Exploring Sustainable Cultural Preservation: Strategies, Challenges, and Community Engagement in Heritage Conservation Efforts

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ABSTRACT

Purpose: This research aims to explore the multifaceted dimensions of sustainable cultural preservation, focusing on heritage conservation efforts, global practices and challenges, and the necessary factors and strategies for sustainability. **Method:** Employing a qualitative approach, 14 semi-structured interviews were conducted with cultural preservation experts, archaeologists, historians, and museum curators in Saudi Arabia. Thematic analysis was utilized to identify key themes and insights related to heritage conservation. **Findings:** The findings reveal significant strides in heritage conservation efforts, highlighting the crucial roles of governmental support, community involvement, and technological advancements. However, challenges such as financial constraints, political instability, and the need for a balanced approach between development and conservation were also identified. Moreover, the research emphasizes the importance of integrating community participation and modern technology into conservation practices to enhance sustainability. **Originality/Implications:** This study adds to the literature by explaining cultural preservation processes. It proposes inclusive and participatory strategies that involve local people and use current technology to preserve tangible and intangible heritage. The findings can help politicians, environmentalists, and cultural organisations create effective heritage conservation plans.

Keywords: Sustainable Preservation, Heritage Conservation, Community Engagement, Cultural Heritage, Technological Integration.

INTRODUCTION

Heritage conservation is an interdisciplinary sector interested in the protection, preservation, and promotion of cultural property within the confines of historical structures, monuments, traditions, and intangible heritage (Costantino et al., 2024). Its primary goal is to preserve cultural character in societies across generations through continuity between the past, the present, and the future (Niković et al., 2024). Over time, the definition of heritage has also shifted from being only about tangible resources such as architectural and archaeological sites (Bahho et al., 2024). Intangible aspects of culture such as language and practice in arts and other customs are now considered part of the heritage concerned (Khadijah et al., 2024). With this boom in modernization and urbanization, more concern is generated to protect heritage because cultural landmarks and traditional practices are both being threatened by development as well as by neglect (Klingmann, 2021). Heritage conservation is currently in motion in the global sphere as governments, NGOs, and international bodies, such as UNESCO, try to salvage cultural assets for future generations. The discipline of heritage conservation involves several disciplines, including archaeology, anthropology, architecture, and cultural studies (Yang et al., 2024). It finds its anchor in the notion that cultural heritage is an essential part of national and social identification, which gives people a sense of belonging and continuity within a very fast-changing world (Badawy & Shehata, 2018). Part of the underlying concepts of cultural heritage is the knowledge that destruction or neglect of cultural heritage results in loss of social values, knowledge, and traditions .

As a result, there have been many frameworks and policies developed both at the local, national, and international levels all towards heritage places and cultural practices (Ye, 2024). These range from repairing historical sites to the conservation of endangered languages and knowledge systems (Sabarirajan et al., 2024). Therefore, heritage conservation has opened up more and more in the last decades to technical innovations, such as 3D scanning, digital archiving, and virtual reality, in order to catalogue and conserve cultural assets (Taseer, 2024). These technologies have enabled very accurate reproduction and conservation of heritage sites, even when it may not be feasible to carry out any sort of physical restoration (Vinodan & Meera, 2024). However, despite all these improvements, the profession is still facing huge difficulties. Economic constraints, political instability, and urban development are other threats to the viability of cultural conservation efforts in many countries (Ekici et al., 2024). Based on this reason, the writers and practitioners have reflected on the need for integrated approaches at the community-based level in order to conserve not only material assets but also to ensure the active involvement of local residents in activities that lead to conservation (Chase et al., 2024). Empirical studies on heritage conservation have examined various factors that contribute to the success and failure of conservation programs. Researches indicate that governmental support is one of the most prominent considerations in ensuring successful, long-term cultural conservation (Lucchi et al., 2024).

For example, Del Soldato and Massari (2024) demonstrates that nations with strong legislation structures and governmental financial boosts are best suited to protecting their cultural assets. This is most evident in regions such as Europe, where official policies make culture a very integral aspect of national identity (Naiem & Ali, 2023). On the other hand, in a nation that is facing some economic or political turmoil, its governments are usually unable to identify sources of funds for conservation, resulting in the loss of irreplaceable cultural heritage (Mohammed, 2018). Because of this fact, international cooperation as well as financing through different organizations such as UNESCO was put forward to be established to conserve such areas. The involvement of local communities has also become one of the primary concerns of empirical study (Aljamea, 2018). It has been showed that the involvement of local communities in conservation is necessary for the legitimacy and sustainability of activities. The Labadi et al. (2021) shows that top-down systems undertaken by outsiders would work poorly compared to community-based approaches where local players involve themselves in decision-making and implementation. This is because the local people normally carry out their traditional knowledge and practices, which are important in conserving intangible cultural assets, like oral traditions, rituals, and handicraft (Tk, 2023). Additionally, active participation of the local people is essential in ensuring ownership and responsibility of heritage assets, thus sustainable care of heritage assets (Liu et al., 2023). Technological advancement has also been approached profoundly in the empirical world as big tools in the modern approach to heritage conservation. Digital technology, like 3D modeling and GIS, also changed the way cultural assets were documented and repaired (Yahya et al., 2021).

As Lucchi (2023) highlighted that the use of digital tools provides an opportunity to digital record heritage places with correct accuracy, thus allowing total restoration processes even after physical destruction occurs. The digital archives can then be used as a storage for intangible cultural assets, such as traditional music, languages, and rituals, making them easily accessed in the future (Mattone & Frullo, 2023). Yet, while substantial benefits are accrued from technology, scholars have observed that there are financial and technical limitations that restrict its spread, especially among the poor regions (Li et al., 2023). In fact, studies on global conservation issues underscored cooperation among the international group. Indeed, the researches of Pintossi et al. (2023) showed that most countries, especially low-resource regions around the world, depend on other international organizations such as UNESCO in terms of funding and as a source of gaining quality expertise (Paschalidou et al., 2022). These institutions mainly play a role in identification and conservation of heritage assets through activities like the World Heritage List. Detractors argue that international involvement usually involves a form of implantation of foreign conservation norms that do not align with the practiced norms and demands at the local level (Lombardo et al., 2023). Hence, from the experts' point of view, there is a call to be a bit more trenchant but considerate of the culture differences at each site, yet not to be unmindful of the global conservation ideals at the same time (Ali et al., 2018). Although lots of empirical research has resulted in magnificent steps to delve into some crucial characterizations linked with successful heritage protection, many critical gaps remain unraveled. One of the significant omissions is in terms of deep studies on integrating intangible heritage into larger conservation frameworks (Throsby & Petetskaya, 2021). Although community involvement in heritage conservation is gaining importance, empirical studies on how to integrate local knowledge systems into official forms of conservation strategies have been deficient (Li & Zhong, 2022).

Community participation is important, but few research have explored how local knowledge may be systematically incorporated into frameworks of conservation (Hasan et al., 2022). It is of particular importance to the regions where indigenous knowledge administers tangible and intangible cultural property. As put by Heritage, this concept sees heritage conservation as a dynamic process that must change with social settings that evolve (Roque, 2022). The aim of this research will thus be understanding what elements and techniques are required for sustainable heritage protection, especially in the context of urbanization and globalization. Other major theories include the "social value" concept, which "heritage sites are of historical, cultural, and social and emotional value to their communities." according to (Trček, 2022). As per this concept, local communities are considered the best conservers and must take the lead in conservation processes. The current study is based on this theoretical understanding and employs the same to check how community involvement may be incorporated into formal conservation techniques for intangible and tangible cultural resources. This study feeds into the body of literature that espouses bottom-up approaches to heritage conservation, which are community-led and encouraged.

Research Questions
1. What are the key factors driving heritage conservation in Saudi Arabia?
2. How can international best practices in heritage conservation be adapted to the Saudi context?
3. What factors ensure the sustainable preservation of cultural heritage in the Kingdom?

LITERATURE REVIEW
With globalization threatening not only opportunities but traditional cultures themselves to a certain extent, sustainable cultural preservation has become notably relevant today (Zhou et al., 2022). After all, according to scholars, cultural heritage in many ways goes beyond its reflection on history and communities' identities and represents an asset that could contribute to sustainable development (Costantino et al., 2024). It balances protection over cultural practices, artifacts, and sites with the need for what sustains the culture with the influence of modernization and economic development (Bahho et al., 2024). The more societies modernize, it creates a need to incorporate how cultural preservation can be part of their development plans in such a way that proper development remains contingent on not exploiting or erasing cultural identity (Klingmann, 2021). Sustainable cultural preservation goes beyond the physical heritage to include the intangible aspects, which may comprise elements of language, rituals, and social practices in which the human being's pursuits still considerably focus on the cultural identity (Yang et al., 2024). The approach is holistic, and here it aims to cultivate an environment in which culture does not stand still but evolves in a harmonious way, respecting its origins as it adjusts to the

present realities of life (Ye, 2024).

Sustainability in the context of culture preservation should consider new approaches that help on ensuring the involvement of the communities in the preservation process (Taseer, 2024). In this regard, sustainability takes on the social, environmental, and economic dimensions (Ekici et al., 2024). Socially, it involves creating awareness and participation of local communities in a way that makes the preservation approach not top-down: from governments or international agencies (Lucchi et al., 2024). Environmentally, it recognizes the interdependence between cultural heritage and the natural surroundings, making a plea for the protection of the landscapes and the ecosystems that have shaped the cultural practices (Naiem & Ali, 2023). Economically, sustainable cultural preservation fosters the possibilities of cultural heritage fueling development through heritage tourism or craft production on the local level without exploiting or commodifying the culture (Aljamea, 2018). Successful preservation efforts thus employ new technologies and innovative governance models to ensure that the precious items of a country's culture are passed down to the next generation with the minimum amount of dynamism and change inherent in cultural evolution (Tk, 2023).

Heritage Conservation Efforts
Heritage preservation has been one of the prime concerns of many nations and, indeed, a multicontextual imperative for sustaining cultural as well as historical properties for posterity (Yahya et al., 2021). Empirical studies indicate the variability of measures employed in the preservation of the physical and intangible cultural heritage (Li et al., 2023). Research further indicates that several heritage preservation measures depend on national interests and identity and are often vested in the hands of the government, especially in the two areas of financing and legislation (Lombardo et al., 2023). An example is a study carried out in the European context which indicated that government interventions in heritage sites increased tourism activities while building local pride, thus giving double benefits to economic development and cultural sustainability (Paschalidou et al., 2022). In other words, for other areas, like the Middle East, empirical evidence suggests that attempts at conserving such projects are highly dependent on its religious and historical significance, such as with projects mainly being focused on old architectures and artifacts, such as efforts in the restoration of the Al-Haramain railway in Saudi Arabia (Throsby & Petetskaya, 2021). In all these cases, heritage conservation is also being seen as something that contributes to the development of people's feelings of belonging and continuity within communities, as well as national branding and cultural diplomacy, that they can use (Hasan et al., 2022).

Actually, relationship development in heritage conservation is strengthened through empirical evidence that shows that well-maintained heritage sites bring about broader economic and social benefits (Trček, 2022). It has been observed through research that public participation in heritage conservation projects generally fosters greater community attachment to cultural resources, and therefore breeds more community stewardship (Niković et al., 2024). For example, the Latin American preservation efforts focused attention on the inclusiveness of indigenous peoples whose indigenous wisdom helps in authentic preservation practices (Khadijah et al., 2024). The building of relationships between governments, local communities, and heritage sites is crucial to institutional and social development that would facilitate the sustainability of conservation work (Mohamed, 2024). Such initiatives create employment in local economies and are, at the same time, efforts to educate with programs that are supposed to foster the intergenerational transmission of cultural values in regions involved in high-speed modernization (Badawy & Shehata, 2018).

Practices and Challenges in Heritage Conservation Globally
Heritage conservation practices are significantly different from one another around the globe as they reflect different cultural, environment, and political landscapes under which they are being adopted (Sabarirajan et al., 2024). For instance, European and North American heritage is more concerned with the conservation of old buildings and urban heritages through instruments such as the Venice Charter and UNESCO's World Heritage (Vinodan & Meera, 2024). In countries in Africa and Asia, among the problems cited include environmental degradation, war, and fiscal constraints; hence, conservation seems like a hard nut to crack (Chase et al., 2024). The findings of these empirical studies from India and Nepal also point to the challenges of cultural heritage preservation in fast urbanizing environments that pose demands on traditional conservation techniques for modern infrastructure

(Del Soldato & Massari, 2024). A second challenge is digitization, which, given technological offers regarding documentation and preservation possibilities, requires cumbersome financial and technical infrastructures (Mohammed, 2018). Global practices have therefore advanced to a blending of traditional methodologies and modern technology for the purpose of addressing both the tangible and the intangible aspects of cultural heritage (Labadi et al., 2021).

Typically, empirical support and knowledge sharing among countries play a role in the development of a relationship between global conservation practices and heritage sites (Liu et al., 2023). For example, international cooperation in the protection of heritage, such as in the rehabilitation of Syria's war-torn heritage, reveals that global networks are absolutely essential to help overcome such challenges (Lucchi, 2023). At the empirical level, it has been found that when countries cooperate on heritage protection programs, knowledge flow occurring from the collaboration improves ability to handle both practical and ideological challenges (Pintossi et al., 2023). Cross-border initiatives, including those led by UNESCO, were able to mobilize resources, strengthen skills, and promote international awareness of cultural heritage's importance (Mattone & Frullo, 2023). The empirical success of these partnerships demonstrates the role global solidarity plays in surmounting challenges associated with heritage preservation, especially in countries without a financial or technical capability for sustainable preservation (Ali et al., 2018).

Factors and Strategies Necessary for Sustainable Heritage Conservation

Sustainability is affected by a multitude of factors and approaches in various regions as they grapple with the cultural and natural environments (Li & Zhong, 2022). Some of these important factors, as revealed by empirical studies, include availability of funding, participation of the community, policy issues by the government, and the adoption of modern technology (Roque, 2022). A study in Southeast Asia demonstrated the importance of including local peoples in decision-making processes in heritage conservation projects: it is much more sustainable for this reason because it generates a sense of ownership and responsibility (Zhou et al., 2022). Other aspects may include financial sustainability, which is often supported by tourism revenues or government subsidies, since sustaining conservation efforts over the long term is also very important (Niković et al., 2024). In addition, the uptake of the new technology, including 3D scanning for documentation and virtual reality for education, aids to significantly expand the potential of conserving intangible heritage sites, even in geographically inaccessible locations or under threat from possible natural disasters (Khadijah et al., 2024).

Empirical evidence, drawing on experience and observation, is often referred to when forming relationships that support sustainable heritage conservation since often, it attempts to concentrate people's plans and actions through linking to a strategic plan with stakeholder collaboration (Mohamed, 2024). The review comments that partnering with the government, NGOs, and private sector organizations enhances the possibility of sustainability in the long term (Badawy & Shehata, 2018). For example, public-private partnerships are majorly employed in the country of France towards historic site preservation by splitting the cost and operational responsibility (Sabarirajan et al., 2024). More specifically, empirical studies from Latin American countries prove the benefits of cultural tourism integrated into conservation to ensure that the economic benefits derived from tourism are reinvested into conservation efforts (Vinodan & Meera, 2024). Sustainability is reached through developing strategic relationships among all stakeholders (Chase et al., 2024). This helps reinforce sustainability as educational programs raise the awareness of heritage preservation among the younger generations, so that they are not only preserved but also adapted according to the challenges of future times (Del Soldato & Massari, 2024).

METHODOLOGY

The qualitative approach was used to investigate the sustainable cultural preservation in Saudi Arabia. The research was based on a number of 14 in-depth interviews. The interviews were carried out in various local settings spread all over the country in Saudi Arabia. Thus, they would give a broad understanding of the national context within which sustainable cultural preservation efforts take place. The semi-structured interview format would grant the flexibility of the conversation, ensuring that participants have their say while still being able to adequately address the specific research themes. The interview sessions lasted between 60 and 90 minutes, and were audio recorded after the participants' consent for later analysis.

Table 1: Interview Guideline Table.

Variable	Interview Questions
Cultural Preservation Practices	1. Can you describe the key practices currently used for cultural preservation in Saudi Arabia?
	2. What challenges are associated with these preservation practices?
	3. How do you integrate modern technology into cultural preservation efforts?
Sustainability in Preservation	1. In your view, what defines "sustainable" cultural preservation?
	2. How can cultural preservation efforts be aligned with sustainability goals in the Saudi context?
	3. What role does the local community play in sustainable preservation practices?
Role of Government and Policy	1. How do government policies support or hinder sustainable cultural preservation efforts?
	2. Can you provide examples of successful policy interventions in this area?
	3. What changes in policy would enhance the sustainability of cultural preservation?
Economic Impacts	1. How does cultural preservation contribute to the local economy, particularly through tourism and cultural industries?
	2. What are the risks of commodifying culture for economic gain?
	3. How can economic benefits from cultural preservation be made sustainable?
Technological Integration	1. What technologies are currently being utilized for cultural preservation in Saudi Arabia?
	2. How has technology helped or hindered efforts to maintain cultural heritage?
	3. What technological innovations could further support sustainable preservation?
Community Involvement	1. What role do local communities play in cultural preservation?
	2. How do you engage with communities to ensure their involvement in the preservation process?
	3. What challenges have you faced in involving communities in sustainable preservation efforts?
Future Directions	1. What do you see as the future of cultural preservation in Saudi Arabia?
	2. How can preservation efforts evolve to adapt to changing societal and environmental conditions?
	3. What long-term strategies should be prioritized to ensure cultural heritage remains preserved for future generations?

Qualitative data were analyzed by the coding analysis method. After transcribing the interviews, a three-step coding process was performed, which involved identification, categorizing, and interpreting key emergent themes arising from the interviews. Initial Open Coding The data was first split into meaningful segments using open coding. It included the perceptions of stakeholders on cultural preservation and its sustainability. Axial Coding On conducting axial coding, it brought to light relationships between the codes, such as underlying patterns and interlinkages between the different dimensions of sustainable cultural preservation. Selective Coding Finally, selective coding was performed to come up with core categories and also to align them with the overall research questions. This in-depth coding process facilitated a broad conceptual framework that underscores important factors in the perpetuation of sustainably preservable cultural heritage in Saudi Arabia. The analysis was facilitated by NVivo software, helping organize and visualize themes in order to have a holistic approach in the interpretation of data.

RESULTS AND FINDINGS
The findings of this research are presented below in sections:

Heritage Conservation Efforts
Analysis of interviews carried out with cultural preservation experts, archaeologists, historians, and curators of museums revealed the basic understanding of the current situation in Saudi Arabia regarding the efforts directed towards heritage conservation. There was unanimous consent among the participants that heritage conservation forms a dimension of national identity of the country, which reflects the richness of its culture and legacy. However, the conservation efforts are in a state of evolution from traditional preservation practices to more integrated and sustainable models that incorporate modern technologies and community engagement. This is mainly led by government-led initiatives such as Saudi Vision 2030 for diversifying the economy and creating cultural tourism. The participants appreciated that much had been done in the preservation of intangible heritage, like historical sites and monuments, but expressed a great deal of worry over the preservation of intangible cultural heritage, like oral traditions and local customs, at higher risk of being lost in the face of modernisation. A good number of themes that emerged from the interviews revolved around government policies and investments to encourage the preservation efforts. Interviewees recognized that the governmental support has picked up in the recent past, and projects have become more systematic and well-funded. However, there is still the issue of sustaining such efforts and not just viewing them as short-term stopgap solutions to boost economic growth, this time through tourism promotion. The findings also emphasized the role of local communities in conservation efforts. In fact,

several commentators opine that without community participation, sustainable heritage conservation is simply impossible because the custodians of their cultural practices and traditions reside within them. This idea falls in line with global trends towards community-driven heritage conservation for the sustainability and inclusiveness of this approach.
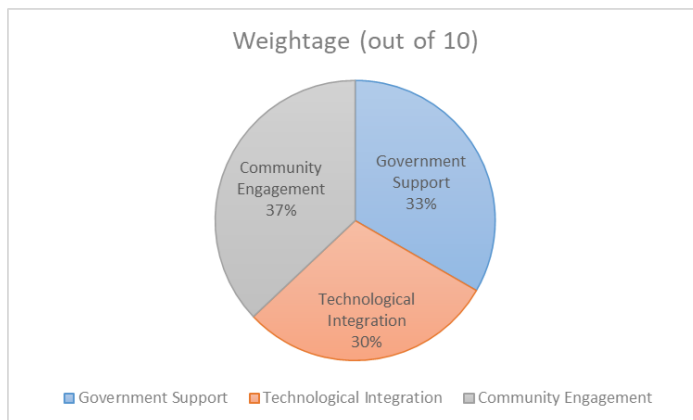

Figure 1: Heritage Conservation Efforts.

One of the museum curators (Interviewee 5) highlighted the growing importance of integrating modern technology into heritage conservation:

"In the past, we relied heavily on manual restoration techniques, but now we are increasingly using digital tools to document and preserve heritage sites. This shift is not only making the process more efficient but also allowing us to reach a broader audience through virtual platforms."

This quotation underscores the transformative impact of technology on heritage conservation efforts in Saudi Arabia. The curator's emphasis on efficiency and broader outreach aligns with the global trend of using digital solutions to enhance accessibility and engagement in heritage preservation. The incorporation of technology, such as 3D scanning and virtual reality, allows for more precise documentation and restoration, particularly in cases where physical access to the heritage sites is limited or challenging. Additionally, digital platforms offer new opportunities for educating the public about Saudi Arabia's rich cultural heritage, ensuring that younger generations are more connected to these efforts.

Another interviewee, a cultural preservation expert (Interviewee 9), discussed the need for more community involvement:

"While we have made significant progress in conserving historical landmarks, we are still struggling to engage the local communities. Many of the traditional practices, especially in rural areas, are not documented properly, and without local participation, we risk losing these intangible aspects of our heritage."

Saudi Arabia's heritage conservation efforts face a major challenge: intangible cultural assets. The expert's concern underlines the need to balance concrete and intangible cultural preservation. Despite efforts in rehabilitating historical structures and monuments, oral traditions, folklore, and ordinary cultural activities may be overlooked. This emphasises the need for historical conservation that actively incorporates local people. By doing so, the practices are preserved and remain dynamic and functioning in the local environment, not museum artefacts. This study supports previous empirical studies on historic conservation, particularly those emphasising government and community involvement. Mohammed (2018) found that government-driven historic conservation projects with local community engagement are more successful than top-down interventions. This reinforces interviewees' opinions that residents should be involved in conservation to preserve tangible and intangible heritage. Labadi et al. (2021) found that European heritage conservation has increasingly relied on digital technologies to document and preserve cultural heritage, a trend that is now being mirrored in Saudi Arabia where digital tools and platforms are being used in conservation

efforts. The interviewees' concerns about intangible heritage are similar with Liu et al. (2023), who stated that oral traditions and social practices are more vulnerable to modernisation and globalisation. This supports respondents' claim that Saudi Arabia must do more to conserve its monuments, historical places, and living cultural practices that shape its people's lives. Thus, this analysis confirms global heritage conservation trends that while physical heritage preservation has improved, community inclusion and intangible heritage protection still need development.

Table 2: Heritage Conservation Efforts.

Code	Sub-Code	Description	Example Quotations
Government Support	Policy Frameworks	Policies and regulations that guide heritage conservation efforts.	"Government initiatives are critical…" (Interviewee 4)
	Funding	Financial resources allocated for heritage conservation projects.	"Funding is the lifeline for our projects." (Interviewee 2)
Technological Integration	Digital Tools	Use of technology in documenting and preserving heritage sites.	"3D scanning has transformed our approach." (Interviewee 9)
	Innovative Practices	New methods and technologies adopted in conservation practices.	"We are now using VR to engage the public." (Interviewee 10)
Community Engagement	Local Participation	Involvement of local communities in conservation efforts.	"Community ownership is essential." (Interviewee 7)
	Educational Programs	Programs designed to educate the public about the importance of heritage conservation.	"Education fosters a culture of conservation." (Interviewee 1)

Practices and Challenges in Heritage Conservation Globally

Several themes emerged from conversations about global heritage conservation techniques and difficulties. Participants highlighted that heritage conservation projects worldwide restore physical sites, document cultural assets, and include local communities. Insufficient finance, political instability, and public awareness often hinder these attempts. While Saudi Arabia has made progress in conserving cultural history, several interviewees noted that the government still struggles to match global best practices with local situations. Modernization-preservation conflict was a key concern. As countries like Saudi Arabia rapidly build their urban and commercial infrastructure, heritage sites and cultural practices may be overshadowed or destroyed. Participants also noted regional differences in government and institutional support for cultural conservation. Many European and Asian nations have substantial government support and policies to conserve cultural assets (Prado, 2023). In contrast, countries in political or economic crisis often neglect heritage conservation, causing cultural assets to deteriorate or disappear. Interviewees acknowledged this regional inequality and said international cooperation and financing could close it. Technology in heritage conservation was another major issue. Technology is increasingly used to restore, document, and promote cultural heritage worldwide. However, exorbitant costs and technical skills prevent many developing nations, particularly areas of the Middle East and Africa, from deploying such technologies.
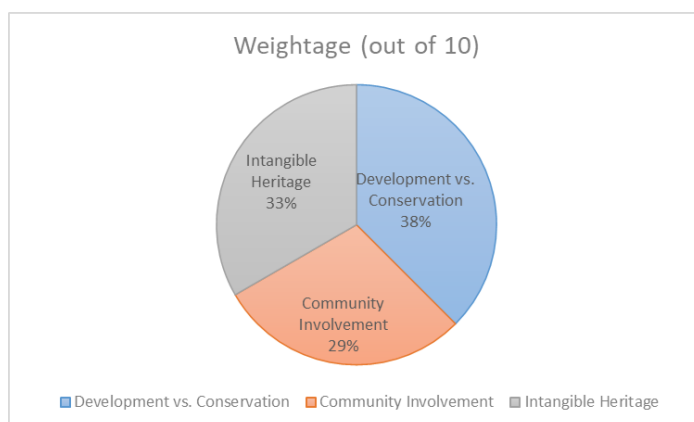

Figure 2: Practices and Challenges in Heritage Conservation Globally.

One of the archaeologists (Interviewee 3) reflected on the challenges of heritage conservation in rapidly modernizing environments:

"In countries like Saudi Arabia, the pace of modernization is so fast that it often comes at the cost of preserving historical sites. The government is keen to develop new infrastructure, but this sometimes leads to the destruction or neglect of ancient sites that are equally important for our cultural identity."

This quotation highlights the central tension between modernization and heritage preservation, a challenge that is not unique to Saudi Arabia but prevalent in many rapidly developing nations. The archaeologist's concerns reflect the global pattern of prioritizing economic and urban development over heritage conservation. This issue is particularly pressing in cities that are expanding quickly, where valuable heritage sites are either demolished to make way for new developments or left to deteriorate due to a lack of attention. The rapid pace of urbanization often leads to decisions that favor short-term economic gains over the long-term benefits of preserving cultural identity, which is vital for social cohesion and historical continuity.

A museum curator (Interviewee 11) discussed the financial and political challenges in heritage conservation:

"In many parts of the world, especially in countries dealing with political instability, heritage conservation is simply not a priority. There's no funding, and without government support, it's difficult to maintain or restore cultural sites. We rely heavily on international organizations, but even that is not always enough."

This comment highlights the financial and political challenges to historical protection, especially in unstable countries. The curator's sentiments echo global issues where governments prioritise defence or infrastructure before cultural treasures. Cultural history is lost when heritage places are neglected without financing and political will. UNESCO and other international organisations are crucial to heritage protection in underfunded or politically fragile locations. The interviewee remarked that foreign support is sometimes insufficient, indicating the need for stronger, sustainable funding structures and increased national political commitment.

Previous empirical investigations on global heritage conservation practices corroborate this research. Lucchi (2023) noted the contradiction between modernisation and preservation in fast developing regions. They showed that modernisation often displaces historical and cultural sites, especially in metropolitan areas, despite its economic benefits. Interviewee 3 noted that Saudi Arabia's modernisation efforts, while good to the economy, often threaten heritage sites. In addition, Pintossi et al. (2023) discovered that integrating cultural preservation into urban planning frameworks might alleviate the negative effects of modernisation, but this requires political commitment, which many nations lack. Interviewee 11's financial and political concerns match Mattone and Frullo (2023)'s conclusions that heritage conservation funding is problematic in nations with political or economic instability. Labadi found that heritage sites are neglected in many locations because they are considered less important than other challenges. Several studies have recognised the strength and weakness of relying on international organisations like UNESCO. These organisations provide vital resources and technical skills, but financial and political issues in host nations limit their work. This echoes interviewees' complaints about external support lacking local support. Ali et al. (2018) called technology a double-edged sword in heritage conservation. It provides novel site documentation and preservation solutions. However, expensive costs and specialised knowledge can limit its use, especially in underdeveloped nations. This supports the interviews' findings that technology has potential but faces financial and technical constraints that prevent its broad application in historic protection.

Table 3: Practices and Challenges in Heritage Conservation Globally.

Code	Sub-Code	Description	Example Quotations
Development vs. Conservation	Urban Development	Tension between urban growth and heritage preservation efforts.	"Development often overshadows conservation." (Interviewee 3)
	Policy Conflicts	Conflicts arising from competing interests between conservation policies and development goals.	"We face significant opposition from developers." (Interviewee 8)
Community Involvement	Stakeholder Engagement	The importance of including various stakeholders in the conservation process.	"Top-down approaches often fail." (Interviewee 7)
	Resistance from Locals	Local communities resisting external conservation efforts that do not involve them.	"Local input is often ignored." (Interviewee 5)
Intangible Heritage	Cultural Practices	Challenges in preserving intangible aspects of heritage, like traditions and languages.	"Intangible heritage is more vulnerable." (Interviewee 12)
	Globalization Impact	The effect of globalization on local cultures and practices.	"Globalization erodes our traditional practices." (Interviewee 6)

Factors and Strategies Necessary for Sustainable Heritage Conservation

Interviews with cultural preservation professionals, archaeologists, historians, and museum curators showed numerous key aspects and solutions for sustainable heritage protection, notably in Saudi Arabia. All participants agreed that historical conservation activities must be sustained by financial resources, government policy, community involvement, and current technology. Despite Saudi Arabia's progress in maintaining its historical sites, several experts said long-term sustainability is still an issue. Without sustained funding and political support, conservation efforts risk becoming short-term tourism projects rather than cultural preservation. According to the experts, sustainable heritage conservation needs local people to actively participate in the preservation of numerous intangible cultural practices that could otherwise be forgotten. The interviews also highlighted the importance of education and awareness-raising in sustainable heritage protection. Participants said educating younger generations about cultural preservation is crucial for long-term success. Youth in Saudi Arabia are often alienated from their cultural and historical roots due to growing urbanisation. The respondents stressed the necessity for initiatives that teach heritage site history and involve the public in preservation. Modern technologies like 3D scanning, virtual reality, and record digitisation were intended to bridge the gap between old conservation procedures and modern needs. Participants warned that these technologies' high costs remain a barrier for smaller, community-driven conservation efforts.
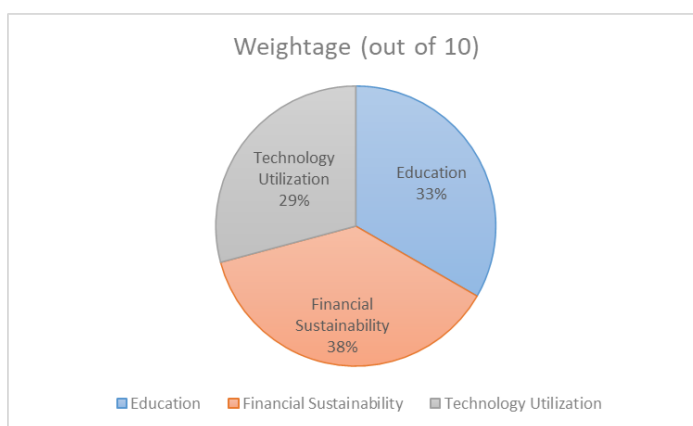

Figure 3: Factors and Strategies Necessary for Sustainable Heritage Conservation.

One of the cultural preservation experts (Interviewee 7) highlighted the importance of government support in ensuring sustainability:

"Sustainable heritage conservation is impossible without strong government backing. While we have seen an increase in governmental initiatives, there is still a need for more long-term funding and policy frameworks that prioritize cultural preservation over short-term economic gains."

This quotation underscores the central role that government plays in heritage conservation, particularly when it comes to providing financial and legislative support. The expert's concern about the prioritization of economic gains over cultural preservation reflects a broader issue in heritage conservation, where short-term tourism or urban development projects often overshadow long-term cultural sustainability. The interviewee's emphasis on long-term policy frameworks suggests that the success of heritage conservation efforts depends not only on isolated projects but also on strategic, government-led plans that ensure continuity and protection of cultural assets over generations.

A museum curator (Interviewee 12) discussed the role of community involvement in sustainable heritage conservation:

"Without the participation of local communities, heritage conservation becomes a top-down approach that lacks authenticity. The communities hold the key to preserving intangible cultural heritage, such as traditions, languages, and social practices, which are just as important as the physical sites we work to restore."

Communities are essential to heritage conservation sustainability. The curator emphasises intangible cultural assets

since preservation includes cultural behaviours, beliefs, and traditions as well as physical repair. In Saudi Arabia, many rural populations still follow traditional lifestyles that are being undermined by modernisation. The interviewee's emphasis on authenticity suggests that sustainable conservation requires not only the restoration of historical sites but also the active participation of those closest to these cultural traditions to keep them alive rather than in museums.

This study confirms previous findings on sustainable heritage conservation variables and solutions. The literature has extensively discussed government support. Past research (Li & Zhong, 2022; Roque, 2022) found that successful heritage protection requires strong government policy and long-term funding. Harrison found that clear, consistent policy frameworks, like the UK and Italy, have helped historic conservation persist. Without strong government backing and constant funding, conservation efforts risk becoming transient enterprises motivated by short-term economic motivations rather than long-term cultural preservation goals, according to Interviewee 7. Heritage conservation literature often emphasises community involvement (De Molina, 2022). Roque (2022) claimed that heritage protection without local participation lacks authenticity and sustainability. Smith found that communities preserve folklore, traditional knowledge, and rituals as well as material assets. This validates Interviewee 12's claim that local communities are crucial to maintaining intangible heritage. According to Zhou et al. (2022), intangible heritage is more susceptible to loss than physical structures and requires more conservation effort. This supports the idea that sustainable heritage conservation must address cultural practices and traditions that characterise communities as well as physical sites. Finally, studies like Tk (2023) found that while 3D scanning and digitisation offer new conservation possibilities, their high costs can limit them, especially in poorer regions. Many participants in this study emphasised that while technology is vital for current conservation efforts, budgetary hurdles preclude its broad implementation in smaller, community-driven projects. As a result, these projects generally use traditional approaches, which may be beneficial but not enough to address rising urbanisation and modernisation.

Table 4: Factors and Strategies Necessary for Sustainable Heritage Conservation.

Code	Sub-Code	Description	Example Quotations
Education	Awareness Campaigns	Initiatives aimed at raising public awareness about the significance of heritage conservation.	"Awareness is key for sustainable practices." (Interviewee 1)
	Curriculum Development	Incorporating heritage conservation into educational curricula.	"We need to start teaching about heritage in schools." (Interviewee 11)
Financial Sustainability	Funding Models	Innovative financial models to ensure long-term funding for conservation projects.	"Public-private partnerships could be the answer." (Interviewee 2)
	Grant Opportunities	Availability and accessibility of grants for conservation projects.	"Grants are essential for our survival." (Interviewee 4)
Technology Utilization	Digital Documentation	The use of digital tools for the documentation of heritage sites.	"Digital tools are game changers." (Interviewee 10)
	Virtual Engagement	Engaging wider audiences through technology and online platforms.	"Technology helps us reach a broader audience." (Interviewee 8)

DISCUSSION

Heritage preservation long has been considered a significant conservation feature of cultural identity and historical legacy. In the face of even greater tempos of modernization through urbanization, technological advancements, and globalization, conserving heritage for future generations is more critical than ever. Heritage conservation research has explored efforts from various angles: making efforts, globally practiced examples, and challenges facing the process, along with various factors and strategies that would sustain heritage. The critical themes highlighted in this research will hence cast a light on the matter, giving it a multi-dimensional profile that would not only highlight the tangible aspects of historical preservation but also the intangible cultural elements that make up societies. The study aims to elucidate and discuss in depth the intricate interplay between governmental policies, community involvement, and technological advancements related to heritage conservation based on in-depth interviews with individuals involved in the event across the various disciplines involved, which include archaeology, history, and curation for the museums. This chapter draws up the findings from these interviews against the backdrop of previous research and theoretical frameworks to set up a full discussion over key themes.

Outcomes of this research form the basis of salient developments in heritage conservation practices particularly those regarding policy development, technological integration and community engagement. Generally from the interviews, support from government and international cooperation in promoting successful conservation activities

emerges as critical to the success of any project, so say all the interviewees. Indeed, one interviewee highlighted that "Government initiatives are critical in ensuring the survival of heritage sites" (Interviewee 4). Without such funding and legislative impetus, many cultural assets would be lost to the passage of time or pressures of development. Therefore, past research resonates with this insight in that it underscores the role of national and international bodies, such as UNESCO, in laying down frameworks to support heritage conservation (Yahya et al., 2021). However, the evaluation findings are that policies and frameworks exist but implementation is lacking mainly due to fiscal reasons and competing political urgencies. This is a conclusion supported by Del Soldato and Massari (2024), whose argument is that conservation efforts are successful only when policies exist but resources are available for their proper implementation. Moreover, respondents have indicated technological advancements that have advanced the cause of both intangible and tangible heritage by digital archiving and restoration. In this regard, Interviewee 9 summarized as follows: "The use of 3D scanning and virtual reality has changed the way we approach conservation and allows us to record and conserve heritage sites in ways that would never have been possible." This conclusion resonates with work by Li et al. (2023) where technology is highlighted to revolutionize heritage conservation through precision documentation and restoration methods. The study further showed that the adoption of these technologies is, however, uneven, making it difficult for the resource-poor regions to gain access to the tools and expertise. This is, in fact, a challenge found in previous studies wherein technological lags between developed and developing regions intensify the vulnerability of heritage sites located in the latter region.

The second theme relates to the wide range of practices and obstacles that heritage conservation encompasses globally. Indeed, while some countries have established clear frameworks for heritage conservation, others face enormous obstacles, especially when countries are economically unstable or under political conflict. As regards the interview, one of the biggest considerations hindering heritage conservation across the globe is the integration of development and preservation. As Interviewee 3 notes, "In many regions, the promotion of urbanization overshadows conservation, and thus degrades precious cultural heritage." This assertion is corroborated by Labadi et al. (2021), where he points out the contradiction that is sometimes seen between modernization and conservation in fast-moving urbanization areas. Integration of heritage preservation into broader frameworks of urban planning remains a challenge for most countries, especially those currently in the process of economic transformation. The second most commonly indicated problem was the absence of community participation within conservation approaches, which were often represented as top-down approaches influenced by external entities or government bodies. Some of the contributors mention that having locals participate in conservationist activities would be part of the necessary approach for such activities to be sustainable in the long term. As Interviewee 7 said, "If top-down conservation is imposed on the local communities who live around these heritage sites without involving them, chances are that it will not be a successful conservation." This concurs with Lucchi (2023) work, which concludes that community-based models of conservation are more productive because they give this sense of ownership and responsibility to any locale. Results suggest a transformation in global conservation practice toward a recognition of more inclusive and participatory approaches that make local communities active stakeholders in the preservation of their cultural heritage. During interviews, some of the problems associated with intangible cultural heritage include language, tradition, and craftsmanship. Interviewee 12 is of the view that it is relatively easier to keep the tangible aspects; intangible heritage is, however, more susceptible to loss, especially in the face of globalization. Indeed, this is a finding of the previous research, which read that safeguarding intangible heritage is complicated since it is fluid and intangible compared to the tangible assets. By the findings of the study, conservation efforts should be stretched and need to cover not only monuments and historical sites but also intangible cultural practices involved in defining community identity.

The third domain of the research identified the factors and strategies that lead to sustainable conservation of heritage. In this case, it was found in the results that governmental policies, community involvement, and technology-based tools have to be together for effective sustenance over a long time. One of the most influential elements is perhaps the role of education because most of the interviewees mentioned it as creating awareness about the necessity of heritage conservation. Interviewee 1 stated, "Education is key. If people do not understand the value of their cultural heritage, they are less likely to take steps to preserve it." This finding is in agreement with Lombardo et al. (2023), which asserts that education will play a crucial role in setting up a culture of conservation among the youth. The study further found that it is imperative for heritage conservation to be

financially sustainable. Most respondents complained that one of the biggest problems of conservation projects entails long-term funding. As Interviewee 5 opined: "Many of the conservation projects begin so enthusiastically, but they eventually fail to sustain themselves due to lack of funds." This is found in Pintossi et al. (2023), who writes of stable financial mechanisms, such as government grants and international funding, for sustaining the long-term efforts toward conservation. Beside funding, new financial models such as public-private partnerships and other community-based initiatives were found to possibly become alternative routes to ensure the financial sustainability of heritage conservation projects. Another significant strategy presented in the interviews includes the integration of modern technology. Digital tools were reported by some interviewees to be useful not only for documentation and restoration but also for engaging broader public audiences in heritage conservation activities. Interviewee 10 claimed that the ability given by technology to bring heritage sites to life in the ways that can readily resonate with the younger generation through virtual tours and interactive platforms. This will support Khadijah et al. (2024) who claims that digital platforms give a potential to open conservation of heritage before the general public, thus making it more accessible and engaging. On the other hand, however, these technologies actually depend on their availability and accessibility to the population in general, especially developing regions, which have scarce financial and technical resources.

In conclusion, findings from this study highlight the multifaceted and complex nature of heritage conservation, where governmental support, community involvement, and technological advancement interplay in a critical manner. This study has established that despite the considerable efforts toward cultural heritage preservation, financial constraints, political instability, and the tension between development and conservation are the general global challenges. The research also demonstrates that the heritage conservation model requires an integrated approach, encompassing tangible as well as intangible assets, and it should involve the local communities in the preservation process as actors. In this way, it finally becomes a cross-section of what the interviews reveal and combines those findings with related previous research to contribute to further knowledge about the strategy and factors for heritage conservation sustainability over time. Thus, policymakers, conservationists, and the community can collectively collaborate with one another to seek inclusive, innovative solutions that preserve cultural heritage for future generations.

Implications

The research contributes to the heritage conservation theoretical landscape by incorporation from studies concerning cultural preservation, community involvement, and technological innovation. Exploring various theoretical frameworks on issues of cultural sustainability, stakeholder theory, and technology adoption in heritage conservation; this study seeks to enlighten on approaches involving success factors in conservation. It is interesting that results focus on the gap between theory and practice from the perspective of tangible and intangible heritage, something that is usually lacking in the traditional model for conservation. Moreover, it reinforces the role of stakeholder theory in proving the importance of community involvement and local knowledge as a precondition to achieve sustainability in heritage conservation work. It builds on previous theoretical ideas by paying increased attention to the role that new technologies, such as digital archiving and virtual reality, play as not only a record but also an engagement tool. Such insights might lead to contributions to developing a more all-encompassing and inclusive theoretical model that captures the dynamic relations between heritage, technology, and community.

On the practical side, it yields various lesson learnings for heritage conservation practitioners, policymakers, and cultural organizations. The most important point that this research indicates as a result of this study is the need to involve community engagement in heritage conservation. It was found that involving local populations within these projects built ownership among the people whereas also enhancing the sustainability of those initiatives. In this regard, policymakers and cultural heritage managers are encouraged to embrace participatory models that can incorporate various community voices into the conservation planning and action. Such a strategy will not only make the projects culturally more relevant but also more resilient against external pressures like urban development or political instability. Another practical implication of this research lies in the emphasis it gives to the role of modern technologies in heritage conservation. As observed in the study, tools such as 3D scanning, digital archiving, and virtual reality can be significantly transformed for more efficient work on the documentation and the public engagement components linked to conservation. For the practitioners, it translates into the adoption of

these technologies no longer as an optional plus but as a step toward the modernization of heritage preservation best practices. Moreover, the bottom line is that governments and international bodies must provide the financial and technical resources necessary to make these technologies available to everyone, especially in less wealthy regions. The tools have been great in allowing such organizations to preserve heritage more effectively and make it more accessible to global audiences, thereby fostering broader public support for conservation efforts.

Limitations and Future Research Directions

This research, however, has its limitations. One such limitation is the relatively small sample size of interviewees, being the 14 experts in cultural preservation, archaeology, history, and museum curation. Although these interviews yielded very rich insights into the various conservation challenges of the region, a much larger sample may have otherwise still elicited much more varied views from regions facing other types of critical challenges. Policymakers and local community leaders, along with some international conservation bodies, are among those who should be considered for future inclusions in this study. The study largely relied on expert points of view, which might have omitted the voice of local communities who are at the direct reach of the heritage conserved. Future research needs to incorporate these stakeholders so as to have a more humane understanding of the social dynamics in conservational processes. There is also the limitation of the geographical perspective. In this research, the majority were being interviewed from Saudi Arabia. While this is beneficial for intense focus on the challenges that heritage conservation in the country might have, results may not totally be applicable and common for other regions with different cultural, political, and environmental backgrounds. Future studies could compare the approach to look into how heritage conservation varies across several countries and regions, especially in developing countries where financial and technical resources might be scarce. This research could certainly help establish comparative research on the diversity of conservation practices across the globe, so best practices can be identified as an exercise across many contexts. This study also did not probe deeply into long-term impacts of heritage conservation initiatives in terms of sustainability and resilience to future challenges such as climate change, political instability, and urbanization. Although the information from the findings is helpful in understanding the current strategies, future research could be done using a longitudinal approach and look at how the strategies contribute to effectiveness over time. This can begin with the longitudinal studies tracking the progress of certain conservation projects year after year, and then further interaction would be developed in relation to acquiring insights about the success or failure of such long-term activities. Moreover, future studies should encompass the linkage of heritage conservation with environmental sustainability by looking at how conservation activities embrace environmental protection both to cultural and natural heritage. Lastly, this study was mainly based on the technocentric approach in heritage conservation in terms of the use of digital technologies to document and for public outreach. However, such technologies remain promising solutions, yet future research should engage themselves with the possible ethical use. For instance, digital archiving of cultural assets evokes debate on the question of how control and ownership by cultural communities over these assets can be guaranteed, particularly when these assets are opened to world viewers through virtual platforms. These subsequent studies should examine ways by which breakthroughs of technological changes can be balanced with respect for the sovereignty of cultural communities. Besides, as technology keeps evolving, there will be continuous research to check their long-time validity in preserving both the tangible and intangible heritage.

CONCLUSION

Conclusion From the discussion above, the paper is, therefore, a great source of insights in illuminating the intricate heritage conservation, with the need for integrated approaches that combine government support, participation by the people, and innovation of technology. The findings, therefore stress the need for local community involvement in conservation; their participation is integral to making sure the cultural preservation efforts remain viable for longer periods. Lastly, this research paper depicts how modern technologies like 3D scanning and virtual reality have changed the method of documentation and engagement of the public in heritage issues dramatically. Its heritage is sown with such challenging opportunities in making it more accessible and engaging, but equally presents challenges to be considered carefully. In seeking to pursue the agenda proposed for future research, there would be a focus on participatory models of conservation and the adoption of long-term financial sustainability for heritage preservation projects. Policymakers and conservationists have to work together towards coming up

with the innovative solutions needed to overcome the issues facing heritage conservation today and in the future. Combining these insights, future efforts will be able to develop more resilient and inclusive frameworks that protect our shared cultural heritage which defines us as human beings.

Acknowledgement

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