurposing old buildings for new uses while maintaining their historic features, has become a critical component in the fields of architecture, interior design, and urban planning (Mısrılısoy, D et al. 2016). This concept is particularly

*Student, Master in Design (Interior Design), Parul University, Vadodara, Gujarat, India, chaahatsoni2207@gmail.com

**Associate Professor, Faculty of Architecture and Planning, Parul University, Vadodara, Gujarat, India

relevant in the context of Rajasthan, India, a region known for its rich cultural heritage and architectural marvels, including havelis (traditional mansions or manor houses) and small forts. (Bassal, C et al 2022). These structures, characterized by their unique architectural elements typical of Rajasthan, such as ornate facades, intricate carvings, and expansive courtyards, offer a fascinating lens through which to explore the practice of adaptive reuse (Cherchi, P, 2015). Adapting heritage buildings not only addresses the sustainability issue by decreasing demands for new constructions and its ecological harm, it also helps in preserving cultural identity as well as offering economic benefits to local economies from tourism (Bullen & Love, 2010; Douglas, 2006).

The significance of retaining the integrity of original structures during the repurposing process cannot be overstated. As Jokilehto (2006) points out, the conservation of cultural heritage is not just about preserving buildings for their historical value but also involves retaining the identity and continuity of communities (Arfa, F et al 2022). This same view is further upheld by studies which concentrate on the conversion of heritage buildings in different regions, supporting a suitable compromise between modernization and conservation (Plevoets & Van Cleempoel, 2011). The idea of converting havelis and forts into hotels, museums & cultural centers is a silver bullet for Rajasthan as these conversions can provide the experience that showcases what we have in architecture history along with hospitality which would be an enhanced facility for travellers (Rai, 2018).

The transformation of historic structures into tourist attractions or hospitality venues can significantly contribute to local economies. This economic potential, however, is contingent upon the successful integration of modern functionalities without compromising the architectural integrity and historical value of the buildings. As studies have shown, tourists are increasingly seeking authentic experiences that offer a sense of connection to the cultural and historical context of the places they visit (Garrod & Fyall, 2000). This kind of demand for authenticity provides a fundamental basis for the conservation which aims to retain the historical character in heritage building adaptations.

The complexity of re-purposing heritage buildings, especially when it comes to balancing the structural aspects with contemporary requirements, is enormous. Preservation faces serious obstacles, including structural decay, regulation incompatibility and the requirement to update (Douglas 2006). Furthermore, making these

projects both economically viable and culturally respectful requires innovative approaches to balance accessibility with preservation (Choay 2001). Lessons learned from the case of the havelis and forts in Rajasthan, is a good example for such challenges as most have to undergo serious restoration and refurbishment activities while needing up-gradation reaching current standards for hospitality but at all times keeping the virtue of its historic fabric and architectural style intact.

As examples of Heritage Building Reuse in Rajasthan reveal, turning their emphasis from viability to feasibility would make them not only possible but also profitable. By converting havelis and forts into luxury hotels and cultural centers, not only have these historic structures been restored but the local communities along with their economies have also been rejuvenated. These projects represent models of how heritage conservation can be combined with present-day uses and sustainability objectives (Fatemeh Hedieh Arfa, 2022&Bottero, M, 2019).

Overall, the havelis and forts of Rajasthan are an important crossing point that we cannot afford to ignore; connecting cultural heritage conservation with sustainability and economic development. In these projects, the perpetuation of fidelity to original structures is not solely cosmetic; it forms part of an overarching cultural expressionism reflected through elemental representation as well as instrumental materiality that underpins community and environmental interests. Adaptive reuse of heritage buildings not only preserves these stories but also responds to the evolving desires and expectations around authentic, sustainable tourism experiences. Future enquiry into the practice of repurposing, especially in regions with deep cultural heritage such as Rajasthan will further enrich an already dynamic conversation about preservation, sustainability and conversion within historical contexts.

Methodology

This study employs a mixed-methods approach, incorporating both qualitative and quantitative research methods. Data collection methods include:

- **Case Studies:** Analysis of forts/historic buildings across different regions which usually fall under the successful repurposed category.
- **Expert Interviews:** Insights from architects, interior designers,

and heritage conservationists specializing in adaptive reuse.

- **Participant Selection:** A diverse panel of experts was identified and recruited, based on their extensive experience in repurposing interior design, heritage conservation, and fort restoration. A total of 10 professionals were selected, including architects, interior designers, and heritage conservationists, ensuring representation from renowned architectural firms, interior design studios, heritage organizations, and academic institutions.
- **Semi-Structured Interviews:** Semi-structured interviews were conducted with the selected experts to explore their insights and experiences regarding the repurposing of interior design in historical buildings. A standardized interview guide was developed, consisting of open-ended questions covering specific themes such as preservation principles, design challenges, stakeholder engagement, and successful case studies. Each interview lasted approximately 60 minutes and was conducted either in person or via video conferencing, based on participant preferences and logistical considerations.
- **Questions used:**
 1. In your opinion, what are the essential principles or considerations that should guide adaptive reuse interior design in historical buildings to ensure the preservation of their original integrity?
 2. How do you approach the integration of modern amenities and facilities into heritage structures while maintaining their historical and architectural significance?
 3. Can you share any successful strategies or innovative approaches you've employed to engage stakeholders and the local community in the adaptive reuse of historical buildings?
 4. Based on your experience, what are some key lessons learned or best practices that architects and designers should keep in mind when undertaking adaptive reuse projects for historical structures?
- **Data Collection:** Interviews were recorded with participant consent and subsequently transcribed verbatim for analysis. Detailed field notes were taken during the interviews to capture additional insights and observations. The data collection phase spanned over a period of two months, ensuring comprehensive coverage of expert perspectives.

- **Data Analysis:** Thematic analysis was done to elicit common themes and patterns emerging from the interview transcripts. Interview transcripts were then coded line by line, identifying emergent key concepts and ideas of interior design reuse in historic structures. These categories were subsequently organized into themes, permitting a structured inquiry on expert insight.
- **Interpretation and Recommendations:** An in-depth analysis of the interview findings enabled the synthesis of expert insights into actionable recommendations and best practices for the repurposing of interior design in historical forts and buildings. Specific parameters such as the importance of preserving the integrity of original structures, strategies for integrating modern amenities while maintaining historical authenticity, and approaches to addressing conservation challenges were identified and discussed. Recommendations were formulated based on the collective expertise of the panel, aiming to guide future practitioners and stakeholders engaged in similar projects.

Adaptive reuse projects significantly impact interior design as they require a thoughtful blend that preserves historical elements while introducing modern functionalities. For instance, in the Neemrana Fort Palace, designers retained original stone walls and archways while incorporating modern lighting and plumbing systems subtly concealed within the historical framework. Similarly, the Alsisar Haveli showcases traditional Rajasthani frescoes and woodwork, complemented by contemporary furniture and fixtures that enhance comfort without compromising the historical ambience. These examples highlight the importance of interior design in adaptive reuse, ensuring that new additions harmonize with the existing architectural heritage.

Result Analysis and Case Studies

Case Studies

The dwellings within the walled city of Jaipur, predominantly constructed between 100 to 150 years ago, showcase distinctive architectural elements typical of Rajasthan. These structures, embodying the essence of local bazaars, customs, craftsmanship, cultural nuances, and societal values, are a testament to the rich

Table 1: Some examples of conversion of havelis and forts into luxury hotels

| Property | Location | Background | Transformation | Impact |
|----------------------|-------------------|---------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Neemrana Fort Palace | Alwar, Rajasthan | Built in the 15th century, abandoned for decades before restoration | Original stone structures, fort walls, and architectural details preserved; modern amenities integrated; 76 unique rooms, swimming pools, spa, dining venues | Significant tourist attraction; draws global visitors; contributes to local economy; balance between historical integrity and luxurious accommodation |
| Alsisar Haveli | Jaipur, Rajasthan | Built in 1892 as a residence for the Alsisar family | Restored ornate frescoes, intricate carvings, traditional courtyards; modern amenities such as air conditioning, Wi-Fi, and updated plumbing seamlessly integrated | Offers an authentic Rajasthani experience; boosts tourism in Jaipur; popular destination blending historical charm with modern comfort |
| Samode Palace | Jaipur, Rajasthan | Built in the 16th century as a royal residence | Preserved frescoes, mirror work, grand halls; modern facilities like swimming pool, spa, gourmet restaurants added | Celebrated for luxurious accommodation and historical significance; attracts visitors; generates revenue for the local community |

| | | | | |
|-----------------|-----------------------|----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Devigarh Palace | Udaipur, Rajasthan | Built in the 18th century as a royal residence, later restored | Preserved original architecture including stone carvings, courtyards; modern amenities like luxurious suites, spa, fine dining integrated | Received numerous design and hospitality accolades; revitalized local area; provides employment opportunities; promotes cultural tourism |
| Ajit Bhawan | Jodhpur, Rajasthan | Built in 1927 as the Maharaja's younger brother's residence, converted into a heritage hotel | Carefully preserved architecture and décor; modern amenities added; features royal suites, pool, multi-cuisine restaurant | Offers immersive royal Rajasthani lifestyle experience; attracts tourists; contributes to local economy; highlights successful adaptation of heritage properties |

heritage of the area. Characterized by their ornate doors, windows, and balconies adorned with elegant balustrades or intricately designed screens, most of these residences are two-storied.

Within the walled city, three primary categories of residential areas exist: High-Class Residential Areas, inhabited primarily by affluent individuals such as jewellers and businesspersons, feature grand, multi-storied havelis with expansive inner courtyards covering a substantial portion of the total plinth area. Middle-Class Residential Areas, home to small traders, servicemen, and restaurateurs, comprise older, unmodified three-storied structures with modest inner courtyards occupying a smaller portion of the plinth area, resulting in ground floor rooms lacking adequate ventilation. Basic amenities like toilets and bathing facilities are typically confined to the ground floor. Low-Class Residential Areas, predominantly occupied by artisans and labourers, consist of single or two-room dwellings, often overcrowded and lacking in basic utilities such as electricity, toilets, or bathing facilities.

To conduct an in-depth examination of the traditional architecture and the evolution of havelis, specific havelis in Jaipur were chosen for analysis.

Case Study 1: Haveli, Jaipur

One such haveli, located in Chowkry Modi Khana on Lal Ji Saand Ka Rasta, spans an area of approximately 800 square meters and is inhabited by Brahmins. Initially constructed as a single-story dwelling with 2-3 rooms on the first floor, this haveli follows a typical courtyard layout, utilizing the central courtyard for light and ventilation.

The activity spaces within this haveli were segregated by gender, although no strict purdah system was observed. With its entrance situated to the east, the haveli shared a similar status with the adjacent temple, allowing direct access to the courtyard, thus facilitating public interaction. Over time, commercialization efforts began with the establishment of ground-floor shops, gradually transforming the entire ground floor into commercial spaces. As the need for commercialization grew, inner rooms were repurposed for storage, extending to parts of the first and second floors.

Transformation: The ground floor has undergone a complete transformation, now exclusively utilized for shops and commercial storage purposes. The courtyard, originally intended for social and domestic activities, has been repurposed for parking, storing scrap, and other household functions, including the storage of unusable items. While the structure itself is built of sturdy materials,

Table 2: Transformation profile in a haveli across different stages:
 (Upadhyaya, Vibha, 2017).

| Transformation Stage | Stage 1 | Stage 2 | Stage 3 |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| Typology | Dwelling | Cluster | Apartment |
| Land use | Residential | Commercial | Commercial |
| No. of families | 1 | 8 | 5 |
| Income profile | Middle class | Middle class | Rich |
| Literacy rate | Fair | Good | Good |
| Average area under each dwelling unit | 600 sqm | 80-100 sqm | 40-50 sqm |
| Ownership pattern | Single owner | 8 owners | 15 owners |
| Design of house | Well-planned courtyard haveli with big rooms | Sub-divided into small dwelling units, road-side rooms converted into shops | Further subdivision, courtyard used for parking & other activities, inner-side rooms for storage |
| FAR | 150 | 200 | 300 |
| No. of rooms | 15 | 25 | 45 |
| No. of floors | 2 | 3 | 4 |
| Type of structure | Pucca | Pucca | Pucca |
| Condition of building | Good | Fair | Bad |
| Materials and technology | Thick stone walls with lime mortar. Stone door & window frames, stone slab roof. Flooring with small brick bats with lime plaster on it. Partition with 6" brick wall. | partition with 6" brick wall | R.C.C. with cement mortar |
| Infrastructure facilities | Water from well, dry pit latrines | Municipal water supply, one toilet and bathroom shared by 45 persons | attached toilets in one DU other use common added later |

its maintenance has been neglected over time. Certain traditional rooms within the haveli remain vacant and dilapidated, reflecting the owner's disinterest or relocation to outer areas without attending to the upkeep of the property. (Upadhyaya, Vibha, 2017).

Case Study 2: Baradari/Studio Lotus, Jaipur

The designers have given an architectural description that showcases how the Baradari at City Palace, Jaipur, has been converted and represents a new preservation practice in reusing historical spaces. In the context, Studio Lotus was approached by Jaipur's royal family to redesign a previous palace café into an upscale dining area that would occupy 14,000 sq ft. The goal was essentially to add private dining rooms, and a new bar area along with lounges for pre-show drinks as well as a quick-service counter into an existing shell.

The new design combines traditional architectural details with modern utility. Studio Lotus has paid homage to the rich history of the Baradari while incorporating contemporary elements that would enhance its destination appeal as an F&B outlet. This entailed the careful preservation and reconstruction of original structures and materials, including rubble masonry walls with lime plaster detailing to respect the vernacular character.

It entailed creating a new central pavilion that echoed the massing of the original Baradari, which at once visually enlarged and partitioned it into specific zones. The mixed metal, fluted marble, and mirror pendant detail of the island bar was then woven into this pavilion. Traditional craft such as Thikri work (glass inlay), bespoke casting and stone were further highlighted with a modern interpretation to enhance the blend of old vs. new.



Drawing inspiration from the literal meaning of ‘Baradari’ (building or pavilion with twelve doors), the design philosophy aimed to extend the museum and enhance the palace entrance, fostering a connection with the city. Emotionally, the design encouraged both tourists and locals to perceive the space anew. Restoring the existing buildings involved stripping away layers of paint and cement plaster to reveal the original rubble masonry, repaired using lime mortar and lime plaster detailing. A pivotal design intervention was the transformation of the courtyard into a central element, replacing an old structure with a contemporary Baradari or Pavilion. This visually opened up the space, dividing it into distinct zones while preserving its identity.

Reinterpreting traditional crafts such as Thikri work, bespoke casting, and stonework infused modernity into the design vocabulary. Marble, a quintessential material of Jaipur, was employed extensively for flooring, dado work (decorative treatment to cover the lower part of the wall), and furniture, blending historical influences with contemporary aesthetics. The Baradari-inspired Pavilion, housing the island bar, featured a fusion of metal, fluted marble, and mirrors, complementing the existing architecture. The design team maximized resources by incorporating salvaged furniture and reimagining upholstery patterns, resulting in a layered experience that redefined Jaipur’s culinary and cultural landscape. (<https://www.archdaily.com/903086/baradari-studio-lotus>)

Case Study 3: Victoria Jubilee Town Hall, Jaipur

The Victoria Jubilee Town Hall, constructed between 1901 and 1904 on a 670-square-meter plinth area, holds significant historical value. Initially built by the Rajah of Bobbili to commemorate the Golden Jubilee of Queen Victoria, it served as a venue for various activities. The ground floor housed the Vizagapatam Club for British officers and families, while the first floor was designated for the Municipal Council’s activities. Designed by British Military Engineers, the structure embodies British Colonial architecture with traditional local influences. Notable features include gable roofs, overhanging eaves, and galleries, reflecting the era’s architectural style. Over time, the building faced structural challenges, including Ficus growth, leading to damage in turrets and wooden shingles. Retrofitting works were undertaken to strengthen the structure, employing techniques like epoxy grouting and fiber-reinforced composites. Additionally, cosmetic repairs were made to preserve its heritage.

beauty. (Vidyullatha, Ravuri & Giduturi, Viswanadha & Geddam, Dileep, 2023).



Case Study 4: Municipal Office Building, Chennai (1933)

The Municipal Office Building holds historical significance as one of the earliest municipal structures from the British regime. It shares architectural similarities with the local Collector's Office building, showcasing British Colonial design with concrete and Rolled Steel Joists (RSJ) construction. Proposals for transforming the building have been considered to maintain its heritage status. Plans have been floated to remake the building while retaining its heritage status. The focus of the retrofitting works is on maintaining existing structures while correcting structural weaknesses. Located on the scenic Bay of Bengal, the building has a great view over Chennai. Retrofitting measures including epoxy injection and fitting with a new lightweight material roof have been carried out to extend its life. This not only maintains the integrity of a historical/cultural building but also makes it purposeful for modern needs. The project also aims to demonstrate how heritage buildings can be conserved and re-used in a contemporary context, promoting sustainable urban development through the adaptive reuse of existing building stock. Such transformations preserve the history and culture wielded by these buildings as well, allowing them to be functional props in a modernized world. In all, the transformation of a Municipal Office

Building into more contemporary lodging while conserving historical significance illustrates how adaptive reuse is possible and beneficial. There are many examples of how historical preservation can co-exist with modernization, and this is one such case (Vidyullatha, Ravuri & Giduturi, Viswanadha & Geddam, Dileep, 2023).

Various Other Cases

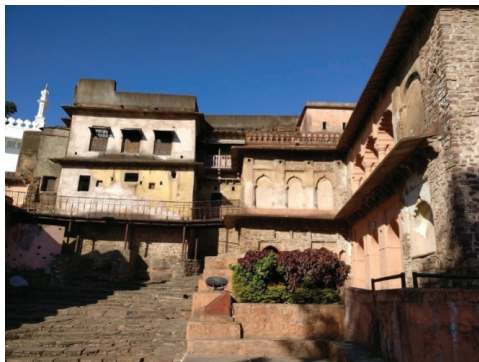
1. The Alembic Industrial Heritage development in Vadodara, which dates back 113 years, underwent a transformation in 2018 by Karan Grover and Associates. Originally purposed for penicillin manufacturing, the building now serves as a museum and art space. Despite various alterations, great care was taken to preserve its authentic character, retaining original materials, spatial qualities, and roof trusses.



2. Haveli Dharampura, situated in the historic Shahjahanabad area of Delhi, was constructed in 1887 in the Late Mughal architectural style. Initially designed for mixed-use, with commercial spaces on the ground floor and residences above, subsequent modifications in the 20th Century incorporated European influences. Following its restoration in 2011 by Mr. Vijay Goel and Siddhant Goel, the haveli now houses a Mughal-themed restaurant offering insights into traditional culture and hosting cultural performances on its rooftop.



3. The transformation of Gohar Mahal in Bhopal, built in 1820 by Qudisiya Begum, showcases the legacy of female rulers in the city. Managed by Madhya Pradesh Tourism, this heritage building has been converted into an exhibition space and museum. The project focuses on supporting local artisans and preserving artifacts from the Nawabi era. Gohar Mahal, a splendid example of Mughal and Hindu architecture, reflects the rich cultural history of Bhopal. The adaptive reuse of this structure not only preserves its architectural integrity but also provides a platform for promoting traditional crafts and cultural heritage. The building now serves as a vibrant cultural hub, hosting exhibitions, workshops, and events that attract both locals and tourists. The repurposing efforts ensure that Gohar Mahal remains a significant part of the community, contributing to the local economy and fostering cultural continuity. By transforming Gohar Mahal into a museum and exhibition space, Madhya Pradesh Tourism has successfully blended historical preservation with contemporary utility. This project highlights the importance of maintaining the original character of heritage buildings while adapting them for modern purposes, ensuring their relevance and sustainability for future generations.



4. Kandadu, a neglected mansion near Pondicherry, was revitalized by French couture embroiderer Jean Francois Lesage. The renovation involved structural reinforcement, replacement of damaged elements, and preservation of aesthetic features. Traditional craftsmen were employed, and the mansion now serves as a workspace, residence, and sanctuary for various animals.
5. Jai Vilas Palace, constructed in the 19th Century in Gwalior, combines European architectural styles with Indian sensibilities. While still serving as a residence for the descendants of the Scindia Dynasty, a significant portion has been transformed into the Jivajirao Scindia Museum, showcasing Gwalior’s culture and erstwhile royal lifestyle.
6. The Soro Village Pub in Goa repurposed a 1940s industrial warehouse, maintaining its original structure while adding contemporary elements such as graffiti and exposed wiring to create a unique ambience.
7. Originally an orphanage established during the 19th Century famine, the colonial bungalow that houses Cinnamon Boutique in Bengaluru underwent extensive restoration by Mathew and Ghosh architects. Today, it stands as a premier lifestyle boutique, blending vintage charm with modern aesthetics (<https://www.re-thinkingthefuture.com/rtf-fresh-perspectives/a1099-8-instances-of-adaptive-reuse-in-india/>).

Interviews

Table 3: Key Challenges Faced

This table provides overview of each participant’s role and the specific challenges they faced during the adaptive reuse process of historical structures.

| Participant Role | Key Challenges Faced |
|--------------------------|-----------------------------------------------------------------------------------------------------------|
| Architect | Ensuring structural integrity while modifying for modern functionality without compromising authenticity. |
| Interior Designer | Preserving original architectural features while accommodating contemporary needs. |
| Heritage Conservationist | Navigating regulatory requirements and obtaining approvals for alterations. |

| Participant Role | Key Challenges Faced |
|---------------------------------|----------------------------------------------------------------------------------------|
| Project Manager | Managing stakeholder expectations and competing priorities. |
| Historian | Limited availability of historical documentation and archival resources. |
| Building Code Consultant | Addressing accessibility and safety without detracting from historical authenticity. |
| Financial Analyst | Managing project budget and resource constraints while meeting design objectives. |
| Sustainability Consultant | Incorporating sustainable design principles to minimize environmental impact. |
| Structural Engineer | Navigating complexities of existing infrastructure while integrating modern amenities. |
| Community Engagement Specialist | Managing public perceptions and generating community support for the project. |

Table 4: Essential Principles or Considerations

This table presents the essential principles or considerations provided by participants in various roles regarding adaptive reuse interior design in historical buildings.

| Participant Role | Essential Principles or Considerations |
|--------------------------|------------------------------------------------------------------------------------------------------------|
| Architect | Respect for historical context, preservation of original features, and compatibility with modern needs. |
| Interior Designer | Integrating modern amenities while preserving historical integrity and ensuring functional enhancement. |
| Heritage Conservationist | Prioritizing historical preservation, maintaining authenticity, and adhering to conservation guidelines. |
| Project Manager | Balancing historical preservation with functional requirements and stakeholder expectations. |
| Historian | Understanding historical significance, documenting architectural heritage, and informing design decisions. |

| Participant Role | Essential Principles or Considerations |
|---------------------------------|------------------------------------------------------------------------------------------------------------|
| Building Code Consultant | Incorporating modern amenities while complying with building codes and regulations. |
| Financial Analyst | Optimizing resources and costs without compromising quality or integrity. |
| Sustainability Consultant | Integrating sustainable design principles to minimize environmental impact and ensure long-term viability. |
| Structural Engineer | Respecting original structures, materials, and layouts while integrating modern elements. |
| Community Engagement Specialist | Fostering community involvement and awareness of historical significance. |

Table 5: Approach to Integration of Modern Amenities

This table provides insights from participants in various roles regarding their approach to integrating modern amenities into historical buildings while maintaining their historical and architectural significance.

| Participant Role | Approach to Integration of Modern Amenities |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Architect | Employing a sensitive design approach to seamlessly integrate modern amenities while respecting the structure’s historical context. |
| Interior Designer | Balancing modern functionality with historical authenticity through careful selection of materials and design elements. |
| Heritage Conservationist | Integrating modern amenities discreetly to minimize visual impact and preserve the building’s original character. |
| Project Manager | Collaborating with architects and designers to ensure modern amenities enhance, rather than detract from, the structure’s historical and architectural significance. |
| Historian | Ensuring that modern amenities are compatible with the building’s historical fabric and do not compromise its authenticity. |
| Building Code Consultant | Adhering to building codes and regulations while creatively incorporating modern amenities to meet contemporary standards. |

| Participant Role | Approach to Integration of Modern Amenities |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Financial Analyst | Evaluating the cost implications of integrating modern amenities and identifying cost-effective solutions that align with historical preservation goals. |
| Sustainability Consultant | Integrating sustainable design practices into the integration of modern amenities to minimize environmental impact and enhance the project’s long-term sustainability. |
| Structural Engineer | Collaborating with architects to integrate modern amenities structurally, ensuring they complement the building’s historical structure without compromising its integrity. |
| Community Engagement Specialist | Engaging with the local community to understand their needs and preferences regarding the integration of modern amenities, fostering community support for the project. |

Table 6: Successful Strategies or Innovative Approaches

This table presents the successful strategies or innovative approaches provided by participants in various roles to engage stakeholders and the local community in the adaptive reuse of historical structures.

| Participant Role | Successful Strategies or Innovative Approaches |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Architect | Collaborative planning with stakeholders, leveraging their expertise to inform design decisions and build support for the project. |
| Interior Designer | Hosting design workshops and exhibitions within the community to gather feedback and generate excitement about the repurposing project. |
| Heritage Conservationist | Organizing heritage walks and guided tours to raise awareness about its historical significance and garner support from the local community. |
| Project Manager | Developing a transparent communication plan to ensure stakeholders remain informed and involved throughout the transformation process, fostering trust and collaboration. |
| Historian | Creating multimedia presentations and educational materials to share the fort/building’s history and significance with a wider audience, fostering appreciation and support for its preservation. |

| Participant Role | Successful Strategies or Innovative Approaches |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Building Code Consultant | Developing innovative solutions to address regulatory requirements while preserving the structure’s historical integrity, such as concealed wiring and plumbing systems. |
| Financial Analyst | Developing a transparent communication plan to ensure stakeholders remain informed and involved throughout the transformation process, fostering trust and collaboration. |
| Sustainability Consultant | Incorporating sustainable design features, such as energy-efficient lighting and water-saving fixtures, to demonstrate the project’s commitment to environmental stewardship and attract eco-conscious visitors. |
| Structural Engineer | Implementing creative structural solutions to accommodate modern amenities without compromising the existing structural integrity or historical fabric. |
| Community Engagement Specialist | Organizing community forums and focus groups to gather input from residents and stakeholders, ensuring their voices are heard and incorporated into the repurposing project. |

Thematic Analysis of Results

Based on the answers provided by participants regarding successful strategies or innovative approaches for engaging stakeholders and the local community in the repurposing of historical structures, we can extract several themes:

- **Collaborative Engagement:** Many participants emphasized the importance of collaborative engagement with stakeholders and the local community. This theme reflects the idea that involving various parties in the planning and decision-making process fosters a sense of ownership and ensures that diverse perspectives are considered.
- **Educational Outreach:** Several participants emphasized the importance of educational outreach initiatives, including heritage walks, guided tours, workshops, and multimedia presentations. These activities are designed to increase awareness of the buildings’ historical significance, inform the public about conservation efforts, and build support for the transformation project.

- **Transparent Communication:** Common themes were the importance of transparency and effective communication with stakeholders as well as other members of the community. The importance of keeping lines of communication open, providing frequent updates and soliciting feedback throughout the repurposing process was underscored by participants as a way to build trust and collaboration.
- **Innovative Solutions:** Participants also underscored the need for innovative solutions required to overcome such challenges in transformation projects. These include innovative design strategies, changes in financial structures, green designs and structural modifications that provide the contemporary requirements yet preserving its heritage character.
- **Community Participation:** Community participation emerged as a recurring theme, emphasizing the active involvement of residents and stakeholders in decision-making processes. Participants underscored the value of organizing community forums, focus groups, and interactive sessions to gather input, address concerns, and ensure that the repurposing project reflects the needs and aspirations of the local community.

Thematic analysis can help to identify the common themes that define success stories and innovative practices with regard to engaging stakeholders and local community in repurposing of heritage buildings. These themes underscore the necessity for overarching collective, inclusionary and transparent processes that foreground education, communication and community-influence in national development to bridge support across social strata for enabling endeavours such as transformation projects.

Discussion

The historical authenticity of transformation projects is just as important, and the original structure of built heritage must be preserved. As a result, heritage sites should maintain and tell their stories to be able to bridge history with the present. Such projects can sustain this cultural thread by keeping the real essence of these sites intact as a bridge between generations, making those places both secure for their heritage and liveable, in accordance with present-day requirements. The timeless nature of historical design, paired with the modern approach, forces a delicate push and pull between old and new. Above all, however, any modern add-on and structural

intervention should enable a thorough enjoyment of the building's historical significance without getting on top of it aesthetically. Nowhere else is that balance on better display than in the realm of interior design, where cutting-edge functionality must intertwine with stately historicism. For example, when converting Neemrana Fort Palace, the architects kept the original stone walls and archways but added discreet modern lighting and plumbing running through them. This tactic ensured that the fort maintained its historical feel while also allowing for modern-day accommodations. Same with the traditional Rajasthani frescoes and woodwork, paired with comfortable contemporary furnishings in each of Alsisar Haveli's rooms that appear to have retained their historic charm. Interior design here performs an important function of linking old and new elements in these projects. The homes are integrated with heating, cooling, and plumbing systems yet remain respectful of the historical architecture. Designers sought materials and finishes that would replicate the period aesthetic so as to seamlessly weave in new additions to co-exist with the old structure. This delicate balance maintains the historical integrity of the building while supporting modern functionality. Overall, the restoration of this structure in these projects not only serves as a way to keep history alive, but it does so while modernizing old-world properties into functional spaces. For these kinds of projects, interior design plays a vital role, as it is to build places that respect the past while at the same time making spaces functional where people can live today. This approach allows us to keep historical sites active, engaging parts of our communities that connect the past and present.

Conclusion

Repurposing of built heritage (innovation) while preserving its original structure is a complex task and a rewarding challenge. It demands a balanced response that respects its historical and cultural value and addresses to today's requirements of functionality while laying down the foundation for sustainable development. With meticulous planning and design, we can maintain these grand structures as they are for upcoming generations to appreciate them. This study is paramount to practices of interior design and prompts professionals in this field to explore the broader implications an intervention can have on heritage conservation and sustainability.

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