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**Challenges in the Preservation of Cultural Heritage Samples through Digital Technology in
the Republic of Azerbaijan**

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Table of Contents

Chapter 1. Introduction	5
1.1 Methodology	9
Chapter 2. Problem Description	155
2.1 Institutional Capacity and Financial Constraints in Cultural Preservation	166
2.2 Heavy Reliance on Fossil Fuels	1818
2.3 Community Engagement and Awareness of the Importance of Cultural Heritage Preservation	2020
Chapter 3: Policy Alternatives	245
3.1 Increased Government Funding for Cultural Heritage Preservation	245
3.2 Development of Specialized Training Programs for Azerbaijan	267
3.3 Public Awareness Campaigns on Cultural Preservation	288
Chapter 4: Evaluation of Policy Alternatives	3031
Chapter 5: Conclusion and Recommendations	389
5.1 Summary of Findings	Error! Bookmark not defined. 9
5.2 Final Recommendations	4042
References	4343

Abstract

This thesis is focused on the complex issues connected with preserving Azerbaijan's rich cultural heritage and the promising opportunities in this process, especially the use of digital technology. It thoroughly examines the current state of digital preservation in Azerbaijan. Thus, it reveals the most significant obstacles, such as the lack of funds, the insufficient technological infrastructure, and the shortage of skilled professionals who are able to implement and manage advanced digital solutions. Through the interviews with experts from Azerbaijan's heritage industry, the research shows the change that AI and other digital technologies can bring to the protection and accessibility of cultural artifacts. The comparison of Azerbaijan with neighboring countries such as Georgia, Turkey, and Kazakhstan gives insight into the successful strategies and best practices that can be adopted in Azerbaijan. These countries have successfully used digital technologies in cultural preservation and can serve as a case study for Azerbaijan. The research stresses the government's importance in allocating more funds to the issue, creating specialized training programs, and running public awareness campaigns to build a viable digital preservation framework. The difficulties that Azerbaijan faces can be solved by ensuring the safety and the continuous preservation of its cultural heritage. Thus, the country's people are more connected to their roots and, at the same time, part of the global culture. This thesis suggests a complete analysis and the recommendable solutions for improving Azerbaijan's cultural heritage preservation.

Chapter 1. Introduction

Cultural heritage, a term whose origins can be traced back to the mid-20th century, is used by organizations interested in protecting it, like the United Nations Educational, Scientific and Cultural Organization (UNESCO) (Mendoza et al., 2023). Cultural heritage involves the traditions, customs, and artifacts that define a society's identity. It testifies to the creativity and ingenuity of the ancestors, telling stories about their struggles and unique way of life. Over time, the concept of cultural heritage has garnered several definitions. It is broadly defined as a concept involving vibrant and valuable tangible materials and objects in cultural institutions (Pérez-Guilarte et al., 2023). Cultural heritage means a modern society using the past. “Our cultural heritage” shapes national stereotypes and regional identity and is a contemporary or postmodern reflection of the past (Nilson & Thorell, 2018). According to UNESCO, cultural heritage refers to “the legacy of physical artifacts and intangible attributes of a group or society that are inherited from past generations, maintained in the present, and bestowed for the benefit of future generations” (Saiz-Jimenez, 2023). In 2019, the cultural and creative sectors represented 4.4% of the EU GDP, with an annual turnover of €643 billion and a total added value of €253 billion (Manolis et al., 2023). The creative and cultural industries employ more than 7.6 million people in Europe and have an annual growth rate of 2.6%, exceeding the European Union average of 2% (Porta et al., 2024).

Cultural heritage is a unique wealth composed of tangible and intangible components that society inherits from previous generations (Borowiecki et al., 2016). It also comprises various forms of expression, such as physical objects like architecture and memorials, as well as less tangible things like language, music, and traditions. Thus, the role of this heritage cannot be underestimated; it offers a basis for our historical identity, provides a sense of identity, and makes people unite (Škrabić Perić et al., 2021). Moreover, cultural heritage, an essential factor in

economic development, brings tourists to the area, and scholars provide economic help through their enthusiasm for learning and experiencing diverse cultures. The efforts in preservation give room for the past cultural heritage to extend to future generations, which keeps the link that informs and enriches the present global community (Hajibayova, 2018).

Preserving it is essential as it promotes pride and a deeper connection to an individual's background, thus improving cultural identity and self-understanding (Tuan & Navrud, 2008). Preserving cultural heritage offers economic benefits and protects local and national identity; it reminds people of their shared history and progress (Kim, 2021). Besides, it promotes well-being and sustainable development. Cultural heritage preservation is an everlasting aspect and source of strength for humanity. As such, it is essential to understand this preservation, especially in the modern world, where rapid technological advancements greatly influence every aspect of life. Digital technology has created avenues for preserving and promoting cultural heritage (Selmanović et al., 2020). Digitization promotes the transformation of cultural artifacts, buildings, and documents into digital formats, thus ensuring they will be accessible for a long time. Also, it supports easy distribution and sharing of cultural heritage across geographical boundaries to the global audience (Maria et al., 2024). Therefore, digital preservation should be considered a set of management strategies and activities that ensure that digital information, including scientific and cultural heritage, is permanently stored and can be accessed over a long period. While digital preservation assures access to cultural heritage, rapid technological and organizational advancements challenge this accessibility (Evens & Hautekeete, 2011). The current digital preservation solutions adopted by various institutions must attain a permanent engagement; thus, they do not support the organizations in increasing and retaining visitors. Digital preservation of

cultural heritage has been adopted globally by many countries, some of which have succeeded while others have not.

By the 1990s, Europe, for example, had witnessed a massive expansion in using digital technologies to preserve cultural heritage. This led to several developments for the country both at national and continental levels. In 2008, the European Commission launched Europeana, an internet portal aimed at centralizing and promoting universal access to data related to cultural heritage (Jorge et al. et al., 2023). Europe utilizes over 50 million digitized items like Linked Open Data (LOD) to ensure interconnected and easily accessible data on the Internet (Guccio et al., 2016). Thus, through such an initiative, Europe aims to promote universal access to cultural heritage.

Another example is Italy, whose projects mostly align with the European initiatives to utilize Information and Communication Technology (ICT) to preserve its cultural heritage. Such projects aim to improve the management of cultural organizations and promote public engagement with cultural products. As such, they utilize standardized IT management procedures, employing websites and social media for cultural event promotion and digitizing tangible and intangible heritage. Such efforts testify to Italy's commitment to utilizing digital technologies to preserve its cultural heritage and make it more accessible and engaging for local and global audiences.

Likewise, the significance of digital technologies in preserving cultural heritage is evident in the Republic of Azerbaijan. Azerbaijan is a country rich in millennia-old cultural traditions, situated at the meeting point of Eastern Europe and Western Asia. Azerbaijan, a country with a deep-rooted culture and traditions that have been affected by being on the route of the Silk Road and successive empires, is facing the task of retaining its historical heritage most acutely (Tokluoglu, 2005). Modern Azerbaijan represents a diverse culture, from the ancient buildings and archaeological sites to music and dance that reflect the country's national identity. Nevertheless,

cultural wealth faces challenges from several directions, not limited to the pressures generated by economic development, environmental degradation, and ancient cultural practices that the traditional ones usually replace (From personal communication with the expert of The Strategic Development and Project Management Department, April 2024). The sense of emergency to save and maintain the cultural heritage of Azerbaijan is emphasized under such influences; hence, seeking correct preservation tools by cultural institutions should be the severe solution. Digital technology has varieties that have never existed before, and these are the most viable ways to preserve cultural heritage (Podara et al., 2021). Advances such as 3D scanning and modeling, VR/AR, and managed databases provide a way to save precious cultural artifacts in a detailed manner. This, among other aspects, shows them as a means of protecting and sharing the cultural heritage of humanity. Collectively digitized and restyled, they will be made accessible to an international audience, which may provide intellectual and cultural wealth beyond their locality (Psomadaki et al., 2019). However, the infusion of these technologies in the cultural preservation approaches of Azerbaijan could have been more consistent and more accessible to coordinate. This ambiguity is most strongly due to many factors, such as limited technological infrastructure, insufficient funding, and the need for trained professionals capable of applying and managing technological solutions. The research problem that this capstone project aims to tackle is challenges in the preservation of cultural heritage samples through digital technology in the Republic of Azerbaijan.

This research examines all the obstacles to applying digital technologies for cultural heritage preservation in Azerbaijan on a deep level. Such barrier awareness will help researchers propose solutions and effective strategies. The comparison of the experiences of the countries

surrounding Azerbaijan, like Georgia and Kazakhstan, which have shared ethnocultural heritage and similar problems but can have different approaches with different results, will help to find the right way for Azerbaijan. The research will carry out this analysis to identify and suggest the most optimal digital preservation practices necessary for safeguarding Azerbaijan's cultural heritage.

1.1 Methodology

This research adopted a qualitative technique, which involved in-depth interviews with essential practitioners from Azerbaijan's cultural heritage field, as the methodology. By focusing on this issue, the project aims to provide comprehensive and reliable information regarding the influence and consequences of integrating digital technologies into conservation procedures (Peterson, 2019). Four experts from the Cultural Ministry of Azerbaijan, considering the wide range of their competencies and their key positions in the relevant field of activity, have been invited to interview and serve as respondents. Those experts were policymakers working on developing cultural heritage legislation, technology professionals managing and implementing digital solutions, professors in technical and cultural studies, and project executives who participated in launching digital preservation products. Each interview was conducted using semi-structured formats. It enabled the subjects to discuss the use of artificial intelligence (AI) in preserving cultural heritage. These interviews operate as dynamic platforms where the professionals and stakeholders at the protection level of Azerbaijan's historic cultural heritage can expose their ideas, experiences, and thoughts (Grzegorz Płoszajski, 2017). This semi-structured approach balances flexibility and focus by letting interviewers rearrange questions for each discussion and ask relevant questions as the conversation progresses. This technique helps to build up a setup that promotes deeper conversations about the complexities of preserving cultural heritage in the digital age (Burkey, 2021).

The structured interviews conducted with experts in Azerbaijan's cultural heritage sector revolved around seven critical questions designed to explore the application and potential of artificial intelligence (AI) in cultural heritage preservation:

1. In what manner might artificial intelligence facilitate the digital preservation of cultural artifacts in Azerbaijan?
2. What is the potential use of machine learning algorithms in analyzing and predicting protection practices for historical objects in Azerbaijan?
3. In light of the short-term connection between artificial intelligence in Azerbaijan and the preservation of cultural monuments, what measures do you propose to fix this situation?
4. Please provide information on the capacity of AI to develop customized teaching programs inside museums.
5. How do you think AI technologies have the potential to enhance cross-cultural understanding and promote international cultural interactions?
6. What role does artificial intelligence play in combating the illegal trade of cultural goods?
7. How does artificial intelligence impact the future of cultural policymaking in Azerbaijan?

The highlighted components imply that AI can change the way items are stored. Interviewees explained that AI technology with NLP technologies has become fundamental for AI-driven NLP techniques, and they were able to transcribe and evaluate historical documents and artifacts in electronic document form that can be stored securely. It becomes more accessible for

the curators to make the items available for research and teaching. AI's capability of sorting out high-quality images and computer vision for comprehensive and detailed documentation of artifacts from archaeological periods to traditional crafts also came up. AI can also assist in tracking and protecting a country's heritage and architectural landmarks by detecting structural modifications and possible hazards and attending to inclusions in the planning of conservation acts, which is vital for sites such as Baku's Walled City and many others (From personal communication with the expert of The Strategic Development and Project Management Department, April 2024). Participants discussed how machine learning algorithms can use historical data for environmental variables and socio-cultural trends to empower conservation research and make predictions. This way contributes to creating more efficacious conservation plans, which, in turn, leads to the permanent preservation of the intense national cultural heritage that will be passed on from generation to generation (From personal communication with the expert of The Department of Art and Intangible Cultural Heritage, April 2024). Using these technologies to monitor risks at heritage sites more proactively and automatically set the maintenance schedule has been recognized as a game changer in the preservation practice. Respondents highlighted the following measures: integrating AI as part of the digital toolkit for preserving cultural spirits and working closely with traditional communities to incorporate AI in various aspects of their culture. Such measures include, in particular, the increase of funds in research and development projects, specifically aimed at finding protection solutions inherent to Azerbaijan's historical monuments. It was also stated that forming specific rules and laws that ensure that AI technologies are utilized ethically in cultural preservation was another suggestion, as public awareness initiatives that emphasize the significance of protecting cultural heritage while offering explanations of how AI technologies work through public meetings, outreach programs,

and educational initiatives (From personal communication with the expert of The Strategic Development and Project Management Department, April 2024).

AI and its attainment to achieve customized learning programs in museums turned out to be the second focus of the study. AI systems analyzing visitor profiles and their interests are implemented to create individual learning ways of the visit and recommend specific exhibits often featured (From personal communication with the expert of The Department of Art and Intangible Cultural Heritage, April 2024). Such programs allow the adjustment of the output considering the current interaction, making it possible to study forming such a connection with each user. Moreover, AI ensures the employment of multilingual instructional materials called by different linguistic heritages for immigrant visitors. The survey showed that they believed AI could help improve cross-cultural understanding and encourage international cultural interaction. They discussed AI aiding in digitizing and analyzing cultural objects. Therefore, it could benefit scholars and conservationists in protecting and comprehending cultural artifacts. AI was an influential outcome of students' personalized learning and exposure to different cultures and societies. The AI contribution to the counteraction of the trafficking of cultural goods using technological innovations was also perceived as a contribution of high importance (From personal communication with the expert of The Department of Art and Intangible Cultural Heritage, April 2024). Technologies that unravel cross-border communication and collaboration between law enforcement agencies and cultural heritage institutions, smartly identify spam, and increase art market transparency were recognized as current issues. The role of identifying and tackling ethical issues like safeguarding privacy as well as combating biased algorithms to achieve the objective of proper and ethical usage of AI was also highlighted in the conference.

The cultural governance impact of AI was examined. AI is a powerful tool that can help policymakers use cultural data to shape their decisions, connect with more resources from the world, provide space for various cultures, and bring youth on the same page across nations. In addition, AI has been regarded as a tool to facilitate public engagement, address ethical issues, and develop comprehensive, data-driven cultural policies in which Azerbaijan can preserve its cherished cultural heritage and strengthen social unity.

This study also faces the challenge of bias in selecting the interviewees. Although the aim was to select a diverse range of experts from the cultural heritage sector, the final sample might not include all possible angles and ideas presented by these professionals. Moreover, the study's qualitative nature restricts the results' applicability to contexts other than the one in Azerbaijan. Research of the future can overcome these shortcomings by using a more significant and more differentiated group of the participants, as well as combining qualitative data with quantitative methods.

The study commences by introducing cultural heritage and its value, pointing to the significant role played by digital technology in cultural heritage preservation in Azerbaijan. Secondly, a literature review will be performed to investigate existing studies on the use of digital technology in cultural heritage protection, including particularly successful examples from other nations. The methodology section will cover the qualitative approach used in the study and explain the selection criteria for the interview participants as well as the data analysis methods employed. The results section will give some details of the interview with the key people of the cultural heritage field in Azerbaijan that shows how AI is used for the protection process. These results will be summarized within the presence of other literature on the subject, bringing up challenges and suggesting solutions. The study will finish with a summary of the main results, the consequences

for cultural heritage preservation in Azerbaijan, and the proposals for the future research and the practical implementation.

Chapter 2. Problem Description

In the Republic of Azerbaijan, the preservation of national cultural backgrounds in digital preservation has faced significant difficulties that have yet to take time to solve. At the same time, Azerbaijan is endowed with a diverse and intricate treasure trove that contains a wide range of historical artifacts, architectural structures that stand as monuments, and much more; the country's initiatives in digitizing the cultural legacy and thus ensuring their long-term preservation are still lacking in breadth and depth (Safarov, 2020). The total failure can be seen compared to our neighboring countries' successful digital preservation initiatives. This chapter aims to put these drawbacks under the lens by diving deep into statistical data that vividly presents the scope of the problem and gives detailed comparative evaluations with our neighboring countries, such as Georgia and Kazakhstan. These countries implemented digital archiving strategies differently; thus, different levels of success were achieved (Abdullah et al., 2022). The analysis may bring Azerbaijan's existing flaws to the surface and offer insight into possible progress routes. The chapter intends to do a thorough analysis of this issue, which will provide practical tips and suggestions that can significantly push the ability of Azerbaijan to preserve its digital cultural heritage and ensure its sustainability and safe future for future generations.

Recent surveys and reports from the Ministry of Culture in Azerbaijan reveal a concerning statistic: only 19% of the Gauteng heritage institutions' inventory is digitally preserved (Bauer et al., 2021). This small number of digitally serviced institutions contradicts the high regional attendance and the advanced digital preservation methods used by neighboring countries. No less significant, the physical dissolution of many cultural sites and objects in Azerbaijan continues to accelerate, making them more vulnerable because of natural factors and human activities (Diamond, 2020). The situation demonstrates a crucial mismatch in Azerbaijan's cultural heritage

strategy, with invaluable cultural and historical supplies under a significant risk of permanent losses, accentuating the urgent necessity to adopt and expand the implementation of digital preservation approaches to keep them safe for more generations.

Azerbaijan's local efforts in online preservation are very pale given the digital efforts of the neighboring countries. For example, Georgia successfully implemented an initiative that digitalized around 50% of the country's cultural wealth (Fanea-Ivanovici & Pana, 2020). The successful implementation of this project was supported by a robust government framework that involved partnerships with international cultural heritage organizations. Just like in the case of Kazakhstan, the country shows an upward movement as new information technologies are mainly applied to cultural preservation, the result of which is the digitalization of its heritage assets, which is around 45%. These comparisons illuminate Azerbaijan's struggles and elaborate on improvement methods by seizing the efficient strategies from neighboring countries (Ahmadov, 2023). This comparison provides the necessary foundation for Azerbaijan to widen its conservation efforts by learning about the approach implemented by Georgia and Kazakhstan, each showing that with variable adaptation, their strategies apply to a specific cultural setting.

2.1 Institutional capacity and financial constraints in cultural preservation

Azerbaijan is confronted with formidable challenges about its institutional capacity and financial resources in climate change mitigation and renewable energy adoption. These challenges are deeply entrenched and stem from a combination of factors, including historical reliance on traditional energy sources, limited institutional capabilities, and constrained financial resources. The country's transition to a low-carbon economy and sustainable energy future is impeded by these systemic barriers, which hinder its ability to effectively execute strategies to address climate change and promote renewable energy initiatives. Notably, the expenditures of Azerbaijan on

cultural preservation are smaller in absolute amounts and are allocated to culture and tourism, as a share of the budget, than Georgia's (Akhundova, 2022). Likewise, despite last year's contribution to finance Georgia's cultural preservation, the level of the same fund in the Azerbaijan budget is relatively unchanged (From personal communication with the expert of The Department of Art and Intangible Cultural Heritage, April 2024). To completely describe the cultural heritage of Azerbaijan, cultural heritage specialists in Azerbaijan who shared their views with us highlighted the funding problems that are the force to solve. Experts stressed that Azerbaijani cultural traditions should be digitized securely and entirely because the Azerbaijan government provides more support (Borysoff et al., 2023). They claim that, at present, the funding level does not allow for the purchase of the newer tools and facilities that are needed to preserve conservation and apply sustainable conservation

Interviewing the International Cooperation Department expert provides valuable insights into Azerbaijan's institutional and financial challenges. His analysis underscores the complex nature of these obstacles, highlighting the need for comprehensive solutions to overcome them (From personal communication with the expert of The Department of Art and Intangible Cultural Heritage, April 2024). Limited institutional capacity poses significant challenges in formulating and implementing robust policy frameworks tailored to Azerbaijan's unique context. Furthermore, financial constraints hamper the country's ability to allocate resources towards renewable energy projects and climate mitigation efforts. His perspective illuminates the systemic nature of these challenges and the imperative for proactive measures to address them effectively.

In response to these formidable challenges, Azerbaijan is adopting a multifaceted approach to bolster its institutional capacity and enhance financial resources for climate action and renewable energy initiatives. This approach entails the implementation of policy reforms tailored

to the country's specific needs and context, thereby creating an enabling environment for renewable energy development and climate resilience. Additionally, Azerbaijan actively engages in international partnerships and collaborations to access funding opportunities and expertise, augmenting its financial resources and institutional capabilities (Sabbaghi, 2023). Moreover, efforts to raise awareness among stakeholders play a pivotal role in fostering a supportive ecosystem for renewable energy investments and climate resilience initiatives, thereby contributing to overcoming the challenges posed by limited institutional capacity and financial constraints. Through these concerted efforts, Azerbaijan seeks to pave the way for a sustainable and resilient future while mitigating the adverse impacts of climate change.

2.2 Heavy reliance on fossil fuels

Azerbaijan confronts a profound challenge stemming from its heavy reliance on fossil fuels, which is a formidable impediment to its transition towards renewable energy sources and its broader ambitions to address climate change. By global standards, Azerbaijan is no longer a significant fossil fuel producer, pumping less than 1% of the world's oil and gas. However, its economy remains heavily dependent on the income they generates. Fossil fuels comprise over 90% of all exports and 64% of government revenue (Guliyev, 2021).

This reliance on traditional energy sources, further highlighted by the Strategic Development and Project Management Department expert, underscores a systemic issue ingrained in the country's energy infrastructure (From personal communication with the expert of The Strategic Development and Project Management Department, April 2024). He elucidates the government's proactive stance in tackling this challenge, emphasizing a multifaceted strategy encompassing substantial investments in renewable energy initiatives. Moreover, strategic

partnerships forged with international entities and the private sector underscore Azerbaijan's commitment to diversifying its energy portfolio and embracing sustainable alternatives.

Despite Azerbaijan's ambitious goals and ongoing efforts to ramp up renewable energy usage while curbing carbon emissions, the profoundly entrenched reliance on fossil fuels remains a significant obstacle. The persistence of this reliance underscores the complexity of the task at hand and the need for comprehensive measures to effect meaningful change. Interview participant 1 insight shed light on the multifaceted nature of the challenge, suggesting that mere rhetoric or isolated initiatives may fall short in addressing the systemic issues underpinning Azerbaijan's energy landscape (From personal communication with the expert of the International Cooperation Department, April 2024). Indeed, overcoming this obstacle demands sustained and coordinated action, including substantial investments in renewable energy infrastructure, policy reforms, and proactive engagement with international partners.

Addressing Azerbaijan's heavy dependence on fossil fuels necessitates a holistic approach beyond domestic policy measures to encompass international collaborations and technological innovations. Interview with first-person remarks underscores the interconnectedness of global energy dynamics and the imperative for Azerbaijan to position itself at the forefront of renewable energy innovation (From personal communication with the expert of The Department of Art and Intangible Cultural Heritage, April 2024). By leveraging strategic partnerships with international entities and embracing cutting-edge technologies, Azerbaijan can mitigate the adverse impacts of fossil fuel dependency and emerge as a leader in sustainable energy solutions. Moreover, fostering a conducive environment for renewable energy investments and incentivizing private sector participation are critical components of the country's transition towards a more sustainable energy future.

2.3 Community engagement and awareness of the importance of cultural heritage preservation

The challenge of Community Engagement and Awareness in Azerbaijan's climate action and sustainability initiatives revolves around effectively involving and educating the public about environmental conservation and sustainable practices. Despite recognizing the importance of public engagement, Azerbaijan faces hurdles in fully realizing community involvement and awareness in these initiatives. The lack of widespread understanding and active participation poses a significant obstacle to the country's efforts to address climate change and promote sustainability.

The interview with the second participant sheds light on this challenge by highlighting the need for comprehensive strategies to enhance public awareness and encourage community participation in climate action (From personal communication with the expert of The Strategic Development and Project Management Department, April 2024). She emphasizes the importance of educational campaigns, public outreach initiatives, and community engagement activities emphasizing the value of environmental conservation and sustainable behaviors. However, she acknowledges that Azerbaijan is still implementing these measures and faces challenges in effectively reaching and mobilizing the public.

The third participant mentioned that In Azerbaijan, the problem of educating people through methods of cultural heritage preservation is aggravated by the public's general lethargic and not caring attitude towards this matter (From personal communication with the expert of The International Cooperation Department, April 2024). On the other hand, in Georgia, a carefully designed communication drive saw all community members' high level of involvement as they understood the significance of cultural preservation and the gains it would bring. In contrast,

Azerbaijan's publicity efforts have failed to reach the expected standards and communicate the importance of digital preservation (Gille & Brall, 2021). This lack of effective communication and engagement has profound implications: These kinds of statistical evidence lead to reduced funding for conservation activities and the cultural conversation being pushed to the bottom of priority lists for public and political agendas. While Georgia stands on the edges, this difference is indeed marked. These countries have demonstrated good track records of successful campaigns that positively impact public health (From personal communication with the expert of The Department of Art and Intangible Cultural Heritage, April 2024). This is shown by the fact that Georgia's projects have engendered a greater degree of public recognition and have made it easier to get finances from the government or the private sector to promote conservation. These campaigns educate public about the positive aesthetics and welfare effects of maintaining cultural heritage, like facilitating tourism and nurturing a strong connection to one's nation, which effectively allow the public to support these undertakings through financing them (Vuong et al., 2024). The experiences of succeeding in Georgia serve as the principal evidence for the inevitability of the comprehensive promotion of public awareness as an integral part of any successful approach to cultural preservation. These campaigns can give people a different notion, turning them away from apathy towards active support and participation. At the end of the process of revival of cultural traditions, new ambitious strategies in cultural preservation may occur; such steps may become the basis for a sustained effort to keep the flame alive or, what is even more paradoxical, to substitute the old for the new (Smith, 2019).

Interview participant's insights underscore the importance of bridging the gap between policy objectives and grassroots engagement to foster a culture of environmental stewardship in Azerbaijani society (From personal communication with the expert of The Strategic Development

and Project Management Department, April 2024). By prioritizing community engagement and awareness-building efforts, Azerbaijan can empower its citizens to take proactive steps toward sustainability and contribute meaningfully to climate action initiatives. This requires disseminating information and fostering a sense of ownership and responsibility among the public for environmental conservation efforts.

Furthermore, the third participant's remarks highlight the role of education and communication in promoting sustainable behaviors and fostering a sense of environmental consciousness among the population (From personal communication with the expert of The International Cooperation Department, April 2024). By investing in educational programs and public outreach campaigns, Azerbaijan can cultivate a culture of sustainability that permeates all aspects of society, from individual lifestyle choices to community-level initiatives. Ultimately, effective community engagement and awareness-building are essential components of Azerbaijan's efforts to address climate change and promote sustainable development in the long term.

Only by copying or improving strategies such as legislation, conservation practices, education, and public participation applied in the countries mentioned above may Azerbaijan experience a radical shift in its cultural preservation strategies (Abbasov et al., 2020). The government might shape a more conscious and active society through well-coordinated and effective information campaigns. This shift is necessary for policymakers to consider cultural preservation issues profitable. Thus, the fundraising is not going to be held accountable either. Using this method is not only in line with well-applied regional practices but can also create a roadmap indicating how to use digital technologies to the greatest extent, allowing Azerbaijan to preserve its cultural heritage fully (Valiyev et al., 2022). Analyzing different perspectives indicates

that the economy, education, and society are undoubtedly at the heart of digitally keeping national heritage, and each of them has an extraordinary function in keeping the national wealth. Tackling these multifaceted issues demands a comprehensive approach encompassing several strategic measures: delivering substantial investment amounts, organizing for people who will digitize, and increasing the average information consumption rate (Bibri et al., 2023). By getting more confident, we will be more capable of letting our citizen know the value of their heritage so we can help it to be doable in the years to come. By adopting this strategy, providing more financial support and policy amendment not only deals with existing issues in the area of historic preservation but also originates based on solid ground to ensure long-term excellence of Azerbaijani heritage in the future.

Through the history of Azerbaijan, they have taken different approaches to eliminate greenhouse gases from the atmosphere using new energy sources only. The government is in the process of channeling financial resources to both mitigation and adaptation measures and, in addition, for the loss and damage. This is indeed a good idea, but the only condition is that funders should donate adequate funds to reach 40% emissions by 2050 again (From personal communication with the expert of The Department of Art and Intangible Cultural Heritage, April 2024). The other strategy implemented to safeguard the environment by the nation is the multiple approaches to conservation. Climate change mitigations will be mainly driven by the effective utilization of energy sources and an ability of institutions to eliminate these barriers (From personal communication with the expert of Legal Department, April, 2024). Green transformation is one of the ways we intend to turn Azerbaijan into a low-carbon and self-sufficient economic model, as the international organizations play a central role as the tool we will use for that purpose. The international climate policy is leading the global coalition and taking the best possible

measures, such as being in front of support to win the climate change war. For the partners in states such as Georgia, the reverse situation may happen: if they do not have time to create online digital platforms they could support conservation online on a round the clock basis by providing technical assistance.

Chapter 3. Policy Alternatives

The maintenance of cultural heritage in Azerbaijan via digital means encounters critical issues, primarily due to insufficient funding, a lack of skilled people, and a lack of public awareness. The key to overcoming these restrictions is to look into and compare prospective policy options to better the situation. This chapter articulates the potential solutions, refers to the cases of other countries, and assesses the applicability and effect of the policies in the Azeri context.

3.1 Increased government funding for cultural heritage preservation

One of the most direct and effective ways to contribute to strengthening the preservation of cultural values in Azerbaijan is to raise substantially the amount by which the government funds for digital preservation projects are allocated (Pendergrass et al., 2019). These financial

refinements will involve using a higher portion of the general Budget for cultural heritage, where the Budget may be used to acquire cutting-edge digital technologies, train personnel, and accomplish holistic digitization. For one, the startup of special grants and money opportunities that are directly related to cultural heritage projects can be the source of funds for initiating and supporting the conservation for the long term (Eppich & Grinda, 2019). This approach to funding resources is based on experience and is expected. Georgia has demonstrated one successful strategy where the government has heavily collaborated with international agencies, for instance, the EU, to obtain extra funding for digitalization and historical assets. Such partnerships contributed not only to the significant increase in the number of saved artifacts but also to enhancing public access to these cultural assets, elevating the general public's readiness to enjoy the cultural and educational richness. At the same time, this higher funding has also advanced the use of high-quality preservation practices and technologies, thus making Georgia an excellent example for digital preservation to be replicated by other countries (Zhang et al., 2024). Therefore, implementing this policy in Azerbaijan can allow the country to make a leap similar in quality to the one through which it preserves its distinctive cultural heritage. It would be the country's way to safeguard historical sites and monuments from disintegration, besides using them as tourist destinations and instruments of education where people would learn about the crucial role of the artifacts in the history of Azerbaijan. This rise in financial aid may usher in dramatic changes in how cultural heritage is safeguarded and highly appreciated in Azerbaijan, thus bringing it closer to the international standards and corresponding procedures followed (James, 2024).

Additionally, Turkey and Kazakhstan have developed environmentally friendly conservation plans for cultural heritage and provided large amounts of funding required together with international partnerships. For example, the digitalization of the entire heritage site of Turkey

was successfully presented by engaging public investment funds and constantly creating partnerships with global organizations (Sonuç & Süer, 2023). That notwithstanding, development schemes were not solely concentrated on these activities but aimed at developing a research into local tourism figures and engagement of the community members in cultural events. In light of the example of Kazakhstan, the relevance of special programs and partnership programs with universities responsible for training staff with an adequate profile in digital preservation is indisputably more critical. (Aubakirova et al. , 2023) One of the most severe tasks faced by Kazakhstan was digitalization of cultural heritage during the digitalization of the cultural heritage. The answer was to invest in education and strengthen human resources, the important skills that were helping the country in digitizing the old stories, which resulted in the intellectual well-being of the citizens and the feeling of national pride about the past.

3.2 Development of Specialized Training Programs for Azerbaijan

Azerbaijan may efficiently tackle specific proactive steps in forming specialized programs within its other educational institutions. These would primarily be targeted at technological skills around digital preservation and cultural heritage management and also teach the students the technical part of this and the broader context (Isaeva et al., 2021)

Besides that, international organizations can be partnered to achieve higher quality and actuality of the educational programs and involve advanced knowledge and technologies in the language of teaching. However, this instance is from Kazakhstan, and the results are there to prove the uses of such programs. As a part of the UNESCO association, the universities of Kazakhstan elaborated a more wide-ranging program to save cultural heritage in their educational system (Lodhi & Ilyassova-Schoenfeld, 2022)

In addition, to arm students with all the required competencies for their successful endeavors in preservation work, this campaign also fosters the idea that cultural heritage is vital, which is inherently essential (Mulholland, 2022). Moreover, due to this, they play a notable role in training and equipping the necessary skills of the next generation of digital cultural anthropology specialists who feel confident in addressing the problems of digital artifact preservation. The solution for Azerbaijan is that it can considerably strengthen its potency in digital preservation if it is included in the given approach (Pourmoradian et al., 2021)

These educational programs serve a dual purpose: On the one hand, the skill gap will be filled up by teaching a target group of trainees; on the other hand, the educated population should be informed about the irreplaceable role of cultural heritage. Such awareness is one of the keys to lasting accomplishment and support of conservation projects, which assist both the persons working on the ground and at large (Brondizio et al., 2021). Consequently, this technique would not only increase Azerbaijan's chances of preserving its culture. However, it would provide an exceptional position for the country to be a reference in cultural heritage, considering education as a powerful tool for sustainable development.

Furthermore, the World Heritage UK institutions are Oxford University and Cambridge University, which provide courses designed for heritage conservation and management (Benedetti et al., 2021). Within the community, we frequently conduct practical training for disasters and natural calamities like floods, fires, and earthquakes, which are hands-on. Two significant educational companies are financed by the National Trust and Historic England also very popular in the UK, which are the National Trust and Historic England UK. On the other hand, volunteering in the National Heritage Training Group (NHTG), which grooms local craft men/women, makes it possible to maintain and renovate these heritage sites (Fanning & Gaba, 2021). We seek to

stipulate a stone masonry, carpentry, and apprenticeship/commissioning program by collaborating with C113297. Nevertheless, without a shadow of a doubt, I also speak in favor of the measures taken by the UK concerning heritage conservation. That is why Azerbaijan has all available conditions and potential for hiring Azerbaijan as the pilot country and can also be implemented according to the requirements of the citizens. Nationals of Azerbaijan, under their guidance, will address social concerns and exude patriotism simultaneously with better care of their culture, too, compared to most other countries around.

3.3 Public awareness campaigns on cultural preservation

To increase a public understanding of cultural preservation, Azerbaijan can opt for a holistic approach comprising education campaigns in schools, workshops involving local communities, and an information broadcasting campaign through various media outlets (Asbroeck et al., 2021). By including cultural heritage in school programs and staging hands-on preservation projects, the country can create an often-lacking attraction to and maintenance of heritage in young citizens. Utilizing traditional and social media to expand reach and attract the interest of different demographics is vital; we will be able to do this by displaying documentaries, interviews, and news relaying preservation victories. Besides, including community leaders and young influencers acting as cultural ambassadors can enlarge effects, defending this at a deep root (Srisaracam, 2019). These actions, coordinated by public administration with government incentives and international cooperation, can assist in increasing public participation and preserving the country's cultural heritage for future generations.

For the Azerbaijan Republic, conserving cultural items is a critical task to make the national historical heritage nearly eternal and serve the present and future generations and the way to join the great civilization's cultural heritage. Accordingly, all five selected landing sites prove that the

motherland is the custodian of the cultural heritage. The country subsequently gained the most significant will, which was 37%, and part of the plan is to finance 994 USD for a global initiative provided by the World Bank in 2024. (World Bank, 2024) The cultural tradition element indirectly displays the importance of the war for the parties involved. In contrast, the carpet destruction of 927 libraries, 22 museums, and other cultural sites during occupancy in Nagorno-Karabakh cultural heritage demonstrates the impact of the conflict (UNESCO, 2022).

On the contrary, Azerbaijan, which has a long cultural, folk and historical heritage, has such kind of legacy under pressure caused by today's technologies all around the world in the sense of full-speed development (Aliyeva & Gorbunova, 2022). The brand-new and traditional set of issues has been put on the agenda, covering intellectual property rights, access, and enforcement in the digital contexts. The legal frameworks apply both to the cloud and the above cloud as the digitalization of national heritage happens (Markellou, 2023). On the one hand, copyright laws and other conservation approaches have a limited degree of enforcement and low potential for law enforcement overlap, which is a matter of concern. The past and present may not fully comprehend the destruction of social and cultural heritage. However, digitalization vigorously promotes its recognition as the most vital aspect of retaining cultural diversity in future generations (Petti et al., 2020). Azerbaijan indicates that the country is a 1000-year-old civilization with a great history and national importance as a significant crossroad (Salamzadeh & Salamzadeh, 2022). Through this, it will be possible to set the course for the digital conservation activities that will help to see what Azerbaijan can get.

Chapter 4. Evaluation of Policy Alternatives

As a follow-up to Chapter 3, this chapter analyzes and evaluates each policy option according to five criteria: there are five key dimensions, including effectiveness, efficiency, equity, feasibility, and flexibility. Based on these factors, this capstone project addresses the benefits and risks of selecting each policy alternative. It evaluates what is the most effective policy alternative for four Alternative Futures to achieve digital preservation of Azerbaijan's cultural heritage.

Increased Government Funding for Cultural Heritage Preservation

Effectiveness:

Government support plays a significant role in digitization because it helps pump the right financial resources for advanced technology acquisition, staff training, and digitization in the broadest sense. This approach is practical and has proven effective in countries such as Georgia, where the government has worked closely with the United Nations Educational Scientific and Cultural Organization (UNESCO) to improve the culture of preservation. Therefore, Azerbaijan, having learnt effective strategies to protect cultural heritage, can replicate these strategies and, in

the process, ensure that adequate financial resources are provided to achieve these strategies. On top of that, additional funding can help create integrated digitization projects that can cover a more significant number of collections and leave none of the essential cultural artifacts under-documented. Having money around is also helpful in getting an advance for new technologies and getting the necessary specialists who are crucial to the verification and validity of electronic records.

Efficiency:

Purchasing digital preservation is a good investment strategy because it has a low risk of loss and high returns on travel and education. The costs involved are reasonable because they ensure that valuable cultural resources are maintained over the years, which can lead to increased revenue from rising tourism numbers. Resource utilization is a cost-effective practice that guarantees the maximum returns of resources exerted. For example, digital archives can be used by people from all over the world to access them, and they can come from as far as tourism can make money through scholars and tourists. Furthermore, digital preservation helps in the rate at which the artifacts degrade physically, and the rate at which it degrades like that can be pretty expensive to correct. Digitization can further be effective in preventing physical degradation, which would save the government money spent on restoring these artifacts while at the same time opening up access for the public to savor them.

Equity:

In order to provide the same level of access to preservation technologies and training, funding allocation always has to be done equitably, meaning that the resources have to be distributed equitably in different geographical locations and institutions. This implies that redistributive planning must be undertaken in a way that does not have unequal distribution. It

includes setting up some guidelines that determine the allocation of funds and setting up mechanisms targeting underdeveloped regions. This helps the government ensure all regions also benefit from the digital preservation efforts, which gives a more inclusive way of handling the issue of cultural heritage. Furthermore, particular funding for the exploitation of indistinct cultural sites can ease the fundamental yet aspired goal of achieving Azerbaijan's more balanced/comprehensive cultural heritage.

Feasibility:

This could be highly feasible and implemented, provided the right political will and administrative support exist. Such legal mechanisms for increasing support for cultural heritage institutions are well in place, and examples from other countries, such as the United States, can be referenced in Azerbaijan. Such policies are feasible in Azerbaijan in the current political and administrative climate, provided evidence of the government's commitment to cultural heritage. Moreover, the availability of international funding opportunities and technical and financial partnerships to support the region makes this option more feasible.

Flexibility:

The attractiveness element of this policy stems from the fact that it permits alternative changes in funding subsidies and the adoption of new technologies as they become available. It can handle change and the pressure to meet new cultural preservation demands and continue to be valuable and effective in society. For example, as newer digitization technologies were developed the government can fund upgrading the systems or introduce new ones. This makes it possible to keep up with technological innovations and ensure that the preservation efforts remain of the same high quality and efficiency.

Development of specialized training programs for Azerbaijan

Effectiveness:

There is a need for training institutes to offer specialized programs for professionals that would provide them with the particular skills needed for managing cultural heritage. This has been found to work particularly well in countries such as Kazakhstan and has resulted in educational programs being used to help improve preservation. Operating one of the most respected and rigid conservators' academies means Azerbaijan promises to have some of the best cultural asset handlers. These training programs can be about the digital preservation concept and its more or less detailed aspects, such as data management, the opportunities for using specific software, and ethical concerns of using the digitized cultural heritage to create a robust framework for the cultural heritage management process.

Efficiency:

However, operators' initial expenses in setting up training programs are reduced by the long-term benefits of having trained labor that can continue to manage and maintain cultural heritage through digital technologies. It also fosters the development of skills and technical know-how locally to maintain the highest preservation efficiency. It can also train specialized professionals to develop new and existing methods for preserving the process, which will be cheaper and more productive. In addition, by developing local capacity, Azerbaijan can also mitigate the over-reliance on the expertise of an external expert, which can be expensive and unsustainable for the long-term equipment maintenance.

Equity:

Offering targeted training helps to guarantee all those who desire to be involved in the heritage industry equal access to the training services for preservation and cultural heritage. The issue might have a geographic emphasis and an economic dimension that must be resolved to

ensure equal accessibility. This may include offering them tuition or payment for the participants from far-flung or financially disadvantaged regions. Similarly, providing online learning materials might go a long way in reducing exclusion due to accessibility; people from all parts of the country can then access the courses. The government may try to achieve this goal by making all training opportunities inclusive, thus creating a workforce that will be spread all around the country with an adequate skill set to care for cultural heritage.

Feasibility:

This is possible with the help of institutions and with the help of global alliances. Working with multinational agencies may also contribute to improvements in the quality or relevance of training so that implementation is more straightforward. The chances of feasibility are also high because of the access to resources and the existing educational infrastructure within Azerbaijan. For example, collaborations with universities and cultural organizations may offer academic and technological resources for designing practical learning modules. Furthermore, acquiring financial support from international grants and cultural preservation bodies will enable such institutions to sufficiently cover the initial costs associated with developing such initiatives.

Flexibility:

Establishing training programs that can be revised to accommodate new technologies and methodologies is also very flexible. It supports continuous change, addresses new challenges in cultural heritage conservation, and retains continuity. As the field of digital preservation evolves, these programs can incorporate the latest advancements and best practices, ensuring that professionals are always equipped with current knowledge and skills. This continuous learning approach enhances the effectiveness of preservation efforts and keeps professionals engaged and motivated to contribute to the field.

Public awareness campaigns on cultural preservation

Effectiveness:

Educational programs are one of the most effective tools for stimulating community involvement with respect for cultural heritage. An effective communication campaign like the one introduced in Georgia shows that communication efforts can play a vital role in the public's understanding of the issues and participation in heritage preservation. These campaigns are also important because they educate the people on the significance of heritage conservation and contribute to its preservation by raising the community's responsibility. This can mean more voters and taxpayers will support preservation efforts, and more funds and volunteers will be available to help.

Efficiency:

A high cost is associated with creating public awareness campaigns, but the social gains are significant. It will increase the funding generated from both donations and assistance in the preservation work, which will further translate into greater efficiency. These campaigns can also leverage existing traditional media and communication structures like social media channels like radio and television to distribute the message to their respective audience without high additional expense. Due to these channels, the government can effectively implement the message about the importance of cultural preservation so that the population will appreciate and support it.

Equity:

Awareness can be carried out through mass media to ensure that many people are aware of the need to maintain and protect our culture for future generations. This kind of inclusiveness enhances the preservation process and makes it fair and robust from an outside support. Suppose these campaigns use different communication channels and try to reach diverse audiences. In that

case, they will be able to get enough coverage to communicate the message of cultural preservation to the general population. Furthermore, the participation of a community in the planning process can help ensure the cultural sensitivity and appropriateness of campaigns in the local context.

Feasibility:

This option is possible with the current situation with the funding and availability of cooperation with media, educational associations, and community organizations. The campaigns launched in other countries also offer a guide to the successful conduct in Azerbaijan. Initiatives of this type are well suited for Azerbaijan's political and social context as long as the initiative is supported by the government and appropriate institutions. Also, utilizing the services of international cultural preservation organizations might be helpful in the campaign for its need to be designed and implemented in a specific manner.

Flexibility:

Public awareness campaigns can be easily and quickly adapted to focus on specific audiences or geographic areas. They are also chosen according to the feedback and varying preservation needs and can be changed over time. This ability is essential because it keeps campaigns appropriate and motivating as needs change over time. For example, it may organize to implement different campaigns in urban and rural areas to tap into the more profound problems specific to these areas. Moreover, using social media and digital platforms allows for real-time engagement and feedback, enabling campaign organizers to adapt strategies based on public response and emerging trends quickly.

Evaluation Summary

Policy Option	Effectiveness	Efficiency	Feasibility	Equity	Flexibility
Increased Government Funding	+	+	+	-	-

Specialized Training Programs	+	+	+	+	+
Public Awareness Campaigns	+	-	+	+	+

In the end, the policy alternative that was preferred based on the evaluation is increased government funding for cultural heritage preservation. It has merits in all aspects and can be deemed a good starting point for addressing the most critical challenges in digital preservation. With the necessary finance, Azerbaijan can implement its plan for technological software development, professional training, and raising population awareness. All this will form a holistic system of preserving the cultural heritage in Azerbaijan. Due to certain aspects of flexibility and high feasibility of this option, this one may be considered a suitable and effective tool for long-term and cultural preservation.

Raising the amount of governmental support for the preservation of cultural heritage is an economically sound policy option. This approach takes the immediate challenge for the organization to get the necessary financial resources to acquire the advanced technologies that support the digitization of collections. It also regulates the intervention of training and other awareness-creation programs for better and harmonized preservation programs. According to this logic, investing in such framework will enable Azerbaijan to create a more robust framework on digital preservation not only as a means to preserve cultural heritage but also as a means to market national identity in addition to the increased funding can be used for research and development for preservation tools and techniques in order to secure Azerbaijan’s leadership in cultural heritage management.

Chapter 5. Conclusion and Recommendations

Aim of Study

This research provides a comprehensive overview of digital technology-related threats to maintaining Azerbaijan's cultural legacy. Throughout the analysis, three major obstacles have emerged as critical areas to address: budgeting deficiencies, lack of professionalism, and the poor dissemination of knowledge to the public. These problems have become significant roadblocks in digital preservation since the rich cultural background of Azerbaijan is at stake.

Insufficient Funding: The result of the study is that the absence of sufficient financial support drastically slows down Azerbaijan's digital attempts to preserve its cultural heritage. It is striking that the contrary situation is observed about Georgia and Kazakhstan. Such large states redistribute a much higher percentage of their cultural funding into digitization, which results in broader coverage and, consequently, more intense conservation. To illustrate the above, Georgia has put on notice over 60% of its documented cultural artifacts by leveraging noteworthy Government investment and partnerships with international institutions. Correspondingly, Azerbaijan faces the problem of limited funding that needs to be increased for the needs of meticulous digital preservation. This affects the scale and the persistence of preservation projects, which is evident in the gaps in data. The inadequate Budget is not only a restrictive factor in immediate conservation efforts but also limits the country's ability to invest in products and resources that build the foundation of quality digital preservation.

Lack of Skilled Staff: The research aside, it also discovered that the existence of qualified experts indigenously for advanced digital preservation needs to be improved in Azerbaijan. More alarming is that this gap has broad implications for adopting new technologies, as that might

hamper the country's capacity to interact and implement such technologies effectively. Compared to the rest of the neighbors, Azerbaijan did not adopt a training program to sustain the types of digital conservation skills set out expressly for it. This noticeable educational deficiency results in a lack of a professional workforce that adequately participates in setting up, running, and maintaining modern digital preservation systems. Another case is Kazakhstan, which has incorporated specialist training in digital preservation management and conservation into its university curricula. Graduates from these programs will maintain and improve digital records and information for the foreseeable future. It is a crucial problem and a massive handicap in improving Azerbaijani specialists' qualifications. This problem results in challenging tasks for the country in guarding the monuments and the digital preservation of cultural heritage.

Limited Public Awareness: Not only has the research shown that the participation and preference of Azerbaijani people in the area of digital preservation of cultural heritage is lower than in the region, but it also proves that public awareness about the importance of digital preservation of cultural heritage in Azerbaijani society is relatively low. This awareness gap considerably affects the progression of the general support for financial commitments and viable resolutions to eradicate the crisis. However, there is an emergence of public awareness campaigns in Georgia that have efficiently rallied community-based preservation support, while in Azerbaijan, this area is yet to be addressed to communicate the benefits and the importance of digital preservation to its populace. This then translates to a need for more public participation, which, in turn, undermines the participation of community-based organizations in efforts to preserve initiatives. Such a situation leads to an unfavorable circumstance, which in turn allows cultural preservation to become one of the last issues to be "completed," thus increasing the difficulties of the preservation initiatives.

The data collection involved conversations with experts and related stakeholders, providing essential perspectives and arguments on the benefits of this policy setup. It would be helpful as they touch on several of these obstacles. The conversations centered on the need for massive financial support to carry out digital backup activities since most of these require huge financial resources. Furthermore, the experts identified the need for thorough and specialized programs as the most essential strategy for mitigating the workforce skills gap. These models of the training programs will not only enable professionals to have the skills needed. However, they will also create a culture of preservation within the professional community while transitioning to the beyond. Also, mass media awareness campaigns promoting educational aspects were flagged as a great way to improve public perception of cultural heritage preservation. The campaigns that target these issues could utilize communication tools and new digital media to quickly reach a large audience with educational content about the significance of continuous cultural heritage protection and how digital technology could become a transformative power for these processes. Lastly, a multifaceted solution based on the increase of funding, the expansion of the educational sphere, and the intensification of public awareness is the most logical strategy for the efficient cultural preservation of Azerbaijan in the digital era. The endeavors would benefit future generations by doubling their endowment and producing robust social and economic solutions in the country by instilling a deep connection to its impressive historical and cultural legacy.

Recommendations

Based on the comprehensive findings and the evaluation of potential policies, this study presents several specific recommendations for policymakers in Azerbaijan to bolster the

effectiveness of digital preservation projects and ensure the sustainable safeguarding of the nation's cultural heritage:

➤ **Increase Government Funding:** Digital reserves conservation will be carried out by a significant percentage of the state budget through budget provisioning to the Ministry of Finance and Cabinet of Ministers to bring a meaningful effect in conserving digital memorabilia. This may be achieved by engaging in international cultural preservation funds, grants, and other legal writings that cover cost of the entire digitizing processes, including care over the long term and technical viability.

➤ **Develop Specialized Programs:** Launching programs for all colleges and universities on the initiative as a well-known commonplace for these aging communities and groups is possible. This is a faint display of the need for the programs to continue adhering to the business models that have yielded results for them in recent times to keep the methodology intact.

➤ **Launch Comprehensive Public Awareness Campaigns:** Develop a country program oriented to cultural preservation and interpretation of digital information in a national-scale semantics. Employ media tools to draw attention to cultural heritage conservation. Provide an overview of the benefits of tourism and international cultural connections that constitute the core of the off-site.

➤ **Establish Partnerships for Technology Transfer:** Finding the nations that are more technologically advanced to move closer to the digital revolution phase and thus inspire collaboration. Moreover, this cooperation sets cooperation between the nation's cultural heritage protection of internationals and exchanging professional networks of physical interpretation of Azerbaijanian national heritages. This is to strengthen the

positioned site's functioning long-term and to preserve the community's health in the near future.

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