Journal of Business Administration and Management Sciences Research Vol. 10(1), pp. 010-020, April, 2022
Available online at http://www.apexjournal.org
ISSN 2315-8735© 2022 Apex Journal International

Full Length Research

A thematic analysis of adopting immersive technologies at heritage tourism sites in Oman

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Accepted 1 April 2022; Published 8 April, 2022

The Sultanate of Oman is rich in its cultural and heritage tourism sites and the government has recognized the tourism sector as one of the sectors for the economic diversification plan. The purpose of this research is to explore the impact of immersive technology applications in promoting tourism destinations in Oman. To achieve the result objectives, a semi-structured interview was conducted with experts, followed by thematic analysis. The results show that there is a huge potential for immersive technology applications in promoting tourism destinations and especially heritage tourism within Oman. The study also concludes the opportunities and challenges of adopting immersive technologies in heritage tourism sites

Key words: Immersive technologies; heritage tourism; thematic analysis; usability; destination attachment; memorable experience

Introduction

The Sultanate of Oman is the oldest independent Arab nation, which is on the path of modernization while retaining culture and heritage. Sultanate has considerable oil reserves and the country's economy is heavily dependent on oil resources. The gross domestic product (GDP) of the Sultanate showed a nominal growth of 12% in 2018, and the petroleum sector was again the main driver of growth (Central Bank of Oman, 2019). The government has started focusing on the non-oil promising areas and expects average annual growth of 4.3% between 2016 and 2020 (Tanfeedh, 2017). The tourism sector is recognized as one of the first five sectors identified for the economic diversification plan 2016 - 2020 and promising 2040 nation strategic plan (Supreme Council for Planning, 2019). The Sultanate of Oman is also rich in its cultural and heritage tourism sites. Sultanate has more than 500 forts, 850 castles, and 800 other cultural and heritage sites across the country (Tanfeedh, 2017). Among these forts, 51 forts are open for tourists. In the ancient period, they served as various centers for administration, defense, judiciary, and military. They are part of history and an opportunity to learn about ancient architectural techniques.

The government has decided to create iconic tourism projects, enable adventure activities, privatization of nature site management, develop business events, provide eVisas, and set up a single service center to attract more visitors (Tanfeedh, 2017). The tourism strategy of the Sultanate has three main guiding principles: (i) cultivating Omani culture and heritage, (ii) preservation and sustainability, and (iii) providing a memorable experience. The tourism development strategy of the Sultanate is mainly to diversify the economy by maintaining the core values. The lack of unique tourism activities and insufficient marketing is a major challenge faced by the tourism sector in Sultanate (Tanfeedh, 2017).

According to tourism statistics for the last five years, there is a huge gap between the total population of Oman, the number of inbound visitors, and the number of tourists who visit heritage sites such as forts or museums. Due to the COVID pandemic, global tourism is stagnant for last two years in Oman and the data for 2020 and 2021 is not sufficient. Hence this study analyzed the tourism statistics till 2019. For the year 2019, an average of 5% of people distribution (NCSI Oman, 2020) only visited forts and museums among the total population in Oman and international tourists. This gap shows the lack of

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attractiveness in heritage sites and the initial analysis concluded that Sultanate lags in capitalizing the heritage tourism potentials compared to other GCC countries.

To attract more tourists, these heritage sites need to be renovated. The innovations can be achieved by adopting technologies as the future of the current tourism industry is technology-driven (Calderwood & Soshkin, 2019). The adoption of digital immersive technologies at heritage sites will enhance the customer experience through different virtual sensations (Radosavljević & Ljubisavljević, 2019). A variety of technologies including robotics, cashless payments, wearable devices and smartphones, virtual and augmented realities, and gamification drive a range of changes in the tourism sector and heighten the level of tourist satisfaction and enjoyment (Buhalis, 2019). The technology-empowered experiences gradually assist tourists to co-create value in all the stages of their travel (Buhalis, 2019; Neuhofer, 2016). The immersive technologies such as virtual and augmented realities at tourism sites offer real-time interactions through visuals. The enhanced digital experience and the value of experience determine the impact and acceptance of such technologies, for example, the virtual reality leisure activities at tourism sites link human emotions and their senses and provide memorable experiences (Jeng et al., 2017).

The tourism providers and travel companies started using immersive technologies at their websites and allowed tourists to experience the tourism attractions or hotel rooms before they travel (Mang, Piper, & Brown, 2016; Minazzi, 2015). However, the impact of these technologies in promoting experiences at cultural and heritage sites is limited (Buonincontri & Marasco, 2017; Trunfio et al., 2018; Yung & Khoo-Lattimore, 2017). Significantly, the immersive technologies at tourism sites can offer better services and memorable tourism experiences. At a fundamental level, further research is required on assessing the impact of immersive technologies on tourism in enhancing destination attachment of the heritage sites. The ultimate goal of any tourist destination is to influence the tourists by providing memorable tourism experiences and value-added services. There is much less empirical evidence on the impact of immersive technologies at heritage sites in Oman. Therefore, there is a need to better understand the realities of evaluating the role of immersive technologies in destination marketing in general and specific to Oman heritage tourism. Hence this research aims to explore the impact of immersive technologies in providing experience value to the tourists and thereby promoting tourism destinations.

To achieve the research objectives the study adopted a semi-structured interview followed by a qualitative analysis using the tool Taguette (Rampin et al., 2021). The results show that there is a huge potential in adopting immersive technologies at tourism sites to market Oman's heritage and cultural sites. The rest of the paper is organized as follows. Section 2 details the research methodology. Section 3 discusses the results of thematic analysis. Section 4 presents the discussion and recommendations. Section 5 concludes the paper with future research directions.

Research Methodology

This research adopts a qualitative data collection and analysis. A semi-structured interview is a widely used qualitative data collection method as it more open conversational way of discussion based on predefined questions (Longhurst, 2003). This study adopted a semi-structured due to the following reasons: (i) understand the reality of technology adoption at tourism sites, and (ii) directly speak to the experts to understand the applicability of such technologies in promoting heritage sites. The data collection plan for the semi-structured interview is given in Figure 1.

We purposely sampled ten experts from three main government entities in Sultanate who have technology and tourism expertise. The academic experts were from the tourism and marketing department of one of the public universities in the Sultanate. The technology experts were having work experience in virtual or augmented reality technologies. The tourism experts were the administrative professionals who worked for heritage tourism development in the Sultanate. The expertise and other socio-demographic characteristics of the experts are given in Table 1. Due to the impact of the COVID-19 pandemic, the semi-structured interviews were conducted online according to a predefined schedule. The interviews were conducted through Google Meet and the ZOOM platform according to the interviewee's convenience. The participants were interviewed to gain a better understanding of why they think immersive technologies at tourism sites can enhance destination attachment and specifically heritage sites in the Sultanate of Oman. Among the participants, six were females and four were males. All the participants have a minimum bachelor's degree and three of them hold a doctoral degree. In terms of their expertise, four persons belong to the tourism sector, another four belong to the technology domain, and the remaining two were academicians from tourism, marketing, and information technology. All of them have a minimum professional experience of five years and above. And three of them have work experience of more than 15 years. The participant id was later referred to throughout the qualitative analysis discussion to indicate expert comments.

The audios were recorded with the consent of the interviewer. The analysis began with audio transcription. Each audio record was transcribed and uploaded to the qualitative analysis tool Taguette (Rampin et al., 2021). Taguette is an open-source qualitative analysis tool that can process word documents, portable document format

Figure 1 Semi-structured Interview Data Collection

Table 1: Participant details

Participant ID	Background	Experience (years)	Domain Expertise	Education
P1	Technology	16	Websites	Master
P2	Technology	8	VR and AR	Master
P3	Technology	12	VR and AR	Bachelor
P4	Technology	5	AR mobile applications	Doctorate
P5	Tourism sector	6	Heritage tourism	Bachelor
P6	Tourism sector	10	Religious tourism	Master
P7	Tourism sector	18	Museum administration	Bachelor
P8	Tourism sector	7	Heritage tourism	Master
P9	Academic	14	Tourism marketing	Doctorate
P10	Academic	16	Tourism marketing	Doctorate

files, text files, web pages, etc. It is a free tool and compatible with all operating systems. Before uploading the transcribed document to Taguette, each transcript was cross-checked with the participant to ensure the validity of the document. Each transcript was read multiple times to complete code generation. Taguette has an option to create tags and highlight the contents in the document; these tags are initial codes. Taguette offers the merge and edit option to merge different tags according to the used theoretical background of this study. Finally, the revised tags were grouped into themes for reporting and exported to a spreadsheet.

The literature review helped to define the first set of codes for thematic analysis. Table 2 presents the initial codes, later new codes were added while reviewing the interview transcripts. The data for thematic analysis are the codes or tags highlighted in the Taguette software. After several reads of the interview transcripts, the codes were assigned for the meaningful text segments. To get impulsive ideas during the coding process memoing was applied. Then, the similar codes were categorized and combined to form themes. These themes represent the constructs that determine the value perceived from immersive technology services and experiences.

The transcripts were reviewed many times and the codebook was updated with new codes. Initially, there were 22 codes and later 21 more codes were added to the codebook and resulting in 43 unique codes. Coding and analysis were carried out using Taguette decktop software version 1.1.1. The coding process was carried out in two steps to understand how immersive technologies at the sites influence the visitors. The first objective of coding was to analyze the factors that lead to value creation and the second were to understand how it creates value and enhances destination attachment. All the instances of codes were counted and reported in Figure 2. The codes are self-explanatory, however, the theme it belongs to determines the exact meaning. A few codes like enjoyment, imagination, and interaction were repeated many times in the same transcript. Some codes like pleasure and attention were not frequently mentioned but were also relevant. The code frequency quantifies the qualitative findings. The number of mentions was not only the fact, the coding process also considered where and how it referred to get more clarity on the topic.

Results of Thematic Analysis

The coding phase was followed by their organization into meaningful themes. In this study, the expert's views were effectively determined through deductive thematic analysis. In a deductive approach, there exist some pre-conceived themes based on existing knowledge. They are deducted from the research questions and findings. These themes help to understand expert's opinion and their experiences. The thematic analysis gives the flexibility to interpret the data; however, it has risks as it is subjective and depends on the interpretation of the researcher. After carefully analyzing the codes, they were mapped to the themes as shown in Figure 3.

These codes were categorized as six themes to characterize various dimensions and the impact of immersive technologies at tourism sites. The identified

Table 2: Initial codebook

Codes		
Accomplishment	Flexibility	Learning
Amusing	Fun	Motivation
Curiosity	Functionality	Operation
Different world	Imagination	Place identity
Effectiveness	Immersion	Sacrifice
Enjoyment	Interaction	Understandable
Excitement	Knowledge	Useful
Entertainment		

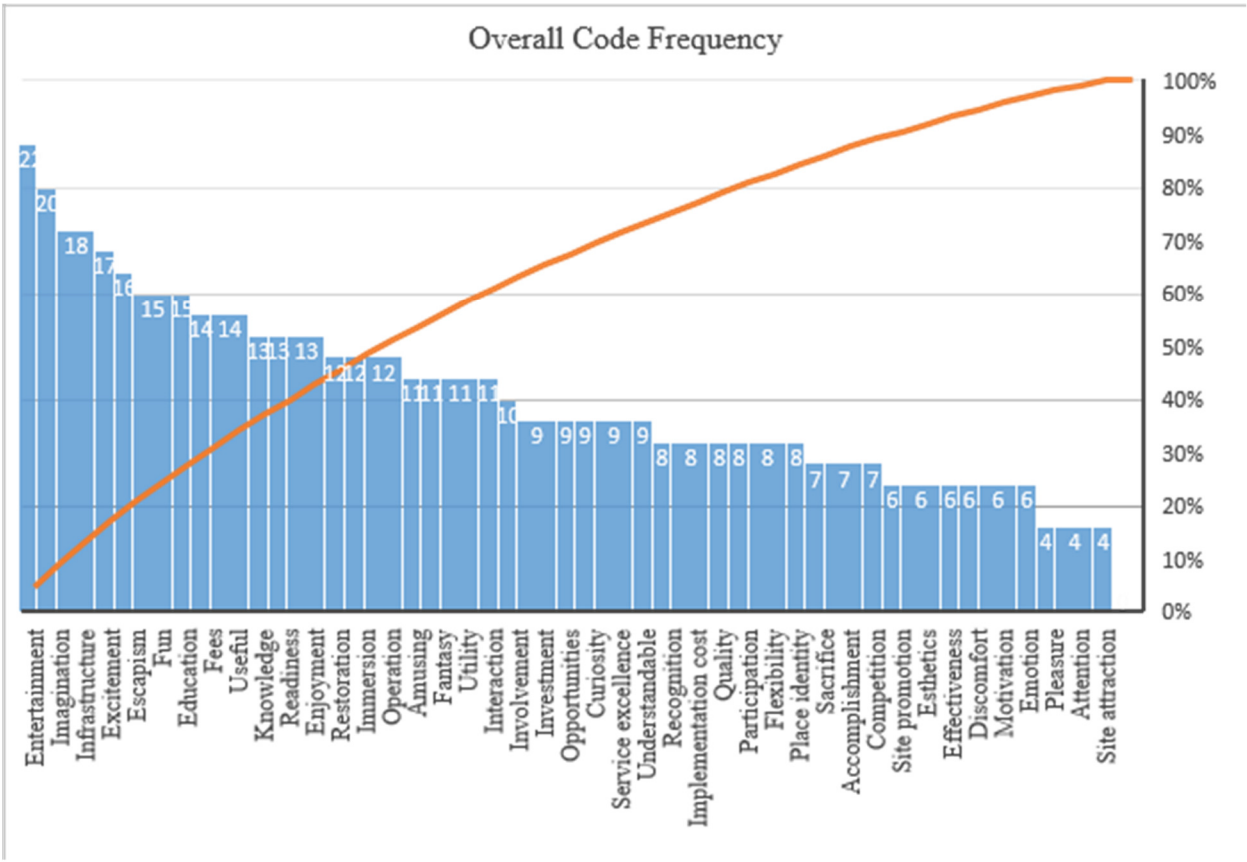

Figure 2: Code frequency

themes are (i) usability of immersive technology applications, (ii) learning through immersive technology applications, (iii) memorable experience from immersive technology applications, (iv) perceived value from immersive technology applications, (v) challenges in adopting immersive technology applications, and (vi) benefits of adopting immersive technology applications. As shown in Figure 3, the highest number of codes were mapped to experience dimension with thirteen codes followed by benefits and usability with seven codes each. The perceived value indicates both service and experience value. The differentiation has been already discussed with participants to distinguish them. Finally, the learning and challenges themes have five codes each. The definitions of themes in the context of this research are presented in Table 3.

Usability of Immersive Technology Applications

The participants suggested that the usability aspects of VR, AR, or 360-degree videos at tourism sites determine their continuous usage of such applications. It helps them to know more about the site. It adds value to their visit only when they are comfortable to use. Mainly two factors of usability i.e ease of use and usefulness of immersive technology applications at the site were focussed in the

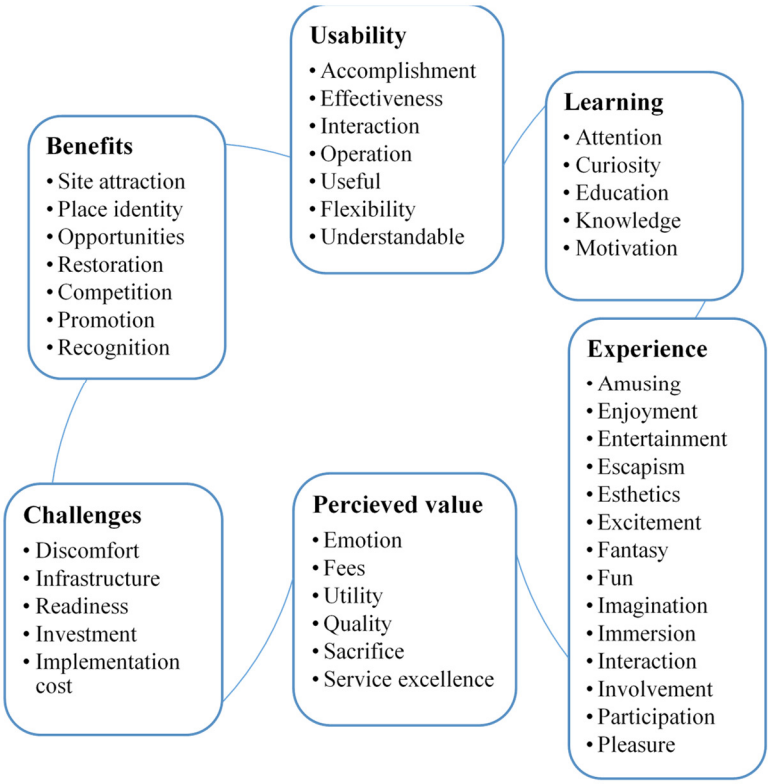

Figure 3: Categorization of codes into themes

discussion. Eight out of ten experts suggested that usability of such technologies has a significant impact on their acceptance and thereby it influence the attachment to a particular site. One interviewer claimed that the technological capabilities of tourists also significantly impact the usability of VR technologies at tourism sites, as it involves additional wearable devices. Another expert claimed that the immersive technology at the tourism sites is highly beneficial to the younger generation. The viewpoint of an expert was: "I think the generation gap may highly affect the continuity of using virtual technologies. Younger people can discover electronic devices smoothly and need less time to learn and get used to them compared to older people from the previous generation. Overall, the use of VR doesn't need a long time to learn and is easy to use for all people. It just needs effective well-made content. The time for each application should be minimal to avoid side effects of VR headsets such as headache and nausea." (P1)

Another expert suggested that the usability of VR or AR technologies at the sites adds value to the user in terms of how the contents are delivered. The usefulness of applications is relevant. They should be easy to understand and operate. The tourists at the sites expect a complete story within a short time; hence, VR and AR technology applications perform better than other exhibits. The expert quoted that "Such applications are easy to reach, gives rich details, adds excitement flavor, complete the story with good look and feel" (P4). This indicates that the usability of immersive technologies significantly impacts the value perceived by tourists. The codes and the number of participants referred to each code is presented in Table 4.

Learning through immersive technology applications

It is worth noting that all the experts pointed out the importance of immersive technologies in learning especially at historical sites and museums. This has resulted in ten occurrences of code education. However, only two experts ranked learning as the most significant feature of immersive technologies at the tourism sites whereas eight others ranked entertainment as the primary theme. Immersive technologies offer different ways to share information and engage the visitors hence they help to learn more about the destinations. The experts also stated that it is very easy to recall their experience received from such applications. This establishes the applicability of immersive technologies to enhance learning. An expert from an academic mentioned that "immersive technology brings imagination, which allows learners to feel and visualize the matter" (P3). Another expert pointed out that "VR, AR, 360-degree applications can describe the exhibits in museum visually which can enhance learning

Table 3: Theme definitions

Theme	Definition
Usability	The degree to which tourists believe that the implemented digital immersive technologies at tourism sites are easy to use, convenient, and help them to know more about the site.
Learning	The degree to which the digital immersive elements offer new learning opportunities and stimulate the curiosity of tourists.
Experience	The degree of enjoyment, excitement, immersion, and imagination offered by the immersive technologies.
Perceived Value	The merits received by tourists from the services and experiences offered by digital immersive technologies.
Benefits	The benefits to the tourism sites in adopting digital immersive technologies specifically in the context of Omani heritage tourism
Challenges	The challenges to adopt digital immersive technologies specifically in the context of Omani heritage tourism.

Table 4: Usability and codes

Theme	Codes	Number of participants
	Interaction	7
	Operation	7
	Useful	7
	Understandable	7
	Effectiveness	6
	Accomplishment	5
Usability	Flexibility	5

skills" (P7). This indicates that they easily receive attention from the visitors. However, only three experts included this in their discussion.

According to another expert, "I feel VR applications create a virtual world on top of the existing physical world, it brings back history into reality so that we can feel it" (P9). Their contribution to learning is by providing an active experience than mere passive information. This also indicates the curiosity of the visitors to use such applications. An expert from the academic domain said that "they induce more curiosity, hence I tried more applications" (P10). These quotes from the participants highlight how such technologies support learning and add value to their visit in terms of providing new knowledge and skills. Table 5 presents the frequency of codes related to learning.

Memorable experience from immersive technology applications

The memorable experiences provided by immersive technologies have different dimensions like entertainment, excitement, and imagination. Experience is an individual's perception; people value the experience of places differently. All the experts agreed that entertainment is one of the objectives of immersive technology adoption at any tourism site. The experts were asked to rank the dimensions and eight out of ten experts ranked entertainment as first. One of the respondents commented that "from my point of view, I can say the entertainment experience is the most significant part of all the other aspects. As much as the content was entertaining and immersive it will be educating smoothly. So, my rank will be entertainment, beautifying experience, educational, and the imaginary world" (P1). However, another participant said that "all aspects are significant but according to the market the most significant is education, then entertainment (gaming), and imaginary world experience. Learning through virtual reality is memorable" (P4).

All the respondents stated that such technologies at the tourism site make the visit more interesting by entertainingly delivering the traditional content. An expert suggested that one aspect is unforgettable experiences at tourism sites is the opportunities for personalization. According to him "personal experiences at the sites makes the visit memorable than bringing social elements" (P9). Another respondent stated that "the mobile-based immersive technologies create different types of experiences before travel, at tourism site, and after travel" (P5). The expert also pointed out that the number of such projects received much attention during the COVID lockdown to promote virtual tourism. An expert with technological background suggested that "the VR technologies engage visitors like never before, the AR experience adds virtual elements in the real world to provide a complete immersive experience" (P7). The codes related to the experience theme and the number of participants mentioned in each code are presented in Table 6.

As presented in the table all the ten experts mentioned entertainment. Similarly, the other perspectives such as enjoyment, excitement, fantasy, and imagination are pointed out by nine experts. The enjoyment and pleasure

Table 5: Learning and codes

Theme	Codes	Frequency
	Education	10
	Curiosity	8
	Knowledge	8
	Motivation	5
Learning	Attention	3

Table 6: Experience and codes

Theme	Codes	Frequency
	Entertainment	10
	Enjoyment	9
	Excitement	9
	Fantasy	9
	Imagination	9
	Immersion	8
	Participation	8
	Escapism	7
	Fun	7
	Involvement	6
	Amusing	5
	Pleasure	4
Experience	Esthetics	3

were mostly used in the context of the gaming experience. The least mentioned code was esthetics, which indicates the beautifying experience provided by immersive technologies.

Perceived value from immersive technology applications

Experts shared their views on perceived value, and most of the experts agreed on the decision to distinguish the perceived value through utilitarian and emotional benefits. However, one participant suggested that it is difficult to separate service and experience value because the value is the visitor's perception. He pointed out that "I believe perceived value is determined through experiential and functional outcome, hard to separate as they differ for person to person. One factor can be an emotion to me whereas it is a part of a functional feature to others. It is just a relative comparison like more than what I paid, better than I expected, etc."(P5). The benefits and sacrifices are also considered as the dimensions to measure the value. The value is the result of the visitor's overall evaluation of the benefits gained from the immersive technology applications at the tourism sites (money, time, efforts, energy). The participants mentioned several clauses to indicate perceived value such as functional value, emotional value, sacrifice, experiential value (enjoyment, aesthetic, escapism), and epistemic value (educational). The tourists are concerned about the experience they received over the cost. One of the experts suggested that "the financial value of experience is less than that of service" (P2). Another participant P9 also supported the same saying that "people are ready to pay if it makes their visit-worthy" (P10). Participant P3 pointed out the sacrifices that impact the overall value like risks associated with wearing head mounts, the time and money they spent to experience immersive technology applications. He stated that "the head-mounted displays may create physical impacts like dizziness and headache which negatively influence the value received as well as it may affect the usability of such technologies" (P3). Table 7 presents the frequency of codes for the value dimension. Service fees to use such services are mentioned by nine experts as a determining factor for perceived value. The quality of immersive services and the sacrifices are the least mentioned codes. The sacrifices can be time taken to learn the usage of immersive applications and also the difficulties to use hardware devices like head mounts.

Benefits of adopting immersive technology applications

Besides answering the research questions, the semi-structured interview was also focused on understanding the expert's opinion on adopting immersive technologies at tourism sites in Oman. All the experts agreed on the benefits offered by such applications, especially within the context of heritage sites in Oman. Out of ten experts, eight agreed on the applicability of immersive technologies to modernize heritage sites. One of the participants responded that "for sure, immersive technologies give us so many options to create educational and entertaining content at the tourism sites, that will enrich the content and the value of the sites" (P6). In support of participant P6, P4 also said that such an application brings realistic content. Experts pointed out that exhibits can also be changed at sites. He commented that "yes, it is playing a major role in the museum by display 3D realistic content. The interactive content is very interesting than the traditional displays at museums, and it is easy to replace the contents many times without changing the infrastructure. It enables the visitors to visit the sites more than once as the content change consequence" (P4). Another benefit reported is that VR technologies bring life to heritage sites. "Earlier tourism sites used such technologies for video gaming and entertainment; however, in last few years they received much attention in heritage tourism, there are applications that provide the ability to immerse themselves in historic events of the sites" (P10). Recreating history digitally is the major benefit offered by immersive technology applications. Besides, participants also commented that the adoption of immersive technologies brings new job opportunities for Omani youth. Table 8 presents the relevant codes for benefits. The experts also pointed out that these technologies make the sites more competitive. The sites receive a unique identity with these technologies and attract more visitors.

Table 7: Perceived value and codes

Theme	Codes	Number of participants
	Fees	9
	Utility	9
	Emotion	6
	Service excellence	6
	Quality	5
Perceived value	Sacrifice	3

Table 8: Benefits and codes

Theme	Codes	Number of participants
	Place identity	8
	Competition	7
	Restoration	7
	Opportunities	6
	Site promotion	6
Benefits	Site attraction	6

Challenges in adopting immersive technology applications

The challenges associated with immersive technology adoption in Sultanate are mainly about the readiness of the site and the financial investment for infrastructure and implementation. Several participants suggested that such technologies attract people; however, their maintenance and monitoring bring additional financial requirements. One participant said: “I was wondering how to implement VR or AR applications in existing forts because they need maintenance. Forts are a very good choice to recreate historical events” (P5). The readiness of the site considered electricity, internet, and other basic amenities.

One participant mentioned that “to create powerful immersive content must take into consideration the costs. The expenses of the devices are affordable and employees training will not cost a long time, but initial implementation costs will be high” (P7). Another expert suggested that “the infrastructure must be reconfigured, and a strong internet connection must be built” (P8). Table 9 presents the relevant codes for challenges of immersive technology adoption. The infrastructure implementation cost is the highest one followed by investment. Four participants discussed the discomforts of such technologies among the elderly population as a challenge.

Discussion and Recommendations

The thematic analysis concluded that the participants were excited to adopt immersive technology applications to promote Omani tourism and especially to recreate historical sites in Oman. Since the number of codes assigned to each construct varies, the frequency of codes cannot be taken as a parameter to indicate the strength of the participant's opinion. Hence, an average is calculated for each theme by considering the unique codes referred by each participant ie, if a participant refers same code many times in the interview only one entry is considered as shown in Table 10.

Experts also discussed the merits of educating the new generation about the historical sites in the Sultanate using immersive applications e.g. Nizwa Fort defensive strategy by the Ministry of Heritage and Culture through VR. The experts discussed how such an application educates the youth about the defensive strategy followed at that time. The growth opportunities to promote cultural and heritage sites were the main point of all the experts. They also pointed out the necessity of creating iconic tourism projects to attract more visitors. Misfat Al Abriyeen tourism development project by the Ministry of Culture and Heritage in Sultanate of Oman initiated in 2019 was one such example of adopting technologies to promote tourism. This project is expected to be the first VR facility in Sultanate for heritage tourism. The summary of the results of the expert discussion was presented through SWOT analysis in Table 11.

1. Strengths: Utilizing immersive technology for explaining the exhibits at the historical sites creates an interactive environment. As the visual immersion increases, the presence in the virtual world helps visitors to feel the overall presence and increases their memorability. This in turn encourages active learning. Active interaction with the content intensifies the motivation; this could attract more students and open great learning opportunities for them.
2. Weaknesses: One of the weaknesses of immersive technology adoption at tourism sites was the adaptability of elders. The experts reported that they may be resistant to using such technologies, especially the head mounts and other devices. Instead, they prefer the traditional mode of displays at the sites. Another concern

Table 9: Challenges and codes

Theme	Codes	Number of participants
	Infrastructure	10
	Investment	8
	Implementation cost	7
	Readiness	7
Challenges	Discomfort	4

Table 10: Average score for a theme

Theme	Code score	Number of codes/theme	Average
Benefits	42	7	6
Challenges	36	5	7.2
Experience	93	13	7.15
Learning	34	5	6.8
Perceived value	38	6	6.3
Usability	44	7	6.28

Table 11: SWOT analysis of immersive technology adoption

Strengths	Weaknesses
Interactive	Adaptation issues for elders
Encourage active learning	Additional infrastructure
Immersive experience	Investment
Self-explanatory	Organizational readiness
Visual appeal	
Opportunities	**Threats**
Place identity	Maintenance cost
Site restoration	Discomfort with devices
Job opportunities	
Site promotion	

might be the additional infrastructures required to implement such technologies. Most of the sites may not have the economic capabilities to afford such costs, especially in the current scenario of pandemics and their impact on global tourism.

3. Opportunities: Most of the heritage sites in the Sultanate do not have fun or entertainment zones; however, they talk about the history and culture of Oman. The immersive technology can contribute towards the unique identity of sites by explaining their history. On the other hand, this will preserve history. Hence restoration of heritage sites was possible through immersive applications.

4. Threats: The limitations of the devices may prevent the usage of such applications. Besides, some devices may cause motion sickness. The financial costs of technology maintenance are another challenge expected by tourism destinations. The head mount devices are handled by different age groups at the sites and the possibilities of mishandling such devices were high. This may cause additional maintenance efforts.

All the experts agreed on the benefits offered by such applications, especially within the context of heritage sites in Oman. Recreating history digitally is the major benefit referred by the experts. Besides, experts also commented that the adoption of immersive technologies brings new job opportunities for Omani youth. The experts also pointed out that these technologies make the sites more competitive. In addition, they foresee some of the challenges associated with the technology implementation. They were mainly about the readiness of the site and the financial investment for infrastructure and implementation. The technologies attract people; however, their maintenance and monitoring bring additional financial requirements which need to be handled by the tourism providers.

Conclusion

The study assessed the impact of immersive technology adoption at heritage sites in Oman through a qualitative research methodology. The study adopted a semi-structured interview with experts and the interview transcripts were analysed using Taguette software. The main themes identified are usability, learning, memorable experience, perceived value, challenges, and benefits. The results of this study reveal that usability, learning, and experiences of immersive applications enhance the attachment to the destination through the perceived value. Besides, the experts also pointed out the strengths, weaknesses, opportunities, and threats of immersive technology adoption within the context of the Sultanate. Due to the impact of COVID, this study could target only a limited number of experts; hence this research can be further improved. In future research, a real-time immersive application case study will be considered.

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