

Review

Applying Inclusive Design and Digital Storytelling to Facilitate Cultural Tourism: A Review and Initial Framework

Kittichai Kasemsarn ^{1,*}, David Harrison ² and Farnaz Nickpour ³ 

¹ School of Architecture, Art and Design, King Mongkut's Institute of Technology Ladkrabang (KMITL), Bangkok 10520, Thailand

² College of Engineering, Design and Physical Sciences, Brunel University London, London UB8 3PH, UK

³ Department of Civil Engineering and Industrial Design, University of Liverpool, Liverpool L69 3GH, UK

* Correspondence: kittichai.ka@kmitl.ac.th

Abstract: This article aims to review and identify key challenges and opportunities in the interrelationship between cultural tourism, inclusive design, and digital storytelling fields. The literature review included searching *Scopus*, *ScienceDirect*, and *Google Scholar* for three main field keywords, drawing 421 articles between 1990 and 2022. Content analysis was applied to literature findings and five categories with twenty-three themes emerged accordingly: (1) issues in cultural tourism; (2) diversity in museums; (3) inclusive design in museums; (4) motivation in museums; and (5) digital storytelling in museums. The article further discusses the nuanced relationship between these three fields and proposes an initial framework to help future growth of cultural tourism through increasing visitors' motivation and diversity. As such, the work aims to facilitate cultural tourism as an activity that better reflects the diversity of its potential audiences and proactively addresses their needs, requirements and interests.

Keywords: cultural tourism; inclusive design; digital storytelling; review; diversity; motivation



Citation: Kasemsarn, K.; Harrison, D.; Nickpour, F. Applying Inclusive Design and Digital Storytelling to Facilitate Cultural Tourism: A Review and Initial Framework. *Heritage* **2023**, *6*, 1411–1428. <https://doi.org/10.3390/heritage6020077>

Academic Editor: Jason J. Jung

Received: 7 December 2022

Revised: 17 January 2023

Accepted: 20 January 2023

Published: 31 January 2023



Copyright: © 2023 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

1. Introduction

Cultural tourism refers to “movements of persons for essentially cultural motivations such as study tours, performing arts and cultural tours, travel to festivals and other cultural events, visits to sites and monuments” [1]. However, cultural tourism is often considered a niche part of the tourism market, and is given less attention drawing fewer local and foreign tourists compared to mass tourism [2–4]. Between 1990 to the 2022, cultural tourism has faced several issues. This review article focuses on two significant issues that impact cultural tourism i.e., poor visitor diversity and motivation.

To connect with a broader diversity of visitors, this study draws on inclusive design and its principles. Inclusive design is defined as “a general approach to designing in which designers ensure that their products and services address the needs of the widest possible audience, irrespective of age or ability” [5]. Adopting inclusive design principles helps make cultural tourism accessible to the widest range of users possible. These principles are also used to research, comprehend, and focus on different ages, abilities, interests, and backgrounds of people, as well as their psychosocial inclusion needs [6–8].

To increase motivation, this paper explores the potential of digital storytelling—a digital presentation technique incorporating narratives, plot points, and characters—rather than hard-sell advertising [9,10]. It has been used successfully by many cultural and heritage sites and has been integrated with other digitalization approaches, such as virtual museums and applications. Moreover, digital storytelling can deliver engaging interpretations for a range of settings and subjects and helps to increase visitor motivation [7,9–12].

This article aims to review the interrelationship between cultural tourism, inclusive design, and digital storytelling, and identifies certain challenges and opportunities. Moreover, it makes two contributions to the field: (1) it presents an initial framework for cultural

tourism through inclusive digital storytelling and (2) it explores and reviews the relationship of three key areas identified.

2. Method

Researchers adopted a systematic literature review from O'Brien and Guckin [13] and the PRISMA (preferred reporting items for systematic reviews and meta-analyses) guidelines [14]. The process consisted of three elements of research methodology: study design, conduct, and data analysis.

2.1. Developing Inclusion and Exclusion Criteria

The inclusion and exclusion of this article were selected with the aim to present universal problems in cultural tourism, illustrate worldwide trends, and suggest links from the past to facilitate cultural tourism in the present. They are illustrated in Table 1 below.

Table 1. The criteria for inclusion and exclusion in the literature reviews.

Inclusion	Exclusion
Peer review studies in English Publication in the 1990–2022 period Journals, conference proceedings, textbooks, book chapters, and organization websites Categories: Computers and Composition; Computers in Human Behavior; Design Studies; Arts and Humanities; Social Sciences	Non-English studies Publications outside the time frame were not selected Working papers and conference abstracts Categories: Business, Management and Accounting; Engineering; Agriculture; Economics; Econometrics and Finance

2.2. Systematic Searches in Different Databases

At this stage, researchers looked for studies from two major databases: *Scopus*, *ScienceDirect*, and *Google Scholar* as a secondary database. (When the information was not available on *Scopus* or *ScienceDirect*, *Google Scholar* was used.) This combination of three databases covered academic literature from journals, conference proceedings, and organization websites. The search keywords were “cultural tourism and inclusive design,” “cultural tourism and digital storytelling,” and “inclusive design and digital storytelling” from 1990 to 2022 in order to gather information from the past for comparison with the existing state of the industry. Next, the search terms were used for titles, abstracts, and keywords from the databases mentioned. Additionally, the results from searching keywords are illustrated in Table 2.

Table 2. Results of studies from the keywords “cultural tourism” (CT), “inclusive design” (ID), and “digital storytelling” (DST) in the databases.

Database	Search Terms (Titles, Abstracts, and Keywords) 1990–2022	Articles in CT and DST	Articles in ID and DST	Articles in CT and ID	Total (First Pass)	Total (Second Pass)
<i>Scopus (main database)</i>	“Cultural tourism (CT) and inclusive design” (ID) or	48	28	30	106	
<i>ScienceDirect (main database)</i>	“Cultural tourism (CT) and digital storytelling” (DST) or	26	74	213	313	371 + 50
<i>Google Scholar (additional database)</i>	“Inclusive design (ID) and digital storytelling” (DST)	22	13	15	50	

2.3. Importing Search Results into Individual Bibliographic Software, Documenting the Search, and the Deletion of Duplicates

The search results from all databases (from Table 2, *Scopus* totaled 106, and there were 313 from *ScienceDirect*) were imported into Endnote20, a bibliographic software. Researchers imported by selecting from the menu, “Import into duplicate library” to exclude duplicated articles into another folder. As a result, 48 out of the 419 articles were

found to be duplicates and were removed from the software. So, the remaining articles totaled 371.

2.4. Organization of Relevant and Irrelevant Articles

This stage was composed of three main steps: reading all 371 titles and abstracts, and browsing through full articles. Researchers then grouped the articles into themes by applying content analysis and thematic analysis (grouping from the same meaning), then categorizing them based on topics such as problems, opportunities, trends, technologies, and the relationships between CT and ID, CT and DST, and ID and DST.

2.5. Searching for Additional Articles, Books, and Policies Using Other Forms of Searching

However, due to the limitation of articles on some topics, especially in digital storytelling, there are a few articles from both databases illustrated in Table 3, notably from 1996 to 2013. This was a research opportunity in terms of the digital storytelling topic matching inclusive design or cultural tourism. Therefore, researchers investigated, using *Google Scholar* as a gray area (not indexed in main databases but potentially related to the topic) to find information about the background of digital storytelling, as well as case studies on digital storytelling in cultural tourism from 1990 to present from books, conferences, and journal papers. Next, researchers searched *Google Scholar* for the top 500 articles out of 20,000 hits by reading only topics and abstracts and selecting 50 related articles.

Table 3. Results of publications from both databases from 1990–2000.

Years	Publications						Total
	Articles in CT and DST		Articles in ID and DST		Articles in CT and ID		
	<i>Scopus</i>	<i>ScienceDirect</i>	<i>Scopus</i>	<i>ScienceDirect</i>	<i>Scopus</i>	<i>ScienceDirect</i>	
2022	12	8	5	6	3	17	51
2021	7	3	3	8	7	12	40
2020	4	2	2	9	5	7	29
2019	8	2	4	10	5	10	39
2018	7	-	2	7	5	6	27
2017	2	1	1	3	1	7	15
2016	1	3	4	-	2	26	36
2015	1	3	2	1	1	23	31
2014	2	-	-	4	1	21	28
2013	2	-	1	3		7	13
2012	-	-	2	-		22	24
2011	-	-	1	5		4	10
2010	-	-	1	4		6	11
2009	-	1		-		4	5
2008	-	1		4		1	6
2007	-	0		3		2	5
2006	1	1		-		8	10
2005	1	1		-		7	9
2004				1		1	2
2003				1		2	3
2001						6	6
2000						2	2
1999						1	1
1997				1		2	3
1996				1		2	3

3. Keyword Co-Occurrence Analysis

The systematic analysis of keywords illustrates the development of trends and research differences, as shown in Figure 1. Applying this technique, researchers could clearly understand the trends and relationships between all selected studies. A total of 371 remaining articles from Section 2 were based on the relationships between CT and DST,

CT and ID, and ID and DST, which was recognized by the VOSviewer software. First, researchers imported all 371 articles into the program and set up the keywords so that a frequency of more than two appearances could be recognized by the program. The result of the screening was 115 qualified keywords from a total of 1,101 keywords, as presented in Table 4 and Figure 1 below.

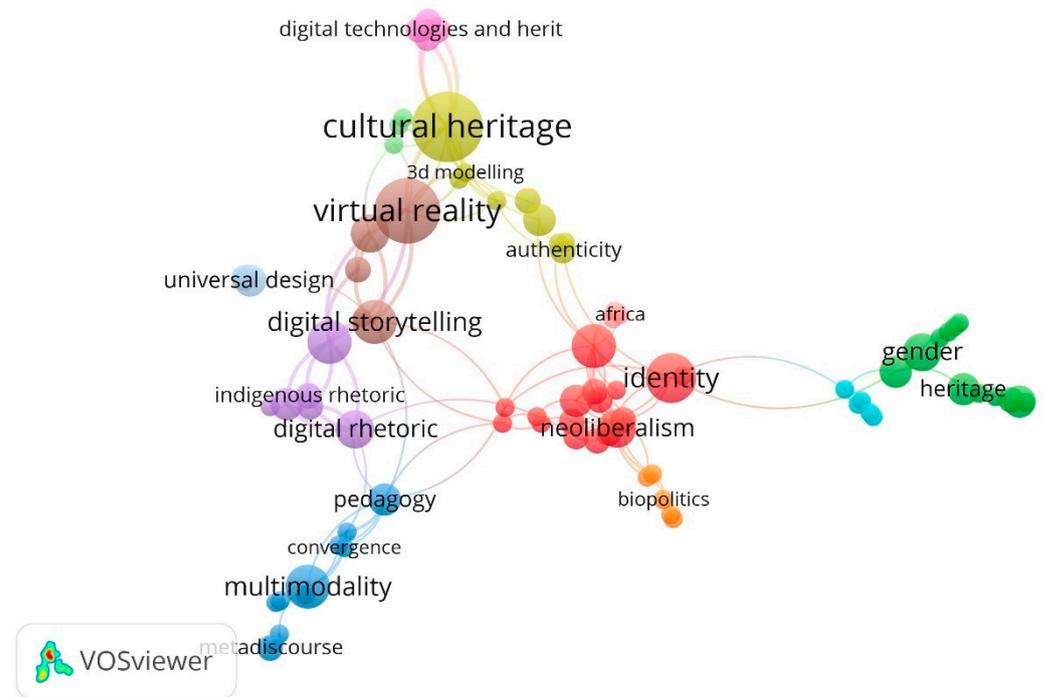


Figure 1. The keyword co-occurrence in 371 articles based on the relationship between CT and DST, CT and ID, and ID and DST.

Table 4. The top 10 keywords from 371 articles.

	Keywords	Occurrences	Total Link Strength
1	Cultural heritage	11	26
2	Virtual reality	10	23
3	Gamification	6	24
4	Digital storytelling	6	17
5	Culture	6	13
6	Augmented reality	5	16
7	Digital rhetoric	5	15
8	Identification	4	13
9	COVID-19	4	12
10	Digital technologies and heritage	3	12

Through the co-occurrence of all keywords from 371 articles (Table 4 and Figure 1), it could be recognized that most keywords in this area are about cultural heritage (eleven occurrences), which appeared the most, followed by virtual reality (ten occurrences), and gamification, digital storytelling, and culture (six occurrences each), respectively. However, there are a few keywords in the areas of inclusive design and cultural tourism (e.g., diversity, universal design, user experience design, and accessibility) that received a low score of around 2–3 occurrences. Therefore, this is an opportunity to fill a research gap that most studies overlook, which is to apply inclusive design with digital storytelling to support

cultural tourism. A framework for implementing this can be seen in Figure 2, which supports the use of inclusive design and digital storytelling as tools for increasing diversity and motivation for cultural tourism.

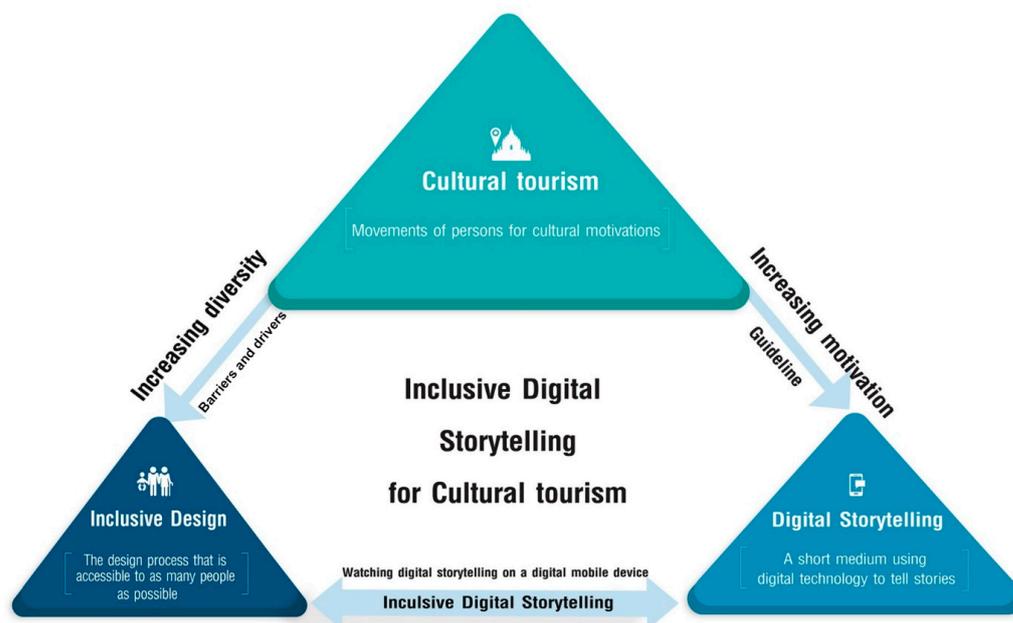


Figure 2. An initial framework composed of three variables [15].

4. Content analysis

All studies were examined using content analysis, which involves thematic coding achieved by grouping the meaning of the whole sentence or paragraph rather than the text. For the reliability test, results were rechecked and grouped by three researchers who worked together to discuss the final coding. In short, there are five groups with twenty-three themes, as follows:

- Issues in cultural tourism: five themes presented in Table 5
- Diversity in museums: four themes
- Inclusive design in museums: five themes
- Motivation in museums: two themes
- Digital storytelling in museums: seven themes

Table 5. Main issues in cultural tourism from past to present.

Areas	Details and Research
Theme 1: Diversity	<ul style="list-style-type: none"> • Museums should focus on increasing different groups of visitors to be more inclusive [16]. • There are underrepresented visitors as “new audiences” (e.g., the young, minority groups, older adults, and people with disabilities) who museums should seek to include [16,17]. • It is considered a niche market and so more attention is focused on mass tourism [2,4,18] • The industry focuses on promoting cultural tourism to the 15% of tourists who are already interested in it [19]. • People with disabilities are often overlooked by the U.S. tourism industry [20,21]. • The tourism industry should seek to attract new groups of cultural tourists [4,20]. • The tourism industry must strive for a community-involvement approach [22]. • A lack of diversity and a narrow range of cultural tourist groups. Moreover, the tourism industry is yet to identify other potential groups of cultural tourists [4,23–25] • Greater community participation is needed in cultural tourism processes [26–28]. • Many teenagers lack knowledge or understanding of cultural places [18,29]. • The predominant cultural tourism market segment is educated and mature people with a high income [4,29,30]. • There are a limited number of tourists and their needs should be carefully considered [3,18,22].

Table 5. Cont.

Areas	Details and Research
Theme 2: Motivation	<ul style="list-style-type: none"> • The fundamental nature of museums, as being educational, does not focus on the commercial promotion of or motivation for their products or services [30]. • Some museums focus on the quality of collections and ignore motivational plans for audiences [30]. • Museums aim to attract new and repeat visitors, but due to the lack of promotion and marketing, visitors do not gain motivation to visit [30,31]. • Many visitors are not motivated to read stories in museums or visit cultural places [2,18,32]. • If more consideration is given to tourists' interests, it may increase visitation, understanding, and appreciation of cultural sites and museums [33–35]. • It can be challenging to seek out the motivations of disabled tourists [9,36]. • There is not enough knowledge about how best to encourage disabled tourists to visit heritage sites [3,24]. • Tourists often seek entertaining and enjoyable experiences to travel [37–39]. • Tourists that do not understand cultural tourism tend to have little motivation to travel [2,25].
Theme 3: Management and funding	<ul style="list-style-type: none"> • A lack of investment in historical site conservation [26,40]. • A lack of funding for heritage sites contributes to insufficient visitor management and site protection [40]. • There is not enough cooperation between political bodies and cultural sites [41]. • Tourists are dissatisfied with the management of cultural places [42–45]. • Cultural sites often have inadequate infrastructural facilities [26]. • Local communities are disconnected from nearby historic sites [22,26]. • The government should improve the cultural environment of heritage sites, increase accessibility, and upgrade the amenities offered to tourists [46–48].
Theme 4: Marketing and branding	<ul style="list-style-type: none"> • Tourists are not invested in cultural sites and are unwilling to visit [49]. • A lack of brand loyalty in the cultural tourism sector [50]. • Generally, there is insufficient advertising [40]. • Museums rarely apply marketing to promote themselves [51]. • Museums lack marketing plans to communicate or attract and develop activities with visitors [52]. • Museums have no purchasable physical products. Therefore, they need to create branding and corporate identity [30].
Theme 5: Personal experience	<ul style="list-style-type: none"> • A lack of knowledge or personal experience [2]. • Many tourists have not had a personal experience of visiting cultural sites [53,54]. • Tourists hold outdated perspectives of cultural tourism [54].

4.1. Issues in Cultural Tourism: Five Themes

In the case of diversity, as the main issue, several studies have stated that less diversity among cultural tourists leads to less tourism in cultural places in general, which causes lower financial support from the government, consequently leading to other issues regarding management and funding. In terms of motivation, these problems diminish interest in cultural sites, leading to other problems with factors such as personal experience (tourists' lack of involvement and understanding at cultural sites) and marketing and branding issues (tourists' lack of brand loyalty toward a cultural place and no advertising budget to attract the target audience) [3,4,19,22–24,26,29,42].

4.2. Diversity in Museums: Four Themes

Identifying the diversity of tourists in museums is the most challenging task for designers since there is no one universal classification for tourists. The most famous method for characterizing diversity was proposed by Loden et al. [55] and called the diversity wheel. This wheel is divided into four dimensions, comprising personality (general behavior when interacting with others), internal dimension (age, gender, physical ability, etc.), external dimension—affecting decision-making (education, marital status, place of residence, etc.), and organizational dimension (positioning of working) [55,56]. Museum designers should understand the diversity of tourists, starting with their demographic profiles, and how they can establish a deeper level of exhibition connection with the visitors. However, demographic information alone is not enough. For example, tourists from various racial groups, who may originate from different countries and cultures, could have different lifestyles.

Therefore, museum designers should focus on the “why” question regarding visits because different tourists have different needs, purposes, motivations, and experiences.

Theme 1: Demographic aspects

Some studies have categorized tourists according to demographic aspects [55–57]. Kasemsarn and Nickpour [58] studied five groups of tourists (youths, people uninterested in cultural tourism [noncultural tourists], older adults, people with disabilities, and cultural tourists) using a questionnaire to identify barriers to and drivers of cultural tourism.

Theme 2: Learning aspects

Regarding learning aspects, Levasseur and Veron [59] proposed four different types of museum visitors based on metaphors involving animals’ movements. The resulting pattern is quite apparent, but some studies have suggested this method does not provide enough information because the walking pattern depends on the museum’s exhibition layout design. Some studies have suggested focusing on tourists’ learning behaviors [60,61]. This suggestion illustrates that tourists have different learning styles: some prefer writing things down, others reading diagrams, maps, or using other visual or interactive media. This classification is appropriate and matches the aim of the museum as a learning place; however, it is not connected to tourists’ identities.

Theme 3: Purposive aspects

In the case of purpose for visiting, Falk and Dierking [62] proposed that tourists’ needs and their purpose for visiting are crucial for museum designers. They argued that focusing only on demographic profiles does not allow for insight into tourist needs, expectations, etc. The focus should be on why tourists go to museums, instead of on which tourists go to museums. Their studies categorized tourists into seven personas, as presented in Table 6.

Theme 4: Motivational aspects

Stein, Garibay, and Wilson [63] suggest that ethnic background, age, and social group are insufficient to understand motivations. Their study aims to understand non-traditional audiences and, specifically, identify different groups of immigrant visitors to museums and their motivations for visiting as follows:

(1) Home country values—immigrants who enjoy the familiarity and comfort of an exhibition related to their home country (e.g., an Indian immigrant regularly took her child to the Cincinnati museum).

(2) Community’s cultural values—immigrants who spend their leisure time or quality time with their family, community members, or engage in social interactions.

(3) Educational values—immigrants who try to educate their children and identify museums as appropriate places for this.

(4) Cultural identity values—immigrants who feel strong personal connections with their cultural identity at a museum exhibition.

Han [64] refers to an exhibition about Chinese people in America titled “Where is Home?” at the Museum of Chinese America, New York. This exhibition aimed to present Chinese immigrant identity by dividing audiences into three target groups, telling each about their homeland:

(1) The community—Chinese living in a small area, such as Chinatown, who want to know about the area’s origins.

(2) The national—Chinese nationals who want to know about Chinese immigrant history in the US.

(3) The global—a worldwide Chinese audience who want to know about the Chinese immigrant journey to America, Africa, and Southeast Asia.

Table 6. Different museum tourist characteristics.

Demographic Aspects	Loden et al. [55]; Gardenswartz et al. [56]	1. Personality (general behavior when interacting with others)		2. Internal dimension (age, gender, physical ability, etc.)		3. External dimension—affecting decision-making (education, marital status, place of residence, etc.)		4. Organizational dimension (positioning of working)							
	Kasemsarn and Nickpour [58]	1. People with disabilities: those with symptoms relating to any of the following: vision, hearing, mobility, mental health, intellectual function, cognition/learning, and long-term health conditions		2. Cultural tourists: those who engage in cultural tourism with more than four trips per year		3. Older adults: people over 60 years old		4. People uninterested in cultural tourism (noncultural tourists): those who engage in cultural tourism with fewer than four trips per year		5. Youths: people 15–24 years old					
Learning Aspects	Levasseur and Veron [59]	1. The ant visitor: spends much time on one particular exhibition		2. The butterfly visitor: visits all exhibitions with varied focus		3. The grasshopper visitor: visits only exhibition areas of interest		4. The fish visitor: visits most of the exhibitions briefly							
	Umiker-Sebeok [65]	1. The pragmatic: interested in in-depth information		2. The critical: interested in the aesthetics of the exhibitions		3. The utopian: interested in social interaction		4. The diversionary: have the goal of having fun at the exhibitions							
	Gardner [60]	1. The linguistic: prefers written material		2. The logical-mathematical: prefers diagrams		3. The spatial: prefers reading maps		4. The musical: prefers learning through visual and interactive media							
	McCarthy [61]	1. The analytical: prefers facts		2. The common sense: prefers theories		3. The imaginative: prefers listening and social interaction		4. The experiential: prefers learning by trial and error							
Purposive Aspects	Falk and Dierking [62]	1. Professionals/Hobbyists: feels a relationship between the exhibition and their profession/hobby		2. Explorers: are curious to learn, but not experts		3. Respectful pilgrims: focus on what is represented as a memorial		4. Affinity seekers: are motivated by heritage		5. Facilitators: are socially motivated		6. Experience seekers: are collecting experiences through museums		7. Rechargers: are seeking restorative experience	
Motivational Aspects	Stein, Garibay, and Wilson [63]	1. Home country values: feeling comfortable in a related home exhibition		2. Community cultural values: spending time with family or social interaction				3. Educational values: seeing museums as educational places		4. Cultural identity values: feeling a strong connection with culture					
	Han [64]	1. The community: wants to know about the origins of Chinatown in the US		2. The national: wants to know about Chinese immigration to the US		3. The global: wants to know about the Chinese immigrant journey worldwide									

4.3. Inclusive Design in Museums: 5 Themes

Theme 1: understanding older adults

The tourism industry tends to ignore this demographic and treats them as general tourists [3,66,67]. However, the average age of the global population continues to increase; and people are living longer, healthier lives due to advances in medical care. As such, older adults have become a powerful consumer group with large amounts of free time and the capacity to pay for some of the support services and facilities they need, such as wheelchair ramps or medical staff [66].

Theme 2: understanding people with disabilities

Currently, around 10% of the global population is made up of people with disabilities [67]. Research indicates that this demographic comprises very loyal customers who will return to places that offer suitable accessibility options for their needs. Providing for this market can drive significant revenue for the wider tourism industry, including cultural tourism [3,24,68,69]. This is supported by Shaw-Lawrence's statement, "It is essential that countries that wish to expand their incoming travel markets should have the necessary facilities in place and an understanding of how to service the special needs of tourists with disabilities" [67] (p.8).

Theme 3: understanding youth

Cultural sites sometimes assume that only older people are interested in cultural tourism and so ignore the youth demographic. However, the Scottish Executive has identified young people as a key target group for cultural tourism now, and in the future when they are adults. To prepare for future trends in cultural tourism, government and industry must develop a more detailed understanding of the range of demographic profiles, lifestyles, barriers, drivers, and behaviors among youth cohorts [29,70].

Theme 4: understanding barriers and drivers of visitors

Different tourist groups (e.g., older adults, people with disabilities, and young people) have varying characteristics and needs, including those that relate to the barriers and drivers of cultural tourism engagement [7,29]. Dong, Keates, and Clarkson [71] illustrate that inclusive design enables the examination of drivers and barriers so that drivers can be supported and barriers erased.

Kasemsarn and Nickpour [2] (p.409) studied five groups of tourists (youth, people uninterested in cultural tourism [noncultural tourists], older adults, people with disabilities, and cultural tourists) using a questionnaire to identify barriers to remove and drivers to support cultural tourism. The results showed that the top barriers were "lack of time to attend" (youth, non-cultural tourists, and cultural tourists), "difficult to access via public transport" (older adults), and "physical well-being" (disabled people). Regarding drivers that should be promoted, the following were most important: "outstanding scenery" (youth); "visiting a place that I have not visited before" (older adults); "prestige, pride, and patriotism" (disabled people); "spending time with family/friends" (non-cultural tourists); and "increasing knowledge about foreign destinations, people, and things" (cultural tourists).

Theme 5: understanding the lifestyles and behaviors of visitors

To encourage more non-cultural tourists, the focus should be on cultural organizations learning more about the lifestyles and motivations of groups who make up a smaller percentage of their visitor numbers [19]. For example, young people may not participate in cultural tourism because they do not adequately understand the relevance of a heritage site. By learning more about the interests and behaviors of youth tourists, cultural sites can develop more personalized ways to encourage them to visit, engage with, and appreciate cultural sites and museums [18,29,72]

4.4. *Motivation in Museums: Two Themes*

When tourists go to heritage sites, many avoid reading or only read a limited amount of the information provided [2,18,32]. This can be due to a lack of understanding about, or enjoyment of, a cultural site and the stories presented there [37,38,72]. This problem offers an opportunity to facilitate greater engagement with cultural tourism. Digital storytelling can deliver engaging interpretations for a range of settings and subjects and helps to increase visitor motivation [7,9–12].

Theme 1: push and pull motivation

Generally, motivation drives individuals and directs them to act in certain ways [73]. Researchers have suggested that two core drivers motivate travel: push and pull. Push motivation relates to the desire or inspiration that induces an individual to travel, the socio-psychological motive, whereas pull motivation relates to the desire to visit a destination based on the attributes of that place [11,73,74]. Within tourism research, push and pull theory is generally considered to be a helpful framework for understanding travel motivation and identifying destination attributes.

The concept of push and pull motivation has also been incorporated into marketing strategies and informs advertising and presentations. Push strategies use promotion to generate demand and drive customer purchases, whereas pull strategies use marketing research and branding to motivate customers to seek out a product [75,76]

Theme 2: push and pull strategies applied with digital storytelling

Push and pull marketing strategies can also be applied to the use of digital storytelling. Push marketing techniques are used in digital media presentations for applications, websites, interactive museum kiosks, and games; and storytelling techniques are employed to directly motivate visitors to visit or stay longer at museums or heritage sites. For example, digital storytelling techniques can be used to inform customers of interesting activities or new destinations, highlighting the value of being a cultural tourist who explores the latest exhibition or festival, and encouraging customers to “find themselves” by traveling [7,10,77]

In pull marketing, digital storytelling can be applied to create a brand for the museum or heritage site and uses that brand to increase travelers’ motivation to visit cultural sites. Using stories to convey the experience or history of a cultural place can make tourists feel proud or interested, which then attracts them to visit from the “inside” [75,76].

Digital storytelling presentations that use both the push and pull strategies can also encourage users to focus on a story in either the virtual or physical museum space, and increase motivation to visit the actual locations [9,78,79]. Overall, digital storytelling can strengthen connections between people and places, and deliver push and pull storytelling methods that present cultural experiences. Thus, it represents a valuable tool for increasing the motivation of people to engage in cultural tourism.

4.5. *Digital Storytelling in Museums: Seven Themes*

Theme 1: digital storytelling for both online and on-site museums

Many studies have tried to identify the best methods for attracting on-site and on-line visitors to museums and heritage sites without boring an audience [7,77,80]. The findings can be applied in tandem with digital storytelling to increase visitor awareness of the context of a site or object and motivate visitors to explore the site or object as an entertainment activity.

With advances in technology, digital storytelling has become a method for delivering engaging content on online platforms [7,9,10,80,81]. When embedded in an organization’s website or application, digital storytelling can connect physical and virtual visitors with a range of collections, histories, and stories.

The question has also been raised as to how the latest technology can be used to support tourists to travel online (e.g., through virtual museums). Virtual reality and augmented reality technologies can mean a visitor is not required to leave home. There

is concern that such technology may further decrease the motivation of visitors to travel to actual historical places or museums. However, research has indicated that it increases motivation to visit virtual or online museums and motivates them to visit the actual museums in the future [7,9,10,80,81].

Pescarin et al. [82] presented an on-site virtual tour of the museum on Palatine Hill, which is different from other virtual museum experiences as it applies immersive technology through digital storytelling in a physical space. They argue that virtual museums are not only online platforms but also can be included in traditional exhibitions (e.g., the virtual museum of the Scrovegni Chapel). However, building on-site virtual museums is highly challenging due to associated limitations and complications (e.g., technical and communication issues).

Theme 2: digital storytelling at museums from 2000 to 2010

In the early age (from 2000 to 2010) of digital storytelling for museums and heritage sites, a technique was used that presented on-site exhibitions to visitors through 360-degree or high-resolution images, 3-D animation, graphics, and movies to create realistic experiences from just assembling collectibles to foster the visitor experience [32,78,79]. Three dimensional technology has been used to provide more striking interactive presentations than one-way communication can deliver. Online visitors can view 3D objects and rotate them to any angle, and these 3D presentations can increase user interest and experience [83].

Digital storytelling can provide visitors with various language options to deliver a truly universal communication opportunity [79,80]. However, at that time, bandwidth internet connections required high-speed internet. As a result, some online museums offered both low- and high-resolution presentations and required plug-ins and up-to-date web browsers. Therefore, not everyone was able to access the presentations.

From 2000–2010, strong examples of digital storytelling included the virtual Smithsonian tour and the Virtual Museum of Iraq. The virtual Smithsonian tour presented stories on the history of humans and nature by allowing online visitors to walk through the virtual museum (in the same format as today's Google Street View). Online visitors could access high-resolution images, videos, audio, and artifacts that could be viewed and rotated in 3D. Different versions of the tour were provided to be mobile compatible and to cater to low- and high-speed broadband connections [83]. The Virtual Museum of Iraq presented 3D models that users could rotate, which were accompanied by short video presentations telling stories related to the objects. The films, animations, and reconstructions were offered in Italian, English, and Arabic [84].

The key trends, techniques, and issues for museums in this period (2000–2010) can be summarized as follows: (1) creating a visitor experience from on-view exhibitions [32,79]; (2) using 3D images to deliver a new museum experience to online users [83,84]; (3) providing virtual access to inaccessible objects and places [79,80]; (4) offering universal forms of communication, e.g., different languages [79,80]; and (5) requirements for high-speed internet bandwidth [79,83].

Theme 3: digital storytelling at museums from 2010 to the present

From 2010 onwards, rapid technology developments, including mobile technologies, enabled advances in the delivery of digital storytelling. For example, a GPS enabled users to be located and shown maps with augmented reality displayed via smart devices for engaging site-specific storytelling

Online museums offer users a range of ways to provide feedback, rate their experience, or answer questions about their interests, which enables them to be matched with information that aligns with their interests. This provides users with a customized and personalized experience [7,81,85–88].

From 2010 to the present, the use of digital storytelling in museums has focused on (1) applying user experience methods [36,81,86,89,90]; (2) presenting personalized information that matches a user's interests and enabling users to customize, personalize, and share

their interests on social media [36,81,87,89,90]; and (3) using mobile device technology (e.g., GPS/AR) [81,86–88,91].

Theme 4: increasing accessibility

Sundstedt et al. [92] see virtual technology as providing a new opportunity for heritage sites and museums as a form of virtual recreation. Additionally, digital technology can provide precise data on an object or place, deliver digital storytelling to attract visitors, and increase access for researchers and tourists. Some historical sites cannot be visited due to the expense, an inhospitable or remote location, site fragility, security issues or conflict, or if the site no longer exists [77,93]. Combining virtual models with digital storytelling can enable visitors to interact with fragile objects that cannot be handled or historical sites that cannot be visited in the real world [9,77,93].

Theme 5: re-create no longer existing places

Rizvić and Skalonjić [94] applied digital storytelling to reconstruct the Sultan Murat's Fortress in Sjenica, Serbia, which had been destroyed. In this project, visitors can explore the original appearance and study the history of this site by using a 3D VR system that recreates tombs and artifacts. The creators believe that technology alone is not enough and that applying digital storytelling as well can create life and feeling for visitors.

The Westwood Experience used mixed reality, including images, audio, and AR, to link a real location to the past. The digital storytelling approach allowed the user to follow the mayor of Westwood on a guided tour of the town in 1949. Interestingly, users had to walk 1.1 miles for the presentation, with all the interactions and narratives of the story presented along the way. In addition, the CHES (cultural heritage experiences through socio-personal interactions and storytelling) experience [95] allowed visitors to complete a short quiz that identified their preferences and interests. They were then provided with a personalized interactive storytelling experience.

Theme 6: creating a city's digital memories

Beijing Memory Project, which started in 2013, is a good example of applying digital storytelling to become broader. This project aims to collect and transfer all cultural musings of Beijing, such as those related to nostalgia, identity, basic resources, literary works, and cultural activities, into digital preservation. Work is presented through digital, archival, personal narratives of audiences, pictures, 3D models, news, books, articles, videos, games, and websites [96]. These collectively represent the whole city via digital storytelling as digital memory.

Theme 7: Digital storytelling with the latest technology

Garzotto et al. [97] recommended that VR technology and 360° educational video presentation be used in heritage places and museums. VR is appropriate for the younger generation, who are interested in the latest technology that brings to life extinct historical or far-away places. Park et al. [98] proposed a video-based virtual tour called film-induced tourism, using VR. Digital storytelling is applied to explore cultural heritage sites. This project aimed to improve visitors' attitudes and encourage motivation toward visiting the real site. It was developed in 2017 and released for the Android system with a VR function.

Next, augmented reality (AR) is multimedia content that mixes computer-generated images with footage shot at a real location using a video camera (e.g., animation, video, websites, or 3D). AR represents a hybrid of the real and virtual worlds. Nowadays, due to advances in mobile phone technology, it is both effective and widely used [99].

Guimarães et al. [100] suggest that a digital storytelling approach could be used with AR in several categories: (1) natural heritage—e.g., the San Antonio Zoo and Aquarium, the Garden by the Bay, Singapore, Kew Gardens, England; (2) historical and archaeological places—e.g., Talking Heritage Parques de Sintra, Portugal, New York Botanic Garden; and (3) garden maintenance—e.g., Seedmat, LeafSnap, and Bioplanet.

In brief, AR is a convenient technology because it requires only a mobile phone with an application; no external equipment is needed. Furthermore, it allows for gamification, en-

hances entertainment, and deepens the narratives of digital storytelling through animation, video, audio, and 3D.

Mixed reality (MR) refers to locations which feature a combination of real and virtual objects within real and virtual environments. MR merges physical and digital space (e.g., a physical room with virtual objects). Nowadays, MR installations are deployed worldwide in heritage sites and museums to present visualizations, interactions, and interactive digital storytelling to improve visitors' experiences and cultural learning. Techniques used include fact/fantasy storytelling, multi-view 3D reconstruction, holographic technology, and diminished reality [101].

One example is eShadow, an MR digital storytelling platform inspired by traditional shadow theatre, which presents digital media (movies, games, and interactive animations) [102]. Another example is Pleistocene Crete, an exhibition with MR and an interactive installation, which informs about life during the Pleistocene era (800,000 years ago) and aims to enhance visitors' experience through multi-sensory interactions. It creates a reconstruction of animals who lived in the past [101].

5. Conclusions

This article employed a systematic literature review and reviewed the interrelationship between cultural tourism, inclusive design, and digital storytelling. Certain challenges and opportunities were identified as presented in Section 4. 371 studies from *Scopus* and *ScienceDirect* were firstly reviewed, added by 50 studies from *Google Scholar*. No literature was found focusing on the relationship between these three areas, indicating a research gap. Next, researchers took the content analysis approach to group all 421 papers which led to five categories and twenty-three themes accordingly.

Issues in cultural tourism

Between 1990 and 2022, cultural tourism has faced issues ranging from diversity, motivation, management, and funding, to marketing, branding, and personal experience. However, this article focuses on two significant issues that mainly impact cultural tourism: poor visitor diversity and motivation, which can lead to other issues.

Diversity in museums

This is a highly challenging issue because there is no one universal classification for tourists. However, as per the literature review, diversity can be grouped as follows: (1) demographic aspects (age, gender, ethnicity, education, marital status, place of residence, and behavior), (2) learning aspects (focusing on visitors' learning behaviors, matched to the aim of the museum, as a learning place), (3) purposive aspects (emphasizing the visitors' needs and why they go to museums), and (4) motivational aspects (motivations for visiting museums).

Inclusive design in museums

Inclusive design literature review identified three overlooked cultural tourist groups: (1) older adults (over 60 years)—people are living longer and healthier due to the advancement of medical care, and this group has much free time, (2) those with disabilities—people in this group are loyal customers to places that support accessibility, and (3) youth (15–24 years)—this group comprises future adults, and the tourism industry should understand their barriers and drivers to predict and prepare future trends. Additionally, inclusive designers should understand that different groups have different characteristics and seek to identify the various barriers (to why they do not visit), drivers (for why they visit), and lifestyles.

Motivation in museums

This category is composed of mainly two themes, i.e., push and pull motivations and how to apply them to digital storytelling. First, push and pull theory aims to understand visitors' motivation in terms of push, inspiration for the visitor to travel (e.g., promotion),

and pull, related to attributes of the location (e.g., branding). In the case of push, digital storytelling can be used in media presentations to motivate visitors to visit museums, presenting interesting activities and exhibitions (from the outside). Regarding pull, digital storytelling can be applied to create branding; for instance, telling stories of museums can make visitors feel proud or interested (from the inside).

Digital storytelling in museums

With the advancement of digital technology, digital storytelling has become a popular medium that can be applied both online and on-site, connecting with both physical and virtual visitors. During the early age of digital storytelling, 3D technology, virtual accessibility, offering different languages, and creating new visitor experiences were the main foci. However, there was an issue regarding high-speed internet bandwidth requirements. Therefore, after 2010, the advancement of mobile technology (e.g., GPS and AR), user experience approach, customization and personalization, and sharing on social media became significant aspects. Moreover, digital storytelling is increasing visitor accessibility (e.g., to remote, insecure, or fragile areas) and recreating extinct locations using MR, VR, or AR.

Prior to the framework in Figure 2, previous studies have identified the role of inclusive design in delivering accessible tourism based only on one group (e.g., older adults or people with disabilities). In relation to digital storytelling, the majority of studies have emphasized one specific group and often excluded certain groups. This initial framework can be applied broadly in both online and on-site digital storytelling presentations. However, if designers need to specifically design for certain tourist group segments or on-site/online media, it is recommended that they further research the details in-depth by applying inclusive design principles and digital storytelling techniques.

However, the limitations of this article include the scope of the databases, excluding WOS, and other aspects of categories excluded in business, management, and accounting, such as engineering, agriculture, economics, econometrics, and finance. This is due to the aim of this review article focusing on art and design research areas that facilitate cultural tourism. Furthermore, this review covers only the English language since it aims to explore universal problems in cultural tourism and illustrate worldwide trends. Therefore, future studies may extend this line by covering different dialects and foreign language journals from other countries to receive more specific information on the trends of each culture.

Author Contributions: Conceptualization, K.K., D.H. and F.N.; review and analysis, K.K. and F.N.; writing—original draft preparation, K.K. All authors have read and agreed to the published version of the manuscript.

Funding: This research was funded by the National Research Council of Thailand (NRCT), grant number N42A650227.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: EC-KMITL_65_095.

Data Availability Statement: Not applicable.

Acknowledgments: This research was supported by the School of Architecture, Art, and Design, KMITL, Thailand, and the National Research Council of Thailand (NRCT).

Conflicts of Interest: The authors declare no conflict of interest.

References

1. UNWTO. International Recommendations for Tourism Statistics Draft Compilation Guide. 2008. Available online: <http://unstats.un.org/unsd/tradeserv/egts/CG/IRTS%20compilation%20guide%207%20march%202011%20-%20final.pdf> (accessed on 25 January 2022).
2. Kasemsarn, K.; Nickpour, F. Inclusive Digital Storytelling to Understand Audiences' Behaviours. *Int. J. Vis. Des.* **2017**, *11*, 35–51. [[CrossRef](#)]

3. Sica, E.; Sisto, R.; Bianchi, P.; Cappelletti, G. Inclusivity and responsible tourism: Designing a trademark for a national park area. *Sustainability* **2020**, *13*, 13. [CrossRef]
4. Vergori, A.S.; Arima, S. Cultural and non-cultural tourism: Evidence from Italian experience. *Tour. Manag.* **2020**, *78*, 104058. [CrossRef]
5. Design Council, Inclusive Design Education Resource. Design Council, London. 2008. Available online: [UK.https://www.designcouncil.org.uk/our-work/skills-learning/resources/principles-inclusive-design/](https://www.designcouncil.org.uk/our-work/skills-learning/resources/principles-inclusive-design/) (accessed on 16 January 2022).
6. Clarkson, P.J.; Coleman, R. History of inclusive design in the UK. *Appl. Ergon.* **2015**, *46*, 235–247. [CrossRef]
7. Mikus, J.; Høisæther, V.; Martens, C.; Spina, U.; Rieger, J. Employing the inclusive design process to design for all. In Proceedings of the International Conference on Applied Human Factors and Ergonomics, San Diego, CA, USA, 16–20 July 2020; Springer: Cham, Switzerland, 2020; pp. 69–76.
8. Lim, Y.; Joseph, G.; Farnaz, N. What Is Psychosocially Inclusive Design? A Definition with Constructs. *Design J.* **2020**, *24*, 5–28. [CrossRef]
9. Corallo, A.; Esposito, M.; Marra, M.; Pascarelli, C. Transmedia digital storytelling for cultural heritage visiting enhanced experience. In Proceedings of the International Conference on Augmented Reality, Virtual Reality and Computer Graphics, Santa Maria al Bagno, Italy, 24–27 June 2019; Springer: Cham, Switzerland, 2019; pp. 221–229.
10. Miller, C.H. *Digital Storytelling: A Creator's Guide to Interactive Entertainment*; Routledge: Oxfordshire, UK, 2020.
11. Ohler, J.B. *Digital Storytelling in the Classroom: New Media Pathways to Literacy, Learning, and Creativity*; Corwin Press: Thousand Oaks, CA, USA, 2013.
12. Ryan, P. The storyteller in context: Storyteller identity and storytelling experience. *Storytell. Self Soc.* **2008**, *4*, 64–87.
13. O'Brien, A.M.; Mc Guckin, C. *The Systematic Literature Review Method: Trials and Tribulations of Electronic Database Searching at Doctoral Level*; SAGE Research Methods Cases Part 1; SAGE Publications Ltd.: London, UK, 2016; pp. 1–16.
14. Liberati, A.; Altman, D.G.; Tetzlaff, J.; Mulrow, C.; Gøtzsche, P.C.; Ioannidis, J.P.A.; Clarke, M.; Devereaux, P.J.; Kleijnen, J.; Moher, D. The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate health care interventions: Explanation and elaboration. *J. Clin. Epidemiol.* **2009**, *62*, e1–e34. [CrossRef]
15. Kasemsarn, K. A Framework for Inclusive Digital Storytelling for Cultural Tourism in Thailand. Ph.D. Thesis, Brunel University London, Uxbridge, UK, 2017.
16. Domšić, L. Participatory Museum Projects with Young People: Measuring the Social Value of Participation. *Int. J. Incl. Mus.* **2021**, *14*, 149–165. [CrossRef]
17. Greffe, X. *Concept Study on the Role of Cultural Heritage as the Fourth Pillar of Sustainable Development*; Suscult: Venice, Italy, 2012.
18. Kasemsarn, K. Creating a Cultural Youth Tourism eBook Guidelines with Four Design Factors. *Int. J. Vis. Des.* **2022**, *16*, 31–51. [CrossRef]
19. Isa, W.A.R.W.M.; Suhaimi, A.I.H.; Mokhtarudin, A.; Luaran, J.E.; Zulkipli, Z.A. Designing Augmented Reality for Malay Cultural Artifact using Rapid Application Development. In *Lecture Notes in Electrical Engineering*; Springer: Berlin/Heidelberg, Germany, 2022; Volume 835. [CrossRef]
20. Ray, N.M.; Ryder, M.E. "Eibilities" tourism: An exploratory discussion of the travel needs and motivations of the mobility-disabled. *Tour. Manag.* **2003**, *24*, 57–72. [CrossRef]
21. Yau, M.K.; McKercher, B.; Packer, T.L. Traveling with a disability: More than an access issue. *Ann. Tour. Res.* **2004**, *31*, 946–960. [CrossRef]
22. Keogh, B. Public participation in community tourism planning. *Ann. Tour. Res.* **1990**, *17*, 449–465. [CrossRef]
23. Allan, M. Accessible Geotourism: Constraints and implications. In *The Geotourism Industry in the 21st Century*; Apple Academic Press: London, UK, 2020; pp. 473–479.
24. Lim, J.-E. Understanding the discrimination experienced by customers with disabilities in the tourism and hospitality industry: The case of Seoul in South Korea. *Sustainability* **2020**, *12*, 7328. [CrossRef]
25. O'Leary, J.T.; Morrison, A.M.; Alzua, A. Cultural and heritage tourism: Identifying niches for international travelers. *J. Tour. Stud.* **1998**, *9*, 2–13.
26. Fakhrana, A.; Ridho, Z. Sustainable cultural tourism development: A strategic for revenue generation in local communities. *J. Econ. Trop. Life Sci.* **2020**, *4*, 47–56.
27. Hauser, H.; Beisswenger, C.; Partarakis, N.; Zabulis, X.; Adami, I.; Zidianakis, E.; Patakos, A.; Patsiouras, N.; Karuzaki, E.; Foukarakis, M.; et al. Multimodal Narratives for the Presentation of Silk Heritage in the Museum. *Heritage* **2022**, *5*, 27. [CrossRef]
28. Xia, M. From camaraderie to the cash nexus: Economic reforms, social stratification and their political consequences in China. *J. Contemp. China* **1999**, *8*, 345–358. [CrossRef]
29. Tešin, A.; Kovačić, S.; Pivac, T.; Vujičić, M.D.; Obradović, S. From children to seniors: Is culture accessible to everyone? *Int. J. Cult. Tour. Hosp. Res.* **2020**, *15*, 183–201. [CrossRef]
30. Calinao, D.J.; Lin, H.W. Fashion-Related Exhibitions and Their Potential Role in Museum Marketing: The Case of Museums in Taipei, Taiwan. *Int. J. Incl. Mus.* **2018**, *11*, 1–19. [CrossRef]
31. Rentschler, R.; Hede, A.-M. *Museum Marketing: Competing in the Global Marketplace*; Routledge: New York, NY, USA, 2007.
32. Rizvic, S.; Saszak, A.; Ramic-Brkic, B.; Hulusic, V. Virtual museums and their public perception in Bosnia and Herzegovina. *Int. Arch. Photogramm. Remote Sens. Spat. Inf. Sci.* **2011**, *38*, 421–427. [CrossRef]

33. Kay, P.L.; Wong, E.; Polonsky, M.J. Marketing cultural attractions: Understanding non-attendance and visitation barriers. *Mark. Intell. Plan.* **2009**, *27*, 833–854. [CrossRef]
34. Mezgaile, A.; Grinberga, K.; Singh, N.; Livina, A. A Study on Youth Behavior Towards the North Vidzeme Biosphere Reserve in Latvia. *J. Environ. Manag. Tour.* **2021**, *12*, 1171–1178. [CrossRef]
35. Kim, H.; Cheng, C.-K.; O’Leary, J.T. Understanding participation patterns and trends in tourism cultural attractions. *Tour. Manag.* **2007**, *28*, 1366–1371. [CrossRef]
36. Rosli, H.; Kamaruddin, N. A Conceptual Framework of Digital Storytelling (Dst) Elements on Information Visualisation (Infovis) Types in Museum Exhibition for User Experience (Ux) Enhancement. *Int. J. Acad. Res. Bus. Soc. Sci.* **2020**, *10*, 185–198. [CrossRef] [PubMed]
37. Halewood, C.; Hannam, K. Viking heritage tourism: Authenticity and commodification. *Ann. Tour. Res.* **2001**, *28*, 565–580. [CrossRef]
38. Moscardo, G. Cultural and heritage tourism: The great debates. In *Tourism in the Twenty-First Century: Reflections on Experience*; Continuum: London, UK, 2001; pp. 3–17.
39. Gallaga, E.; Jorge, T.; Berislav, A. Archaeological Attractions Marketing: Some Current Thoughts on Heritage Tourism in Mexico. *Heritage* **2022**, *5*, 32. [CrossRef]
40. Das, B.; Shukla, A. Problems and prospects of cultural tourism: A case study of Assam, India. *Int. J. Phys. Soc. Sci.* **2013**, *3*, 455.
41. Danah, B. Why youth (heart) social network sites: The role of networked publics in teenage social life. In *MacArthur Foundation Series on Digital Media and Learning—Youth, Identity, and Digital Media*; Buckingham, D., Ed.; The MIT Press: Cambridge, MA, USA, 2008.
42. Gómez, E.; Alfonso, L. Realities and problems of a major cultural tourist destination in Spain, Toledo. *Rev. Tur. Y Patrim. Cult.* **2018**, *16*, 617–636.
43. Cheng, C.H.; Kao, Y.F.; Kuo, C.L. A multimedia storytelling in a rural village: The show Taiwan e-tourism service using tablet technologies. In Proceedings of the 2014 IIAI 3rd International Conference on Advanced Applied Informatics, Kokura, Japan, 31 August–4 September 2014; IEEE: Piscataway, NJ, USA, 2014; pp. 525–526.
44. Reisinger, Y.; Mavondo, F. Determinants of youth travel markets’ perceptions of tourism destinations. *Tour. Anal.* **2002**, *7*, 55–66. [CrossRef]
45. Yuksel, A.; Yuksel, F.; Bilim, Y. Destination attachment: Effects on customer satisfaction and cognitive, affective and conative loyalty. *Tour. Manag.* **2010**, *31*, 274–284. [CrossRef]
46. Chaisorn, J. Study of the Conditions of Tourist Attractions in Order to Develop Tourism in Mae Hong Son Province. Ph.D. Thesis, Srinakharinwirot University, Bangkok, Thailand, 1993.
47. Mekonnen, H.; Bires, Z.; Berhanu, K. Practices and Challenges of Cultural Heritage Conservation in Historical and Religious Heritage Sites: Evidence from North Shoa Zone, Amhara Region, Ethiopia. *Herit. Sci.* **2022**, *10*, 172. [CrossRef]
48. Saad, D.A.; Elyamani, A.; Hassan, M.; Mourad, S. A Fund-Allocation Optimization Framework for Prioritizing Historic Structures’ Conservation Projects—An Application to Historic Cairo. In Proceedings of the Canadian Society of Civil Engineers Annual Conference, Laval, Montreal, QC, Canada, 12–15 June 2019; pp. 12–15.
49. Oppermann, M. Tourism destination loyalty. *J. Travel Res.* **2000**, *39*, 78–84. [CrossRef]
50. Uncles, M.D.; Dowling, G.R.; Hammond, K. Customer loyalty and customer loyalty programs. *J. Consum. Mark.* **2003**, *20*, 294–316. [CrossRef]
51. Chhabra, D. Proposing a Sustainable Marketing Framework for Heritage Tourism. *J. Sustain. Tour.* **2009**, *17*, 303–320. [CrossRef]
52. Kotler, N.; Kotler, P.; Wendy, I.K. *Museum Marketing and Strategy. Designing Missions, Building Audiences, Generating Revenue and Resources*, 2nd ed.; Josey-Bass: San Francisco, CA, USA, 2008.
53. Prebensen, N.K.; Woo, E.; Chen, J.S.; Uysal, M. Experience quality in the different phases of a tourist vacation: A case of northern Norway. *Tour. Anal.* **2012**, *17*, 617–627. [CrossRef]
54. Lee, J.; Graefe, A.R.; Burns, R.C. Examining the antecedents of destination loyalty in a forest setting. *Leis. Sci.* **2007**, *29*, 463–481. [CrossRef]
55. Loden, M.; Rosener, J.B. *Workforce America: Managing Employee Diversity as a Vital Resource*; Homewood: Homewood, AL, USA, 1991.
56. Gardenswartz, L.; Rowe, A. *Diverse Teams at Work: Capitalizing on the Power of Diversity. Capitalizing on the Power of Diversity*. Alexandria, VA: Society for Human Resource Management. 2003. Available online: <https://researchguides.austincc.edu/c.php?g=994136&p=7261002> (accessed on 18 January 2022).
57. Kalargyrou, V.; W, C. Diversity Management Research in Hospitality and Tourism: Past, Present and Future. *Int. J. Contemp. Hosp. Manag.* **2017**, *29*, 68–114. [CrossRef]
58. Kasemsarn, K.; Nickpour, F. A conceptual framework for inclusive digital storytelling to increase diversity and motivation for cultural tourism in Thailand. *Stud. Health Technol. Inform.* **2016**, *229*, 407–415.
59. Levasseur, M.; Véron, E. *Ethnographie de L’exposition: L’espace, le Corps et le Sens. Réédition 1991*; Bibliothèque Publique d’Information: Paris, France, 1989; ISBN 978-290-2706-198.
60. Gardner, H. *Dimenze Myšlení: Teorie Rozmanitých Inteligencí*, 1st ed.; Portál: Praha, Czech Republic, 1999; 398 p, ISBN 80-717-8279-3.
61. McCarthy, B.; McCarthy, D. *Teaching around the 4MAT® Cycle: Designing Instruction for Diverse Learners with Diverse Learning Styles*; Corwin Press: Thousand Oaks, CA, USA, 2006.

62. Falk, J.H.; Dierking, L.D. *The Museum Experience Revisited*; Left Coast Press: Oakland, CA, USA, 2013.
63. Stein, J.; Garibay, C.; Wilson, K. Engaging immigrant audiences in museums. *Mus. Soc. Issues* **2008**, *3*, 179–196. [[CrossRef](#)]
64. Han, L. Our home is here: History, memory, and identity in the Museum of Chinese in America. *Commun. Cult. Crit.* **2013**, *6*, 161–178. [[CrossRef](#)]
65. Umiker-Sebeok, J. Behavior in a museum: A semio-cognitive approach to museum consumption experiences. *Signifying Behav.* **1994**, *1*, 52–100.
66. D'Hudson, G.; Saling, L. Worry and rumination in older adults: Differentiating the processes. *Aging Ment. Health* **2010**, *14*, 524–534. [[CrossRef](#)] [[PubMed](#)]
67. Shaw, G.; Coles, T. Disability, holiday making and the tourism industry in the UK: A preliminary survey. *Tour. Manag.* **2004**, *25*, 397–403. [[CrossRef](#)]
68. Lipianin-Zontek, E.; Szewczyk, I. Adaptation of Business Hotels to the Needs of Disabled Tourists in Poland. *Probl. Perspect. Manag.* **2019**, *17*, 392–403. [[CrossRef](#)]
69. Ozturk, Y.; Yayli, A.; Yesiltas, M. Is the Turkish tourism industry ready for a disabled customer's market?: The views of hotel and travel agency managers. *Tour. Manag.* **2008**, *29*, 382–389. [[CrossRef](#)]
70. Butnaru, G.I.; Niță, V.; Melinte, C.; Anichiti, A.; Brînză, G. The Nexus between Sustainable Behaviour of Tourists from Generation Z and the Factors that Influence the Protection of Environmental Quality. *Sustainability* **2022**, *14*, 12103. [[CrossRef](#)]
71. Dong, H.; Keates, S.; Clarkson, P.J. Inclusive design in industry: Barriers, drivers and the business case. In *Ercim Workshop on User Interfaces for All*; Springer: Berlin/Heidelberg, Germany, 2004; pp. 305–319.
72. Nikolaos, B. Cultural tourism, young people and destination perception: A case study of Delphi, Greece. Dissertation, University of Exeter, 2008. Available online: <https://ore.exeter.ac.uk/repository/handle/10036/35873> (accessed on 6 December 2022).
73. Mayo, E.J.; Lance, P.J. *The Psychology of Leisure Travel. Effective Marketing and Selling of Travel Services*; CBI Publishing Company, Inc.: Boston, MA, USA, 1981.
74. Fluker, M.R.; Lindsay, W.T. Needs, motivations, and expectations of a commercial whitewater rafting experience. *J. Travel Res.* **2000**, *38*, 380–389. [[CrossRef](#)]
75. Kotler, P.; Bowen, J.; James, C.M.; Moreno, R.R.; Paz, M.D.R. *Marketing Para Turismo*; McGraw-Hill: New York, NY, USA, 2003.
76. Wells, W.; Spence-Stone, R.; Moriarty, S.; Burnett, J. *Australian Advertising Principles and Practice*; Pearson Education Australia: Melbourne, Australia, 2008.
77. Mario, C.; De Santo, M.; Lombardi, M.; Mosca, R.; Santaniello, D.; Valentino, C. Recommender Systems and Digital Storytelling To Enhance Tourism Experience in Cultural Heritage Sites. In Proceedings of the 2021 IEEE International Conference on Smart Computing (SMARTCOMP), Irvine, CA, USA, 23–27 August 2021; IEEE: Piscataway, NJ, USA, 2021; pp. 323–328.
78. HEIN; Hilde, S. *The Museum in Transition: A Philosophical Perspective*; Smithsonian Institution: Washington, DC, USA, 2014.
79. Tolva, J.; Martin, J. Making the transition from documentation to experience: The eternal egypt project. *Arch. Mus. Inform.* **2004**, *2*, 1–25.
80. Kaelber, L. A memorial as virtual traumascap: Darkest tourism in 3D and cyber-space to the gas chambers of Auschwitz. *Ertr E Rev. Tour. Res.* **2007**, *5*, 24–33.
81. Floch, J.; Jiang, S. One place, many stories digital storytelling for cultural heritage discovery in the landscape. In Proceedings of the 2015 Digital Heritage, Granada, Spain, 28 September–2 October 2015; IEEE: Piscataway, NJ, USA, 2015; Volume 2, pp. 503–510.
82. Pescarin, S.; d'Annibale, E.; Fanini, B.; Ferdani, D. Prototyping on site Virtual Museums: The case study of the co-design approach to the Palatine hill in Rome (Barberini Vineyard) exhibition. In Proceedings of the 2018 3rd Digital Heritage International Congress (DigitalHERITAGE) held jointly with 2018 24th International Conference on Virtual Systems & Multimedia (VSMM 2018), San Francisco, CA, USA, 26–30 October 2018; IEEE: Piscataway, NJ, USA, 2018; pp. 1–8.
83. Jones, G.; Christal, M. The future of virtual museums: On-line, immersive, 3d environments. *Creat. Realities Group* **2002**, *4*, 1–12.
84. Cultraro, M.; Gabellone, F.; Scardozzi, G. The virtual musealization of archaeological sites: Between documentation and communication. In Proceedings of the 3rd ISPRS International Workshop 3D-ARCH, Trento, Italy, 25–28 February 2009; pp. 25–28.
85. Katifori, A.; Karvounis, M.; Kourtis, V.; Perry, S.; Roussou, M.; Ioanidis, Y. Applying interactive storytelling in cultural heritage: Opportunities, challenges and lessons learned. In Proceedings of the International conference on interactive digital storytelling, Dublin, Ireland, 5–8 December 2018; Springer: Cham, Switzerland, 2018; pp. 603–612.
86. Pujol, L.; Roussou, M.; Poulou, S.; Balet, O.; Vayanou, M.; Ioannidis, Y. Personalizing interactive digital storytelling in archaeological museums: The CHESS project. In Proceedings of the 40th Annual Conference of Computer Applications and Quantitative Methods in Archaeology, Southampton, UK, 26–29 March 2012; Amsterdam University Press: Amsterdam, The Netherlands, 2012; pp. 93–100.
87. Trichopoulos, G.; Aliprantis, J.; Konstantakis, M.; Michalakis, K.; Mylonas, P.; Voutos, Y.; Caridakis, G. Augmented and personalized digital narratives for Cultural Heritage under a tangible interface. In Proceedings of the 2021 16th International Workshop on Semantic and Social Media Adaptation & Personalization (SMAP), Corfu, Greece, 4–5 November 2021; IEEE: Piscataway, NJ, USA, 2021; pp. 1–5.
88. Tzima, S.; Styliaras, G.; Bassounas, A.; Tzima, M. Harnessing the potential of storytelling and mobile technology in intangible cultural heritage: A case study in early childhood education in sustainability. *Sustainability* **2020**, *12*, 9416. [[CrossRef](#)]
89. Alinam, M.; Ciotoli, L.; Koceva, F.; Torre, I. Digital Storytelling in a Museum Application Using the Web of Things. In *International Conference on Interactive Digital Storytelling*; Springer: Cham, Switzerland, 2020; pp. 75–82.

90. Vrettakis, E.; Katifori, A.; Ioannidis, Y. Digital Storytelling and Social Interaction in Cultural Heritage—An Approach for Sites with Reduced Connectivity. In Proceedings of the International Conference on Interactive Digital Storytelling, Tallinn, Estonia, 7–10 December 2021; Springer: Cham, Switzerland, 2021; pp. 157–171.
91. Christodoulakis, S.; Foukarakis, M.; Tsinaraki, C.; Kanellidi, E.; Ragia, L. Contextual Geospatial Picture Understanding, Management and Visualization. In Proceedings of the International Conference on Advances in Mobile Computing & Multimedia, Vienna, Austria, 2–4 December 2013; pp. 156–160.
92. Sundstedt, V.; Chalmers, A.; Martinez, P. High fidelity reconstruction of the ancient egyptian temple of kalabsha. In Proceedings of the 3rd international conference on Computer graphics, virtual reality, visualisation and interaction in Africa, Stellenbosch, South Africa, 3–5 November 2004; pp. 107–113.
93. Paquet, E.; Viktor, H.L. Long-term preservation of 3-D cultural heritage data related to architectural sites. *Proc. ISPRS Work. Group* **2005**, *4*, 1–8.
94. Rizvić, S.; Skalonjić, I. Reconstructing cultural heritage objects from storytelling. In Proceedings of the 2015 Digital Heritage, Granada, Spain, 28 September–2 October 2015; IEEE: Piscataway, NJ, USA; Volume 2, pp. 221–226.
95. CHESSEX—Cultural Heritage Experiences through Socio-personal Interactions and Storytelling. 2011. Available online: www.chessexperience.eu (accessed on 1 September 2022).
96. Huiling, F.E.N.G.; Xiaoshuang, J.I.A.; Liang, N.I.U.; Lichao, L.I.U.; Yongjun, X.U. Building Digital Memory for Historic Urban Heritage: The Beijing Memory Project Experience. In Proceedings of the 2018 3rd Digital Heritage International Congress (DigitalHERITAGE) held jointly with 2018 24th International Conference on Virtual Systems & Multimedia (VSMM 2018), San Francisco, CA, USA, 26–30 October 2018; IEEE: Piscataway, NJ, USA, 2018; pp. 1–4.
97. Garzotto, F.; Matarazzo, V.; Messina, N.; Gelsomini, M.; Riva, C. Improving museum accessibility through storytelling in wearable immersive virtual reality. In Proceedings of the 2018 3rd Digital Heritage International Congress (DigitalHERITAGE) held jointly with 2018 24th International Conference on Virtual Systems & Multimedia (VSMM 2018), San Francisco, CA, USA, 26–30 October 2018; IEEE: Piscataway, NJ, USA, 2018; pp. 1–8.
98. Park, H.; Kim, J.; Bang, S.; Woo, W. The effect of applying film-induced tourism to virtual reality tours of cultural heritage sites. In Proceedings of the 2018 3rd Digital Heritage International Congress (DigitalHERITAGE) held jointly with 2018 24th International Conference on Virtual Systems & Multimedia (VSMM 2018), San Francisco, CA, USA, 26–30 October 2018; IEEE: Piscataway, NJ, USA, 2018; pp. 1–4.
99. Figueiredo, M.; Gomes, J.; Gomes, C. Creating learning activities using augmented reality tools. In Proceedings of the 2nd Experiment@ International Conference—Online Experimentation, Coimbra, Portuga, 18–20 September 2013; pp. 301–305.
100. Guimarães, F.; Figueiredo, M.; Rodrigues, J. Augmented Reality and Storytelling in heritage application in public gardens: Caloust Gulbenkian Foundation Garden. In Proceedings of the 2015 Digital Heritage, Granada, Spain, 28 September–2 October 2015; IEEE: Piscataway, NJ, USA, 2015; Volume 1, pp. 317–320.
101. Apostolakis, K.C.; Margetis, G.; Stephanidis, C. Pleistocene Crete: A narrative, interactive mixed reality exhibition that brings prehistoric wildlife back to life. In Proceedings of the 2020 IEEE International Symposium on Mixed and Augmented Reality Adjunct (ISMAR-Adjunct), Recife, Brazil, 9–13 November 2020; IEEE: Piscataway, NJ, USA, 2020; pp. 237–240.
102. Moumoutzis, N.; Christoulakis, M.; Xanthaki, C.; Maragoudakis, Y.; Christodoulakis, S.; Paneva-Marinova, D.; Pavlova, L. eShadow+: Mixed Reality Storytelling Inspired by Traditional Shadow Theatre. In Proceedings of the 2022 IEEE 46th Annual Computers, Software, and Applications Conference (COMPSAC), Los Alamitos, CA, USA, 27 June–1 July 2022; IEEE: Piscataway, NJ, USA; pp. 95–100.

Disclaimer/Publisher’s Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.