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# Exploring Dark Tourism in Mining Heritage: Competitiveness and Ethical Dilemmas

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Dark tourism

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## Abstract

This review paper delves into the burgeoning cultural phenomenon of dark tourism, specifically exploring its connection with Mining Heritage Towns (MHTs). The paper navigates the intricate interplay between tourism competitiveness and ethical considerations in these sites laden with historical trauma through a meticulous analysis of existing literature, case studies, and ethical frameworks. Dark tourism, characterised by exploring locations associated with tragedy, has emerged as a global trend, prompting a critical examination of its economic, cultural, and ethical dimensions within mining heritage contexts. Drawing on a wide array of sources, this comprehensive review elucidates the challenges confronting managers of heritage sites, shedding light on the complex ethical dilemmas they face. The paper comprehensively analyses the complex relationship between tourism competitiveness and ethical practices. It critically evaluates the impact of dark tourism on MHTs' economic landscape, explores its cultural implications, and delves into the ethical complexities of such visits, enriching academic discourse and offering valuable guidance for practitioners and policy-makers. The study enhances understanding of dark tourism's role in MHTs and advocates for sustainable tourism development, emphasising ethical considerations in shaping the future of these unique and historically significant sites.

## 1. Introduction

There has been a noticeable shift in travellers' interests in the recent years; they are increasingly seeking novel and intimate encounters and learning about others' experiences [1]. As a result, tourism has adjusted to these shifting preferences [2]. With the push of a button, a customer may access a wide variety of travel options, reviews, and ratings from past visitors, thanks to modern technology. These evaluations can offer some assurance regarding the intended destination, mainly if the location is less popular than expected because of contentious issues or macabre or spiritual overtones. There is a growing desire for tourism to locations where tragedies have occurred [3-6]. Death and disaster frequently elicit depressing, agonising emotions, yet travel is commonly thought to elicit happy emotions. Death and tourism, therefore, appear to be at odds with one another. Death and suffering have become significant tourist attractions, with

gloomy tourism attracting more visitors in the recent years. Visitations to locations like public execution viewings, mortuaries, and early Christian pilgrimages provide a tangible space for visitors to communicate with the dead [7]. Dark tourism, a growing trend in the travel industry, is gaining attention from countries like Ukraine, Poland, and China, where sites like Chernobyl, Auschwitz, Robben Island, Alcatraz Island, and Wenchuan Earthquake Memorial sites are popular. However, some countries still do not promote this type of travel due to ethical and moral concerns. The travel industry and governments are responding to this trend [8].

The travel and tourism industry has recently been interested in studies on death, an inevitable aspect of life [9]. Scholars are paying attention to dark tourism since individuals increasingly engage in intricate, contentious, and multifaceted dark

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tourism activities, and several discoveries from related studies have surfaced. A thorough examination of the literature is required. Several researchers have thoroughly and methodically studied the literature on dark tourism. Stone [10] reviewed studies on dark tourism conducted over the last 20 years, and recommended that researchers use an interdisciplinary approach. Scholars should comprehend the topics of cultural heritage and dark tourist locations, according to Roberts and Stone [11], to help the tourism industry. Hartmann [12] reviewed the literature on dark tourism, identified key themes, and proposed study priorities for the future with heritage sites and the intricacies of mixed communities serving as the main subjects. Light [13] comprehensively reviewed pertinent literature from 1996 to 2016 to identify the main themes and explain the connections between death, dark, and historical tourism. Rajasekaram, Hewege, and Perera [14] used the theory-context-adversity-methodology to examine the literature on dark tourism from the viewpoint of the psychological experiences of the visitors. Shekhar and Valeri [15] retrieved papers published in Scopus-indexed journals from 1996 to 2021 in a comprehensive manner, using the SPAR-4 SLR approach to find themes. The investigation concluded that new methods must have been used because the field of study was becoming a little stale. Even though there are fresh review articles, they are not without flaws and restrictions. Fonseca, Seabra, and Silva [16] examined the background, development, and features of dark tourism research before creating a demand-supply framework to conceptualise the phenomenon. Punitha and Rajashekar [17] found that terms about dark tourism and the reasons for visitors are comparable. The two evaluations mentioned above-emphasised concept definition and destination identification more than they did, offering novel ideas, concepts, traits, or approaches related to dark tourism. Rajasekaram, Hewege, Perera [14], and Light [13] evaluated dark tourism from particular angles. Shekhar and Valeri [15] obtained papers from just five years, 1996 to 2021, published in publications that Scopus indexed. The co-author, citation, and publishing of dark tourism were subjected to a bibliometric study by Ogretmenoglu, Mavric, and Dincer [18]. However, they did not address in detail the limitations of earlier research. An updated evaluation is required since, despite the abundance of accessible research, no thorough review article on dark tourism that focuses on mining heritage towns (MHTs) has been completed recently.

Dark tourism, the practice of visiting locations associated with tragedies, death or historical horrors, has gained popularity in the recent years [1, 2]. It is particularly relevant in the context of MHTs, where tourists can examine the complex interactions between human endeavour, economic progress [19], and the harsh realities experienced by mining communities [20]. MHTs are historically significant in the extraction of minerals, serving as archives for economic triumphs and a living reminder of the difficulties, sacrifices, and tragedies that have long been part of the mining industry [21, 22]. These towns act as living museums, preserving the histories of miners, their families, and the towns that grew around mining activities. Dark tourism helps people understand the human cost of resource extraction, allowing them to interact with the challenging conditions miners faced, the labour disputes, and the tragedies that defined these towns [1]. It also encourages conversations on labour rights, sustainable practices, and the maintenance of cultural legacy in the face of industrial endeavours [2-6].

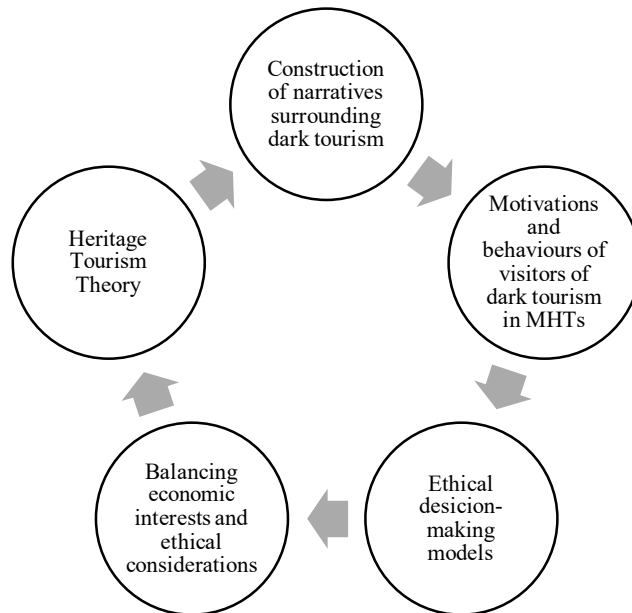
Understanding the ethical challenges MHTs face is crucial for preserving cultural authenticity, sensitive handling of human stories, and minimising ecological impact [1-6]. These challenges involve addressing exploitation, hazardous work conditions, and social injustices, ensuring respect and empathy for miners, their families, and affected communities [23]. Ethical tourism practices must minimise the ecological impact, promoting eco-friendly initiatives and conservation efforts. Balancing economic benefits with social welfare is also essential, as tourism can contribute to the local economy while prioritising the well-being of residents [24]. Ethical exploration of these dilemmas helps develop tourism models that contribute to the local economy while prioritising the community's welfare. Understanding these challenges enhances tourists' educational and empathetic experiences, fostering empathy, awareness, and a sense of responsibility [25-27]. This understanding promotes responsible tourism, allowing tourists to make conscious choices that contribute to the preservation of these sites and the well-being of local communities. Overall, delving into these ethical challenges promotes the sustainable development of MHTs, creating an ethical, responsible tourism industry that respects the diverse facets of these communities' history and culture [1-6].

Dark tourism, characterised by visits to sites associated with tragedy and historical trauma, has become a significant cultural phenomenon in the tourism industry [1, 2]. This study explores the intersection of dark tourism and MHTs, focusing on tourism's ethical considerations and competitiveness in these unique contexts. MHTs are living testaments to the transformative power of human industry, encapsulating both triumphs and tragedies of extraction and labour. The economic potential of tourism in these sites is evident, promising revenue generation, job creation, and community development [1-6]. However, the ethical responsibilities of sharing painful histories necessitate careful consideration to ensure that tourism does not exploit or diminish the gravity of past events. Understanding the nuances of dark tourism in this context requires a multi-disciplinary approach that incorporates historical, cultural, economic, and ethical dimensions. Moreover, the study is motivated by the imperative to provide actionable insights for heritage site managers, policymakers, and stakeholders involved in the tourism industry. By navigating the complexities of tourism competitiveness and ethical considerations, this research work seeks to offer practical strategies for sustainable development that respect the historical integrity of these cities,

engage local communities, and create meaningful experiences for visitors. We also shed light on the varied dimensions of dark tourism within the framework of mining history.

**2. Theoretical and conceptual framework**

This study explores heritage tourism, dark tourism, and ethical decision-making frameworks to understand visitor motivations in MHTs. It examines how historical significance shapes visitor experiences and the importance of authenticity in preserving cultural landmarks. The study also examines narratives surrounding tragic histories within the dark tourism framework, focusing on the ethical implications of storytelling. It also examines visitor engagement dynamics and the motivations and behaviours characterising the dark tourism experience in MHTs. The conceptual framework, integrated into ethical decision-making models, conducts a stakeholder analysis, examining the roles and interests of key stakeholders like local communities, tourists, heritage site managers, and policy-makers. It challenges decision-makers to balance economic interests and ethical responsibilities, considering long-term community implications and historical integrity preservation (refer to Figure 1).



**Figure 1. Theoretical and conceptual framework.**

This conceptual framework aims to comprehensively analyse dark tourism in MHTs, focusing on economic and ethical considerations. It synthesises heritage tourism, dark tourism, and ethical decision-making concepts, addressing the

unique complexities of these cities. The framework aims to unravel the relationships and trade-offs, providing valuable insights for academic understanding and practical decision-making in

sustainable development of these historically significant destinations.

### 3. Methodology

This research work adopts a dual approach, combining an extensive literature review with a

comparative case study analysis to delve into the complexities of dark tourism in MHTs (refer to Figure 2). The selected cases—Wittenoom in Australia, Bodie in the USA, and Potosi in Bolivia—serve as illustrative examples to contextualise and enrich the insights gleaned from existing literature.

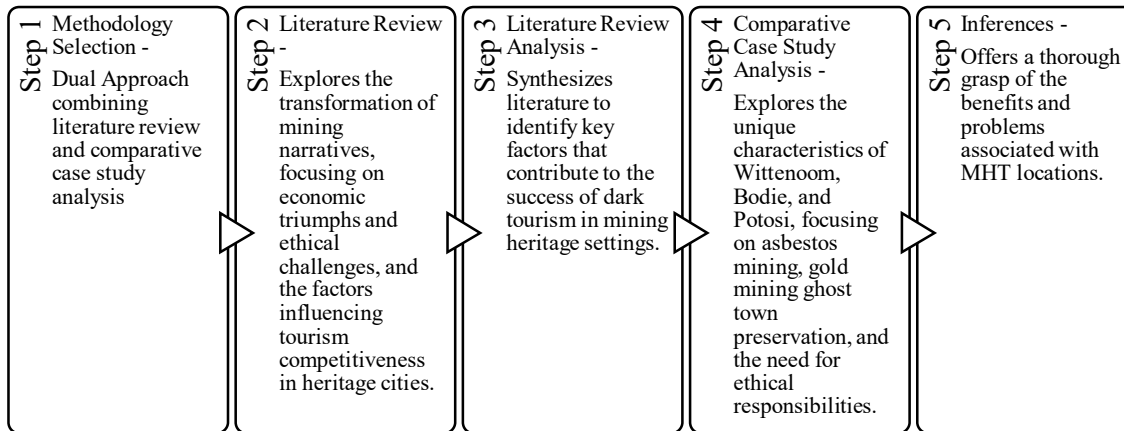


Figure 2. Methodology flowchart for the study.

The literature review delves into the historical significance of global MHTs, exploring the evolution of these locales from industry centres to dark tourism destinations. It examines the transformation of mining narratives, from economic triumphs to the ethical challenges posed by showcasing tragic histories. A critical aspect of the literature review centres on ethical considerations within dark tourism. This includes exploring the ethical responsibilities of preserving historical authenticity, respecting local communities, and ensuring a respectful visitor experience. Various ethical frameworks and guidelines applied to dark tourism are examined. The review investigates factors influencing tourism competitiveness in heritage cities, considering historical preservation, infrastructure development, marketing strategies, and community engagement. It synthesises insights from literature to identify critical elements that contribute to the success of dark tourism in mining heritage contexts.

The case study analyses the unique characteristics of Wittenoom, Bodie, and Potosi, focusing on their impact on asbestos mining, the preservation of a gold mining ghost town, and the unique challenges of a mining city with a dark history. It highlights the need to balance economic interests with ethical responsibilities in these ghost towns while examining the delicate balance between tourism development, historical authenticity, and community engagement.

The synthesis of literature findings and case study insights aims to understand dark tourism in MHTs comprehensively. This dual approach facilitates a nuanced exploration of the economic and ethical dimensions, offering a holistic perspective on the challenges and opportunities inherent in these unique destinations.

### 4. Literature review

Dark tourism is a growing subset of the tourist industry that visits locations associated with agony, sorrow, and past trauma [1], [23]. These sites trigger negative emotional responses (NEE) by arousing communal memories of horrific events in the past [2]. Death scenes are often viewed as hallowed landscapes, illustrating the nuanced emotional connections between individuals and their surroundings [3-6]. The Encyclopaedia of Sacredness lists death scenes as hallowed landscapes despite their arousal of terror and sadness [25]. Dark tourism explores the worst periods of human history and offers visitors eerie and thought-provoking ways to interact with the past [26]. Sites associated with dark tourism often see critical historical occurrences such as wars, natural catastrophes, genocides, and industrial mishaps [27]. These locations become symbols of human pain, monuments to the lives lost and the difficulties that communities face. Visiting these sites can cause tourists to experience strong emotions and reflect on what it means to be human

in the face of hardship [2]. They also captivate a distinct cultural interest for many tourists, providing a window into the unknown, upending preconceived notions, and arousing interest in the psychology of people [1]. Dark tourism offers a space for introspection and discovery by fusing historical tragedy with cultural curiosity [1-3]. Visitors face humanity's darkest sides, challenging preconceptions and fostering a better understanding of the human condition through emotional and intellectual stimulation [7-18].

#### 4.1. Definition and typologies

Since the early 2000s, mining heritage tourism has been acknowledged as a dependable source of income for post-mining areas, particularly for small communities. Tourism can nevertheless be used as a substitute economic activity, even if it is typically unlikely ever to offer the same chances for employment and income as mining in such circumstances [26-27]. Sawahlunto, a historic coal mining town, is one of several post-mining places, especially small-sized communities, that convert to tourism once their mines run out of resources. The tourist business relies heavily on visible and intangible heritage potential, which in a region like Sawahlunto might include the scenic attractiveness of historic buildings, former mining infrastructure, and mining traditions and customs. Its heritage is an essential economic engine because it attracts local and foreign tourists [24]. In specific heritage tourism research, the term "heritage" has changed from tangible to intangible [28-30], and the concept of heritage has expanded to encompass intangible heritage in addition to physical structures, locations, historical sites, and towns. Smith [31] went so far as to say that heritage is a cultural process at specific sites rather than an object or a site. Heritage is now defined by experience and memory-making, by the identity of a group or socioeconomic class, and by social and cultural values rather than by tangible things. The dichotomous perspective on heritage that is currently evolving has caused research on heritage tourism to go in different ways. For instance, Poria, Butler, and Airey [32] emphasised that heritage tourism involves visitors' reasons and perceptions of a place. In contrast, Garrod and Fyall [33] focused on the unique features of the historic site. Over two decades, the concept of "dark tourism" has significantly impacted the field of tourist studies. Previously, tourism was seen as harmless

and potentially positive for promoting peace and understanding [1]. However, the concept of dark tourism was new and disturbing, as it suggested that it may have dark qualities and could be deliberately sought after [2]. The concept provided fresh perspectives on the traveller experience, putting it at the forefront of an area previously seen as an economical endeavour [7-18]. It also offered an intellectual framework for managing multi-use tourist resources, locations, and novel links with human sense and conduct.

Although there has been progressing in defining dark tourism, consensus about its common meaning is still tricky [8]. Among the various words used to characterise death-related tourist destinations is "dark tourism" [1]. The term "dark tourism," which is often used interchangeably with "thanatourism" or "grief tourism," describes the practice of visitors travelling to locations connected to tragedies, death, or the past. The term "dark tourism," however, is the most well-known in scholarly writing and is defined as "the act of travelling to sites associated with death, suffering, and the seemingly macabre" [9] or going to places where a significant death has occurred and is still having an impact on people [30]. According to Light [13], "any form of tourism that is somehow related to death, suffering, atrocity, tragedy or crime" (p. 277) is sometimes referred to as "dark tourism." These locations frequently attract tourists curious about the darkest facets of human history and civilisation because of their gloomy or macabre backdrops [34]. Many types of dark tourism present a distinctive viewpoint on natural, man-made, and historical catastrophes (refer to Table 1).

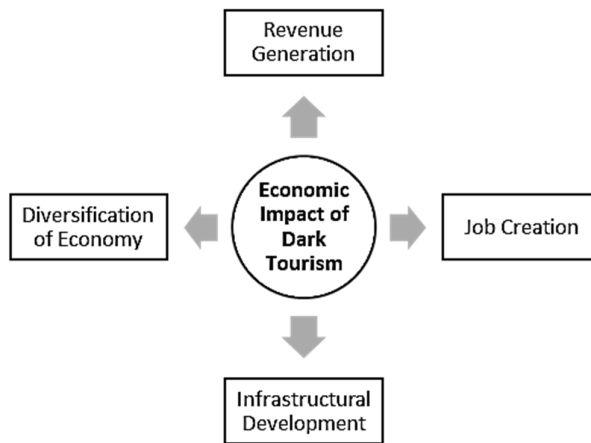
Dark tourism is a growing cultural phenomenon that invites travellers to explore the dark aspects of human history, nature's fury, industrial accidents, and cultural customs [1]. This form of travel offers emotional insights into the human condition and environment [13-16]. The evolution of dark tourism (refer to Figure 3 in Appendix A) is influenced by changing societal values, academic interests, and a desire for sympathetic interaction with the past. Despite its ongoing development, dark tourism offers a unique perspective on human nature, promoting understanding, tolerance, and conversation about the world's less fortunate times [7-18]. Its evolution is influenced by changing societal views, academic interests, and a desire for sympathetic interaction with the past [5-10].

**Table 1. Typologies of dark tourism and their definitions.**

Typologies	Definition	References
Historical tragedies	Gloomy tourism often involves historical tragedies such as assassinations, wars, genocides, and terrorist acts. Tourists visit sites like concentration camps, battlefields, and monuments to understand historical settings, pay respects to victims, and understand the human cost of combat.	[1], [3-6]
Natural tragedies	Disaster tourism, also known as natural tragedies, involves visiting areas affected by natural disasters like storms, volcanoes, earthquakes, tsunamis, or wildfires to witness the devastation, learn about disaster relief, and raise environmental and climate change awareness.	[2], [7-18]
Industrial tragedies	Refers to accidents or disasters in workplaces, factories, mines, or nuclear facilities. These tragedies highlight the impact of industrialisation on communities, labour conditions, and technical failures. Tourists often visit abandoned factories, mines, or nuclear disaster zones, such as the Triangle Shirtwaist Factory in the US and Chernobyl in Ukraine.	[5-10]
Dark cultural heritage	Dark tourism involves visiting locations related to death and suffering-related cultural practices, such as old cemeteries and catacombs, to explore these habits' historical and cultural evolution, attracting travellers fascinated by their fascination with death and suffering.	[1], [7-18]
Dark adventure tourism	Visitors seek thrills and adventure in risky locations like war zones, conflict zones, and harsh settings like Antarctica, as they provide a sense of adrenaline and risk despite not being directly connected to historical events.	[1], [13-16]

**4.2. Economic significance**

Dark tourism significantly affects local economies because it may bring tourists to tragic or historically significant locations [1], [10]. From looking at income production, employment creation, and infrastructure development, it is clear that dark tourism may significantly impact nearby towns' sustainability and economic prosperity (refer to Figure 4).



**Figure 4. Economic impacts of dark tourism.**

Dark tourism destinations attract a steady stream of tourists, generating significant revenue for local businesses [1], [3]. This boosts the local economy by attracting visitors to various activities such as lodging, dining, travel, guided tours, and souvenirs [28]. The revenue generated from these activities directly supports the maintenance and

future development of the location [32]. The increased foot traffic also benefits nearby eateries, lodging facilities, and retail establishments, boosting the local economy [3], [33]. The rise in tourism also creates numerous job opportunities, including hotel guiding, transportation management, hospitality, and catering [5-17]. These jobs not only improve the local community's socioeconomic standing but also improve the local community's overall living standards [35]. Additionally, dark tourism can revitalise areas with little economic opportunity or a history of economic collapse, attracting tourists and expanding their economies beyond traditional sectors [3-6]. However, dark tourism also has its drawbacks and moral dilemmas. Historical sites must be preserved to maintain their authenticity and cultural relevance. Sustainable tourism practices, prudent planning, and community participation are crucial for maintaining environmental integrity and cultural heritage preservation while generating economic gains [5-10]. Local communities must also actively participate in decision-making processes to ensure financial gains are distributed fairly and contribute to the community's long-term prosperity [2], [7-18].

Dark tourism has a significant positive economic influence on local economies, bringing in money, fostering employment, and advancing infrastructure. Responsible and sustainable practices are essential to maximise these advantages while maintaining the integrity of

historical monuments and guaranteeing the welfare of both visitors and the local population.

#### 4.3. Tourism competitiveness in mining heritage towns

Post-mining towns and cities are transitioning from mining to tourism to promote sustainable urban transformation. This trend highlights the practical and intangible benefits of mining history in the travel industry. Belgium's Wallonia and Japan's Iwami Ginzan demonstrate how abandoned mining areas can become popular tourist attractions. These towns offer unique features like abandoned infrastructure, miner traditions, and customs, allowing visitors to unwind and rejuvenate their mental well-being. Visits to mining historical sites can change negative stereotypes about the industry and society. Post-mining towns provide a unique experience that can attract travellers, influencing their competitiveness as a travel destination [36]. According to Vengesayi [37], the perception of a destination's capacity to meet tourists' demands is correlated with its attractiveness. A post-mining city's primary draw is its mining history elements, which should be used to attract tourists. Destination competitiveness is determined by a destination's

ability to attract tourists, boost spending on travel, establish a strong brand, or produce value-added goods that preserve resources while holding a competitive advantage over rivals [37-39]. Tourism studies have developed various tourism destination competitiveness (TDC) models with different determinants, with resources related to nature and culture being the primary factors of competitiveness [38], [40]. More evaluation is needed to understand destination qualities' relative significance and effectiveness in establishing total destination competitiveness [41-43]. The fundamental elements that make up the whole tourist experience are the characteristics of the destination. Examining the features (refer to Table 2) that make up the visitor experience in mining heritage tourism raises several questions, such as how hospitality, food, travel, and lodging affect visitors' overall experiences at mining heritage sites. The conventional understanding of the tourist experience is that it is a multifaceted concept created by consumer experiences, but heritage assets at mining heritage sites contribute to peak experiences [44-46]. Therefore, destination managers and local decision-makers must understand which place qualities shape the visitor experience.

**Table 2. Elements to be taken into account to evaluate the tourism competitiveness of MHTs and their reasons.**

Elements	Reasons	References
Historical significance	A town's mining history should be complemented by a rich cultural legacy, including museums, artefacts, preserved sites, and local customs related to mining.	[1], [41-43]
Infrastructure	A town must offer adequate tourist services, lodging, food options, and transportation to facilitate the convenient and comfortable exploration of its mining legacy.	[38], [40-43]
Marketing and promotion	Effective marketing and promotion strategies, including collaboration with travel companies, targeted advertising campaigns, and maintaining an online presence on social media and websites, are essential to attract visitors to MHTs.	[44-48]
Accessibility	Accessibility of mining heritage sites to tourists is influenced by various transportation modes such as highways, trains, airports, well-maintained roads, and city-wide public transit.	[37-39], [41-43]
Preservation and conservation	MHTs must prioritise protecting historical mining sites and cultural resources, implementing maintenance, restoration initiatives, and sustainable tourist practices to minimise environmental and community impacts.	[41-43]
Tourism infrastructure development	Investing in visitor centres, explanation centres, guided tours, and signage enhances visitors' understanding of the region's mining history.	[1], [38], [40-43]
Community engagement	MHTs' prosperity can be attributed to their involvement in tourism development and opportunities for local communities to profit from it, such as promoting regional goods, hosting cultural events, and hiring locals for tourism-related jobs.	[38-43]
Networking and collaboration	Collaborating with other MHTs, tourism organisations, and stakeholders enhances tourism competitiveness by exchanging best practices, encouraging collaborative projects, and offering packaged deals to attract visitors.	[38-43]

MHTs may improve tourism competitiveness and attract more tourists to explore their distinctive mining legacy by strategically considering these elements and executing solutions [47-49].

#### **4.3.1. Factors influencing tourism competitiveness**

Tourism competitiveness is a complex concept involving various elements contributing to a destination's appeal and attraction [41-43]. Natural attractions, such as stunning beaches and landscapes, are the cornerstones of a destination's attractiveness, drawing tourists in with their uniqueness and visual beauty [38-40]. Cultural elements, such as historical sites, monuments, and museums, also enhance the attraction of the natural world [38]. Local customs, festivals, and art galleries also build a strong bond between visitors and the destination's cultural identity [38-43], [50-51]. Infrastructure development is crucial for tourism competitiveness, providing smooth travel and easy access to tourist attractions [38], [40-43]. Accommodation options like hotels, resorts, and guesthouses are essential for comfort and convenience during a traveller's stay [1], [38], [40-43]. Policy environment and facilitators also play a role in determining the competitiveness of the tourism industry. Proactive marketing campaigns, expedited visa processes, and supportive government legislation create an atmosphere conducive to the industry's success [41-43]. Safety and security are also essential factors in a competitive tourist environment. Destinations that prioritise environmental preservation through conservation and sustainable practices ensure the durability of their natural resources, striking a balance between tourism growth and local community welfare [37-39]. Accessibility is another crucial factor, with well-connected air, land, and sea links and convenient transit options [37-39], [41-43]. Cost competitiveness, including lodging, food, and entertainment affordability, improves a destination's allure by opening it up to a broader range of visitors. The local community's active participation in tourism-related activities is essential, as it preserves local customs and culture, provides economic advantages, and creates job opportunities for locals [38-43]. Finally, cutting-

edge technology, such as digital booking systems and smart tourism initiatives, enhances a destination's competitiveness.

Tourism competitiveness in MHTs is influenced by a complex interplay of factors that attract and enhance tourists' experiences (refer to Table 3). These towns have rich cultural legacies and historical significance, often featuring fascinating pasts such as labour unrest, industrial revolutions, and scientific breakthroughs [52-53]. Visitors can explore the origins of industrialisation and people's struggles during various historical periods [52]. The town's cultural legacy includes customs, artwork, folklore, festivals, rituals, local creativity, and music. The active participation of locals significantly increases the competitiveness of MHTs as tourist destinations [38-43]. Locals create an authentic and friendly tourist environment by participating in tourism efforts and providing guided tours, workshops, and cultural performances [41-43]. This interaction helps visitors feel more connected and learn about their lifestyles, customs, and viewpoints. Community-driven projects like local markets with handcrafted and traditional goods foster a mutually beneficial relationship between the community and tourism [38-43]. MHTs that prioritise maintaining historical landmarks and cultural resources provide a competitive advantage. Restoration initiatives, continuous upkeep, and sustainable tourist practices ensure that future generations can enjoy the area's rich history and cultural diversity. Education is another critical element of MHTs' competitiveness in the tourist sector [40, 41]. Interactive educational tours, seminars, and demonstrations provide essential insights into mining methods, historical backgrounds, and socio-economic effects of mining [49, 50]. Educational programs promote empathy and respect for the resilience of mining communities by providing better knowledge of the difficulties they encounter [49], [52]. In conclusion, the interwoven components of historical importance and cultural legacy contribute to the competitiveness of MHTs as tourist destinations. These towns are more than just tourist attractions; they are living histories thanks to the preservation of historical sites, strong community involvement, and educational programs.



**Table 3. Tourism competitiveness assessment tailored explicitly to mining heritage sites engaged in dark tourism as per qualitative and quantitative variables.**

Tourism competitiveness assessment	Qualitative variable	Quantitative variable
Historical Significance	<ul style="list-style-type: none"> <li>• Preservation status of mining sites and artefacts.</li> <li>• Richness of historical narratives and storytelling.</li> </ul>	<ul style="list-style-type: none"> <li>• Number of preserved sites, artefacts, and historical monuments.</li> </ul>
Cultural Heritage	<ul style="list-style-type: none"> <li>• Cultural traditions, festivals, local dialects, culinary traditions.</li> <li>• Authenticity of local traditions, festivals, and cultural events.</li> <li>• Inclusivity of the local community in tourism initiatives.</li> </ul>	<ul style="list-style-type: none"> <li>• Number of cultural events, festivals held annually, variety of traditional dishes.</li> </ul>
Community engagement	<ul style="list-style-type: none"> <li>• Involvement of local communities in the tourism development process.</li> <li>• Preservation of local culture and traditions while benefiting the community economically.</li> </ul>	<ul style="list-style-type: none"> <li>• Number of local guides, workshops, and performances conducted by community members.</li> </ul>
Preservation efforts	<ul style="list-style-type: none"> <li>• Quality of restoration projects and implementation of sustainable tourism practices.</li> </ul>	<ul style="list-style-type: none"> <li>• Percentage of historical sites restored, energy consumption reduction due to sustainable practices.</li> </ul>
Educational initiatives	<ul style="list-style-type: none"> <li>• Quality of educational tours, availability of workshops and demonstrations.</li> </ul>	<ul style="list-style-type: none"> <li>• Number of educational tours conducted annually, participation rate in workshops.</li> <li>• Number of schools or educational institutions participating in guided educational tours.</li> <li>• Quantity of educational materials distributed to visitors and schools.</li> </ul>
Infrastructure	<ul style="list-style-type: none"> <li>• Quality of accommodation, transportation, and tourism facilities.</li> </ul>	<ul style="list-style-type: none"> <li>• Number of hotels, guesthouses, public transport routes, and tourism facilities near the site.</li> </ul>
Visitor experience	<ul style="list-style-type: none"> <li>• Quality of guided tours, educational programs, and interactive exhibits.</li> <li>• Overall visitor satisfaction and emotional engagement.</li> </ul>	<ul style="list-style-type: none"> <li>• Average duration of guided tours, visitor satisfaction ratings, and number of interactive exhibits.</li> <li>• Total number of visitors annually, monthly, or seasonally.</li> <li>• Visitor demographics: age groups, nationalities, gender.</li> <li>• Ratings or feedback scores from visitor surveys related to their experience.</li> </ul>
Economic impact	<ul style="list-style-type: none"> <li>• Economic benefits to local businesses and job creation.</li> </ul>	<ul style="list-style-type: none"> <li>• Revenue generated from tourism activities, number of jobs created (Number of jobs created directly and indirectly due to tourism activities) for local businesses and vendors within the community.</li> <li>• Total revenue from ticket sales, guided tours, merchandise, etc.</li> <li>• Average spending per visitor (in local or foreign currency).</li> <li>• Increase in property values in the vicinity of the tourism site.</li> </ul>
Environmental sustainability	<ul style="list-style-type: none"> <li>• Implementation of eco-friendly practices and sustainable tourism initiatives.</li> <li>• Conservation efforts to protect natural surroundings, wildlife, and ecosystems.</li> </ul>	<ul style="list-style-type: none"> <li>• Carbon footprint associated with tourism activities.</li> <li>• Quantity of waste generated by tourists (in kilograms or tons).</li> <li>• Energy consumption related to tourism infrastructure (in kilowatt-hours).</li> </ul>
Safety and security	<ul style="list-style-type: none"> <li>• Perception of safety among visitors.</li> <li>• Efficiency of emergency services and crisis management.</li> </ul>	<ul style="list-style-type: none"> <li>• Crime rates and response time of emergency services.</li> </ul>
Marketing and promotion	<ul style="list-style-type: none"> <li>• Effectiveness of marketing campaigns' online presence.</li> </ul>	<ul style="list-style-type: none"> <li>• Website traffic metrics (number of visitors, page views).</li> <li>• Social media engagement metrics (likes, shares, comments) on platforms like Facebook, Instagram, and Twitter.</li> </ul>
Accessibility	<ul style="list-style-type: none"> <li>• Ease of access to transportation hubs and major sites.</li> </ul>	<ul style="list-style-type: none"> <li>• Distance from major cities, number of transportation options.</li> <li>• Availability of public transportation options.</li> </ul>
Collaborations and networking	<ul style="list-style-type: none"> <li>• Partnerships with other tourism destinations, organisations, and stakeholders.</li> <li>• Participation in collaborative initiatives and joint marketing efforts.</li> </ul>	<ul style="list-style-type: none"> <li>• Number of collaborations with other dark tourism destinations, cultural organisations, and educational institutions.</li> <li>• Attendance at industry networking events and conferences.</li> </ul>
Ethical considerations	<ul style="list-style-type: none"> <li>• Ethical management of human remains, artefacts, and sensitive historical sites.</li> <li>• Responsible storytelling and interpretation respecting the dignity of individuals and communities associated with the mining heritage.</li> </ul>	

Evaluating these quantitative and qualitative variables provides a comprehensive understanding of the tourism competitiveness of mining heritage sites engaged in dark tourism. This holistic approach aids in making informed decisions for sustainable development and enhancing the visitor experience.

Dark tourism, the exploration of locations linked to death, tragedy, or past trauma, is a fascinating aspect of MHTs. These sites act as living history classrooms, providing visitors a unique opportunity to explore the town's history and understand mining communities' challenges [53, 54]. This type of tourism often results in more funding allocated to preserve historical locations connected to mining disasters, ensuring their preservation for future generations. Dark tourism also benefits local establishments, such as lodging facilities, dining establishments, tour companies, and gift stores, by generating jobs and promoting the expansion of tourism businesses [54-58]. This economic boom can significantly aid the town's growth, enhancing local amenities and infrastructure. Interactions between visitors and residents facilitate cultural awareness and exchange, fostering mutual respect and admiration [55, 56]. Dark tourism offers a differentiator for mining historical communities, making them stand out from other travel destinations due to their cultural history, historical relevance, and availability of tourism locations [57-60]. Participating in dark tourism can strengthen local economies as community members become stakeholders in the tourist sector by actively contributing to dark tourism-related exhibitions, guided tours, and cultural events [60]. Dark tourist destinations often honour historical occurrences, encouraging visitors to feel empathy and a sense of shared memory. This knowledge ensures that lessons learned from history are not lost and preserves the tales of the past, celebrating the community's tenacity [57-60]. The tourism attractiveness of MHTs is enhanced by dark tourism through educational experiences, historic site preservation, local economic stimulation, cultural interchange, identity creation, community empowerment, and memory preservation of historical events [61-62].

#### 4.4. Ethical considerations in dark tourism

Dark tourism involves visiting sites associated with tragedy, death, or historical pain, a complex and ethical practice. It requires respect for the departed, understanding the cultural sensitivities of

the local people, and respecting their customs and beliefs [63-65]. This is crucial to prevent offence to the host community. Another ethical challenge in dark tourism is balancing compassion and instruction [56]. Tour guides must provide knowledge without sensationalising or glorifying tragedies, aiming to give visitors a historical background without emotionally charged content [62]. Consent and respect for privacy are also necessary, mainly when personal narratives or live survivors are featured. Informed consent is not only morally and legally required but also legally required [66-67]. Strict criteria should be followed by museums or displays featuring personal artefacts or testimony to prevent interfering with the lives of survivors [63]. Tourists should be aware of the material's sensitive nature and encouraged to treat it respectfully and empathetically. Dark tourism is ethically based on sustainable practices and community benefits, with money from these operations being put back into the neighbourhood to support healthcare, education, and infrastructure [27-29]. Responsible tourism practices include minimising adverse environmental effects and supporting regional companies [14]. Participating in local affairs ensures that tourism's social and economic advantages are distributed fairly. By adhering to specific ethical standards, dark tourism can promote courteous, responsible, and mutually beneficial relationships between tourists and the sites they explore.

##### 4.4.1. Cultural heritage preservation

Preserving cultural heritage in dark tourism sites presents complex ethical dilemmas, encompassing concerns regarding authenticity, respectful representation, and the delicate balance between education and exploitation (refer to Figure 5).

Dark tourism sites pose an ethical dilemma in balancing historical and cultural significance while catering to tourism demands [49]. Commercialisation can dilute the site's authenticity, making it crucial to manage visitor experiences without compromising its historical significance [41-43]. Respectful representation of tragic events and the individuals involved is essential, as dark tourism often involves personal stories of loss and suffering [64-67]. Ethical storytelling methods must be employed, emphasising human experiences while preserving victims' and their families' dignity and privacy [60-61]. Consent and privacy concerns arise when

incorporating personal narratives and artefacts in dark tourism sites. It is essential to obtain informed consent from survivors and families before sharing their stories or displaying personal items [64-67]. Ethical guidelines must be established to protect the rights and emotional well-being of those connected to historical events [65]. Ethical dilemmas arise when the educational intent of dark tourism becomes voyeurism, where visitors consume tragedy as entertainment [58-60]. Responsible management and guided tours are essential to maintain the educational integrity of these sites [57]. Balancing economic opportunities with preserving local traditions and lifestyles is an ethical challenge, as uncontrolled tourism can lead to gentrification and cultural erosion. Ethical solutions involve community engagement, ensuring equitable distribution of economic benefits while safeguarding the local population's cultural heritage and social fabric [58-60].

Preserving cultural heritage in dark tourism sites requires a thoughtful approach that respects authenticity, respectful representation, and ethical visitor engagement. By upholding event dignity, obtaining informed consent, and promoting

responsible tourism, these sites can serve as educational platforms while preserving the cultural heritage they represent. Ethical decision-making is crucial for a respectful and enlightening experience for visitors.

Community engagement and participatory approaches are integral to heritage preservation, fostering a sense of ownership, empowerment, and sustainable development within local communities [68-69]. Figure 6 discusses the importance and benefits of community engagement and participatory methods in heritage preservation.

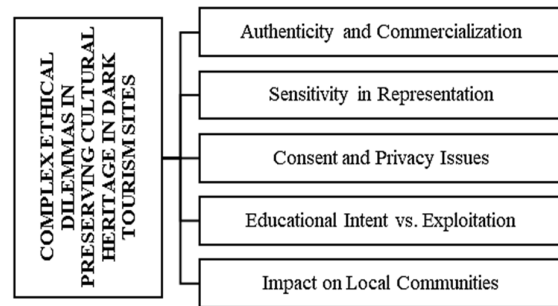


Figure 5. Complex ethical dilemmas in preserving cultural heritage in dark tourism sites.

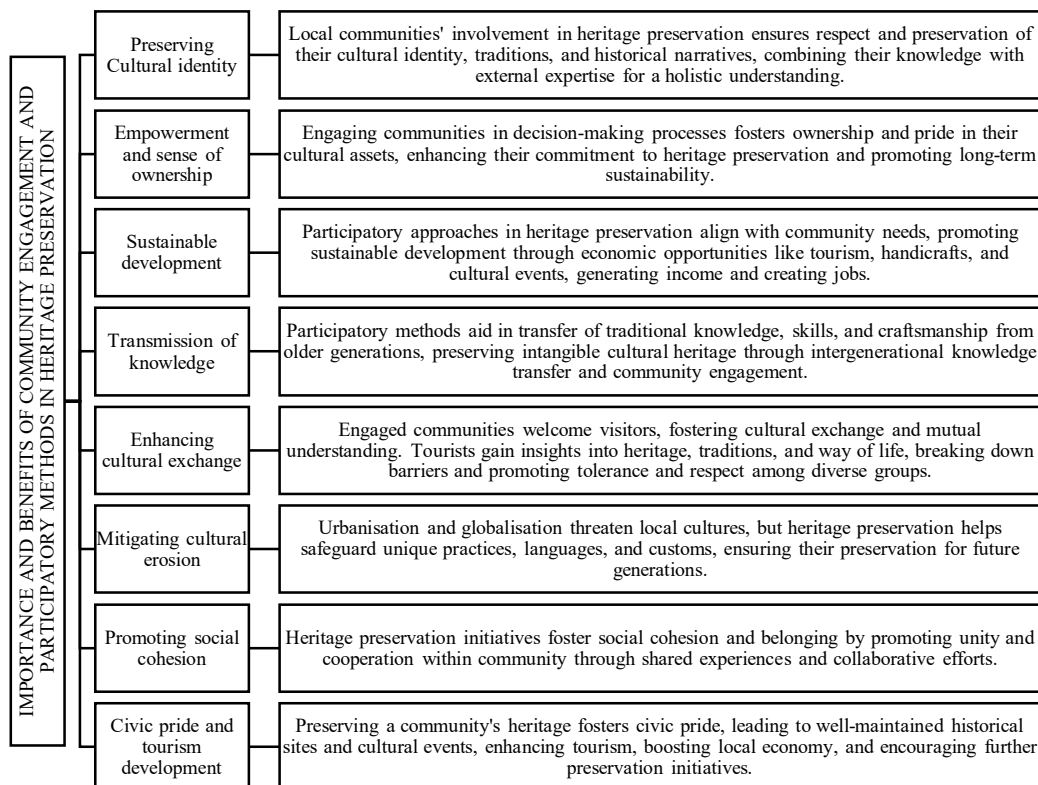


Figure 3. Complex ethical dilemmas in preserving cultural heritage in dark tourism sites.

In summary, community engagement and participatory approaches are indispensable in heritage preservation. These methods empower communities, preserve cultural identity, enhance social cohesion, and promote sustainable development, ensuring that heritage sites and traditions thrive while benefiting the communities deeply connected.

#### 4.4.2. Visitor awareness and responsible tourism

Visitor behaviour in dark tourism sites is a complex subject. The effectiveness of awareness programs in promoting responsible and respectful tourism is a critical consideration in preserving the dignity of these sites and the well-being of the communities connected to them (refer to Table 4) [40-43], [55], [57-72].

**Table 4. Analysis of visitor behaviour and the role of awareness programs.**

Domain	Analysis
Visitor behavior in Dark Tourism sites	Curiosity and sensationalism Dark tourism sites attract visitors out of curiosity or sensation, often with a voyeuristic attitude, seeking thrill or shock from associated tragedies. This can lead to a lack of empathy and respect for historical events and their people.
	Educational interest Visitors to dark tourism sites are passionate about understanding history and societal issues, seeking a deeper understanding of the past and engaging respectfully with the site's stories.
	Lack of awareness Visitors may not fully understand the ethical implications of dark tourism, leading to unintentional disrespectful behaviour due to a lack of knowledge about the site's cultural and historical significance.
awareness programs in promoting responsible and respectful tourism	Education and information Awareness programs aim to educate visitors about dark tourism sites' historical context and cultural significance, emphasising respectful behaviour, empathy, and cultural sensitivity.
	Guided tours Guided tours by trained professionals can promote responsible tourism by educating visitors about ethical considerations of visiting dark tourism sites, emphasising silence, respect, and reverence, and promoting ethical behaviour.
	Ethical storytelling Awareness programs emphasise significance of ethical storytelling, presenting historical events with dignity and sensitivity, avoiding sensationalism and fostering a deeper connection with the site's history.
	Engaging local communities Engaging local communities in awareness programs can give visitors insights into site's personal stories and cultural significance, enhancing their understanding of the emotional and historical context.
	Responsible behavior guidelines Awareness programs can offer concise guidelines for responsible behaviour at dark tourism sites, such as rules for silence, photography restrictions, and respectful conduct.
	Feedback and evaluation Effectiveness of awareness programs requires continuous feedback and evaluation, focusing on visitors' experiences and understanding ethical considerations to refine them further.

Awareness programs can promote responsible and respectful tourism at dark tourism sites by educating visitors about their significance, encouraging empathy, cultural sensitivity, and ethical behaviour [68-69]. However, the success depends on visitor engagement and site management's commitment to ethical guidelines. Balancing education with awareness, sensitivity with curiosity, and respect with curiosity is crucial for preserving dark tourism sites with dignity and empathy [3-6], [70-72].

Education and interpretation play a crucial role in shaping visitor attitudes at heritage sites, especially in the context of dark tourism. Through comprehensive education, visitors gain insights into historical events and cultural context, fostering

empathy and compassion [70-72]. Personal stories and narratives shared through interpretive programs humanise the past, encouraging emotional connection and empathy [3-6]. Education and interpretation also challenge stereotypes and biases by accurately portraying historical events and affected communities, leading to a more open-minded and inclusive perspective [1-2], [27-29], [68-69]. Educational initiatives facilitate dialogue and discussion among visitors, fostering critical thinking and a deeper understanding of the site's complex issues. Clear explanations about appropriate conduct, such as maintaining silence and respecting local customs, help shape visitors' attitudes [40-43], [49-55]. This understanding creates a respectful atmosphere at

the site and inspires action and advocacy. Informed visitors often advocate for heritage preservation and social justice issues related to the site. Empowered with knowledge, visitors may take action, support local communities, or contribute to conservation efforts, transforming passive tourists into engaged advocates for positive change [68-76]. Thus, education and interpretation work harmoniously to create a transformative experience for visitors, fostering empathy, challenging biases, encouraging dialogue, promoting responsible behaviour, and inspiring advocacy.

## 5. Case studies and comparative analysis

In exploring dark tourism, the fascination with historical tragedy converges with the preservation of cultural heritage, offering visitors a glimpse into the often-haunting past of various locations worldwide. Three intriguing case studies—Wittenoom in Australia, Bodie in the USA, and Potosi in Bolivia—testify to the complex interplay between historical significance, economic impact, cultural preservation efforts, and ethical challenges site managers face. Wittenoom, a remote mining town, reveals the devastating consequences of asbestos exposure, highlighting the delicate balance between preserving its tragic history and ensuring visitor safety. Bodie, a well-preserved ghost town from the gold Rush era, captures the essence of the Wild West, presenting a unique challenge in maintaining authenticity while accommodating the needs of modern tourists. Potosi, home to Cerro Rico, the world's largest silver deposit, offers tours inside hazardous mines, underscoring the ethical dilemmas of sharing a history of exploitation while safeguarding tourists and miners. Together, these case studies provide valuable insights into the multifaceted nature of dark tourism, shedding light on the nuanced approaches required to navigate the intersection of history, ethics, and tourism in these evocative destinations (refer to Table 3).

### 5.1. Wittenoom, Australia

Wittenoom, a mining town in Australia, experienced a boom in the mid-20th century due to the blue asbestos industry. The industry's fire-resistant properties increased demand for asbestos in construction and manufacturing. However, this prosperity came with the risk of exposure to deadly asbestos fibres, leading to severe health issues like mesothelioma and asbestosis.

- Mining type: Primarily known for mining blue asbestos (crocidolite). Asbestos was extracted

through both underground and open-pit mining methods.

- Mine production methods: The mining operations involved underground shafts and open-pit mining to extract asbestos. Underground mining was predominant in the earlier phases, transitioning to open-pit mining as demand increased.
- Geological structure: The geological structure is characterised by deposits of blue asbestos within the banded iron formations of the Hamersley Group. The presence of crocidolite asbestos made Wittenoom one of the significant asbestos-producing locations globally.

In the 1960s, the Australian government closed Wittenoom due to asbestos exposure, leaving its residents in a ghost town. The closure had significant economic repercussions on the local community, leading to unemployment and dwindling businesses dependent on the mining industry. However, in recent years, the site has seen a resurgence in economic activity through dark tourism, drawing visitors worldwide. The town's abandoned structures and industrial past provide a haunting backdrop for tourists interested in exploring Australia's industrial history. Guided tours, led by experts, shed light on the town's history, asbestos exposure, and closure, providing a deep understanding of the town's tragic legacy. Efforts to preserve Wittenoom's cultural heritage are multi-faceted, including documenting the town's history, establishing museums and interpretive centres, and organising cultural events and exhibitions to commemorate the town's legacy. Ethical challenges site managers face include ensuring tourists' safety due to asbestos risk, striking a balance between preserving safety and offering an authentic experience, and respecting the memory of former residents and their families [74]. Site managers must navigate the fine line between providing educational insights and avoiding exploitation, striving to offer a respectful and responsible tourism experience [75]. The impact of Wittenoom's industrial legacy continues beyond the town's borders, with efforts to remediate the area, mitigate environmental hazards caused by asbestos contamination, and support affected communities with resources for healthcare, counselling, and legal aid. These efforts highlight the need for comprehensive solutions addressing industrial disasters' physical, emotional, and environmental consequences.

- Historical significance: Mining heritage attracts tourists interested in exploring the history of

asbestos mining in Australia. The town's role in the mid-20th century asbestos industry is a significant chapter in the country's economic development.

- Educational tourism: Visitors are encouraged to understand the challenges miners face, the economic impact of the asbestos industry, and the health and environmental issues linked to it.
- Cultural impact: The cultural narrative explores the impact of asbestos mining on the town's residents and workers, attracting tourists interested in understanding its historical significance.

Wittenoom, a dark tourism site, serves as a reminder of ethical industrial practices, strict regulations, and society's responsibility towards those affected by tragedies. Its haunting ruins and tragic history urge visitors and industry leaders to prioritise human lives, safety, and environmental stewardship over profit, ensuring lessons are learned and heeded for future generations.

## 5.2. Bodie, USA

Bodie, a ghost town in California, is a testament to the late 1800s Gold Rush era. Previously a thriving gold mining town, it now houses abandoned homes, saloons, and a church, offering visitors a glimpse into the lives of pioneers seeking fortune. Despite being preserved, the town's state of decay adds to its allure as a dark tourism destination.

- Mining type: Gold mining town; extraction through various methods, predominantly underground mining techniques.
- Mine production methods: Primarily involved underground mining through shafts and tunnels. The town gained prominence during the California Gold Rush, and its mines were known for their significant gold output.
- Geological structure: Situated in the Bodie Hills east of the Sierra Nevada mountain range. The region's gold deposits were often found in quartz veins within the metamorphic rocks of the Bodie Formation.

Bodie, a dark tourism site, has a significant economic impact, generating revenue through ticket sales, guided tours, and associated businesses. This revenue supports the town and surrounding areas, contributing to preservation efforts and the region's development. However, managing this economic influx while maintaining the site's historical integrity presents a challenge. Bodie is designated as a State Historic Park, and

preservationists and historians work diligently to preserve the authenticity of the town's buildings and artefacts. Educational programs, guided tours, and interpretive displays educate visitors about the town's history, while partnerships with academic institutions and historical societies facilitate ongoing research [74]. Ethical challenges for site managers include balancing tourism-driven economic growth and preserving cultural authenticity [75]. Enforcing strict visitor guidelines and ensuring visitor safety are continuing challenges [76]. Community engagement is crucial in Bodie's preservation, fostering a sense of collective ownership and pride in preserving the town's legacy. Tourism also generates employment opportunities for the local population, but there's a need to manage the social impact, such as addressing potential overcrowding issues and preserving the town's tranquillity.

- Gold Rush history: Bodie's mining heritage tourism focuses on its connection to the California Gold Rush, attracting tourists to explore the town's gold mining remnants and learn about pioneers' lives.
- Ghost Town experience: Bodie's ghost town status enhances its appeal, as visitors are drawn to its well-preserved abandoned structures and sense of time travel.
- Cultural preservation: Bodie's mining heritage tourism preserves cultural and architectural aspects of the gold rush era, showcasing the community's challenges and triumphs.

Bodie, a well-preserved ghost town, demonstrates the complex relationship between dark tourism, economic impact, cultural preservation, and ethical site management. It offers valuable insights into managing heritage sites, emphasising the importance of careful planning, community engagement, and ethical considerations to ensure the town's rich history is shared with future generations.

## 5.3. Potosi, Bolivia

Potosi, Bolivia, was a significant mining hub during the Spanish colonial era, with Cerro Rico, the world's largest silver deposit, at its core. Despite its glimmering facade, the city also contains a dark narrative of exploitation and harsh working conditions miners face. Today, tourists can explore these mines and learn about the site's historical importance.

- Mining type: Historically renowned for its silver mining operations. The Cerro Rico mountain in

Potosi has been one of the world's largest silver deposits.

- Mine production methods: Silver was extracted through underground mining, shafts, and tunnels. The Cerro Rico mines were initially exploited for their abundant silver deposits.
- Geological structure: The geological structure of Cerro Rico is characterised by rich veins of silver within the mountain. The ore bodies contained significant silver, making Potosi a central hub for silver extraction during the Spanish colonial era.

Potosi, a UNESCO World Heritage Site, has experienced significant economic growth due to tourism, which generates revenue through guided mine tours, accommodations, local eateries, and souvenir shops. This boost supports the economy, providing livelihoods for residents and enhancing infrastructure. However, managing this economic boost ethically is a challenge. A balance between economic growth and preserving the site's historical and cultural integrity is essential for sustainable development without compromising the community's well-being or degrading the site's authenticity. Preserving Potosi's cultural heritage involves various efforts, including educational programs, museum exhibits, guided tours, cultural events, and collaborations with local artists and historians. Ethical challenges include ensuring the safety and well-being of visitors and miners, enforcing safety regulations, providing protective gear, and maintaining the structural integrity of mines. Ethical imperatives include sensitivity in storytelling and preventing miners from being exploited for entertainment. Addressing the economic disparity between tourists and the local community is crucial for fostering equitable growth [77]. Engaging with the local community is pivotal in preserving Potosi's cultural heritage and managing the social impact of tourism. Collaborative initiatives between tourism operators and local organisations ensure that a portion of the revenue generated directly benefits the community, supporting education, healthcare, and infrastructure development [78]. However, managing the social impact, such as potential cultural commodification, requires careful planning and continuous dialogue [79].

- Silver mining legacy: Cerro Rico, a significant silver mining centre during the Spanish colonial period, offers mining heritage tourism, allowing visitors to explore the mines and understand the region's history.
- Cultural and architectural attractions: City's unique blend of indigenous and colonial influences, shaped by centuries of mining activities, attracts tourists with its rich history and cultural traditions.
- Economic and social history: Tourism boosts local economy and offers insights into city's mining history, often incorporating visits to historic mines, museums, and cultural sites.

The case study of Potosi highlights the complex relationship between economic impact, cultural preservation, and ethical site management in dark tourism. It emphasises the importance of ethical considerations, community engagement, and sustainable development practices to preserve Potosi's historical significance while providing economic opportunities. Table 5 depicts the unique aspects and challenges of the selected case studies through comparative analysis.

Comparative insights:

- Each site represents a distinct facet of dark tourism, from asbestos tragedy in Wittenoom to Gold Rush history in Bodie and colonial exploitation in Potosi, offering diverse educational experiences.
- Safety concerns, whether due to asbestos contamination, structural decay, or hazardous working conditions, are common challenges across all sites, necessitating stringent safety measures and ethical visitor management.
- Preserving cultural authenticity and engaging with local communities are universal challenges, emphasising need for responsible tourism practices and equitable economic distribution.
- Each site's unique historical context contributes to its global significance, highlighting diverse narratives that dark tourism encapsulates, from environmental tragedies to historical exploitation, shaping visitor experience and ethical considerations involved.

**Table 5. Comparative analysis of the selected case studies as per their unique aspects and challenges.**

Case study	Unique aspects	Challenges
Wittenoom, Australia	<ul style="list-style-type: none"> <li>Former mining town known for blue asbestos mining, highlighting detrimental health effects of asbestos exposure.</li> <li>Its transformation into a dark tourism site emphasises intersection of industrial tragedy and cultural preservation.</li> <li>Characterised by its remote location, which contributes to its eerie atmosphere and challenging accessibility.</li> </ul>	<ul style="list-style-type: none"> <li>Ensuring visitor safety due to asbestos contamination is a distinctive challenge, requiring strict safety protocols and education.</li> <li>Preserving site's cultural heritage while managing economic revival and respecting dignity of affected communities present unique ethical dilemmas.</li> </ul>
Bodie, USA	<ul style="list-style-type: none"> <li>Well-preserved ghost town from Gold Rush era, reflecting Wild West history of late 1800s.</li> <li>Its state of arrested decay makes it an authentic representation of a 19th-century mining town, attracting visitors interested in historic preservation.</li> <li>Location within a state park highlights its integration into natural landscape, offering a unique blend of history and nature.</li> </ul>	<ul style="list-style-type: none"> <li>Balancing preservation with tourism demands, ensuring town's authenticity isn't compromised while accommodating visitor experiences, poses challenges.</li> <li>Addressing social impacts, including overcrowding and maintaining town's tranquillity, is essential to preserve its historical ambience.</li> </ul>
Potosi, Bolivia	<ul style="list-style-type: none"> <li>Renowned for Cerro Rico, mountain that housed world's largest silver deposit, symbolising Spanish colonial exploitation.</li> <li>Tours inside Cerro Rico provide visitors with insights into miners' harsh working conditions, creating a compelling dark tourism experience.</li> <li>Potosi's UNESCO World Heritage status emphasises its historical and cultural significance globally.</li> </ul>	<ul style="list-style-type: none"> <li>Managing safety of tourists in hazardous mine environments and ensuring miners' well-being is a significant ethical challenge.</li> <li>Addressing economic disparity between tourists and local community while preserving cultural authenticity poses unique challenges.</li> </ul>

## 6. Synthesis and Discussion

This synthesis and discussion explore dark tourism in MHTs, focusing on the intricate relationship between historical narratives, ethical responsibilities, economic interests, and community engagement. It aims to bridge the gap between theory and practice, highlighting the need for sustainable, ethical, and culturally sensitive tourism development in historically significant locations. Exploring key themes and interconnected discussions contributes to a holistic understanding of dark tourism's impact, challenges, and opportunities within the context of MHTs.

### 6.1. Dark tourism and tourism competitiveness

The synthesis of findings from case studies and existing literature on dark tourism MHTs provides valuable insights into the impact of this phenomenon on tourism competitiveness. Through the exploration of Wittenoom in Australia, Bodie in the USA, and Potosi in Bolivia, as well as the broader scholarly research, several key themes emerge, shaping our understanding of the relationship between dark tourism and tourism competitiveness in MHTs:

1. Cultural preservation and tourism appeal:
  - MHTs with histories of tragedy and exploitation often possess unique cultural and historical significance. Dark tourism leverages these narratives to attract visitors seeking immersive and educational experiences.
  - Preservation efforts such as preserving authentic structures and artefacts are crucial for enhancing a town's appeal and balancing preservation with a compelling visitor experience.
2. Economic impact and local development:
  - Dark tourism significantly boosts the local economy of MHTs through ticket sales, guided tours, accommodations, and local businesses, generating revenue, creating employment, and promoting community development.
  - Site managers must ethically manage the economic impact, ensuring equitable distribution of benefits while maintaining the town's authenticity and integrity.
3. Ethical considerations and responsible tourism:
  - Dark tourism sites often involve ethical challenges such as ensuring visitor safety in hazardous environments and respecting the dignity and privacy of affected communities.



- Responsible tourism practices including safety measures, community engagement, and cultural sensitivity, are crucial for a respectful and ethical visitor experience, promoting long-term sustainability and positive community relations.
- 4. Tourism marketing and promotion:
  - Marketing strategies significantly boost the competitiveness of MHTs by showcasing their unique stories, educational value, and cultural significance through online platforms, social media, and travel agency collaborations.
  - Collaborative marketing efforts between different MHTs and tourism organisations can create synergies, promoting joint initiatives and attracting a larger audience interested in exploring these destinations' historical and cultural aspects.
- 5. Education and interpretation:
  - Dark tourism provides a platform for educating visitors about the historical context, social

impact, and ethical considerations associated with MHTs.

- Educational initiatives like interpretive programs, guided tours, and multimedia presentations improve visitor understanding, empathy, and awareness, ensuring the long-term sustainability of tourism competitiveness.

Dark tourism in MHTs can enhance tourism competitiveness by leveraging historical narratives, preserving cultural authenticity, and engaging visitors through educational experiences. Balancing economic growth with ethical considerations and community welfare is crucial for long-term viability, sustainable tourism development, and enriching visitor experiences. The potential conflicts between economic interests and ethical responsibilities are pervasive in various sectors, including tourism. Table 6 depicts the fundamental conflicts in dark tourism in MHTs, where economic interests often clash with ethical considerations.

**Table 6. Clashing domains, their conflicts, and ethical concerns of dark tourism in mining heritage towns**

Clashing domains	Conflict	Ethical Concern
Site authenticity vs. commercialization	Overcommercialising dark tourism sites can undermine their authenticity and historical integrity by introducing extravagant attractions or merchandise, distorting the site's sombre atmosphere.	Ethical preservation of historical sites is vital, as it honours memory and dignity, while economic gain can compromise educational value and cultural significance.
Visitor experience vs. safety measures	Implementing strict safety measures, such as restricting access or requiring protective gear, may negatively impact the visitor experience, potentially making it more inconvenient or intrusive.	Ethical responsibility of ensuring visitor safety and well-being is paramount, as failure to do so could lead to accidents or health hazards, resulting in legal and ethical consequences.
Community development vs. cultural preservation	Tourism development can disrupt local communities' lifestyles, potentially eradicating traditional customs and cultural practices, and may encourage commercial activities that conflict with town's historical or cultural heritage.	Maintaining identity and dignity of a community requires a balance between economic development and cultural preservation, which is an ethical obligation.
Tourism revenue vs. local benefit	Tourism revenue often goes to private businesses or corporations, potentially causing economic disparities, as locals may not fully benefit from tourism-driven economic growth.	Tourism revenue benefits local community ethically, requiring fair business practices, employment opportunities, and investment in infrastructure to ensure its benefits.
Historical education vs. sensationalism	Sensationalism in historical events can attract more visitors but may compromise the respectful and educational nature of the experience.	Ethical responsibilities involve providing accurate historical information and fostering empathy among visitors while balancing visitor engagement with respecting the gravity of historical events.

Balancing economic interests and ethical responsibilities is crucial, but responsible management practices, community engagement, and cultural heritage preservation can mitigate conflicts. Prioritising ethical considerations helps tourism stakeholders ensure that economic interests align with the well-being of local communities, historic site preservation, and respectful visitor experiences.

**6.2. Ethical dilemmas: challenges and solutions**

Heritage tourism requires responsible management practices that balance cultural preservation, economic development, and ethical responsibility. Strategies include community involvement, visitor education, and sustainable tourism practices. By integrating these approaches, heritage sites can create a balance that preserves the

past while embracing a sustainable future. By promoting collaborative decision-making, informed visitor education, and sustainable

practices, heritage site managers can navigate the complexities of heritage tourism ethically (refer to Table 7).

**Table 7. Implementation domains, their challenges, and practical solutions and strategies for dark tourism in mining heritage towns.**

Implementation domain	Challenges	Practical solutions and strategies
Community involvement	Collaborative decision-making	Engaging local communities, indigenous groups, and stakeholders in tourism development decisions is crucial for understanding heritage sites' cultural sensitivities and ethical concerns.
	Capacity building	Implement training and capacity-building programs for local communities, focusing on tourism management, hospitality, and guiding skills, to create employment opportunities and boost their active participation in the tourism sector.
	Revenue sharing	Implement revenue-sharing mechanisms to ensure tourism profits benefit the local community directly, supporting education, healthcare, infrastructure, and overall community development.
Visitor education	Interpretive programs	Create interactive programs, tours, and multimedia exhibits to educate visitors about the site's cultural significance and ethical considerations, promoting empathy and understanding.
	Ethical guidelines	Implement strict penalties for violations of ethical guidelines, emphasising respectful behaviour, graffiti prohibition, and photography and videography guidelines to ensure responsible visitor behaviour.
	Interactive workshops	Create workshops and interactive sessions for visitors to engage with local communities and artisans, promoting cultural exchange and mutual understanding and highlighting the human aspect of heritage sites' history.
Sustainable tourism practices	Environmental conservation	Heritage sites should adopt eco-friendly practices like waste management, renewable energy use, and water conservation to minimise tourism's environmental impact and preserve natural ecosystems.
	Tourism carrying capacity	Site's sustainable tourism carrying capacity must be determined and enforced to prevent overcrowding and environmental degradation by ensuring visitor numbers do not exceed its capacity.
	Promote off-peak visits	Promoting off-peak visits through promotional packages and incentives reduces resource strain, preserves site integrity, and enhances visitor experience by evenly distributing visitor numbers throughout the year.
	Certification programs	Implement certification programs like Travelife or Green Globe to promote sustainable tourism practices, attract responsible travellers, and demonstrate commitment to ethical and sustainable tourism.

Heritage site managers can effectively navigate moral dilemmas by implementing practical solutions, ensuring community interests are respected, tourists are educated appropriately, and sustainable tourism practices are maintained, thus enhancing the well-being of local communities and promoting responsible tourism.

Tourism plays a significant role in the economic development of MHTs, contributing to revenue generation, local development initiatives, job creation, and community welfare. However, the challenge lies in balancing economic progress with preserving these sites' cultural and historical integrity. Site managers must navigate a delicate balance to ensure sustainable development. The authenticity of the visitor experience is crucial, and

maintaining the genuine historical context is essential for providing an immersive and educational experience. Site managers must integrate economic interests while upholding the site's authenticity to prevent diluting educational and empathetic dimensions. Ethical responsibility is also a central theme, ensuring visitor safety while preserving the site's integrity. Stringent protocols are necessary to protect visitors and the site from potential harm. Continuous evaluation and adjustments are required to address evolving safety concerns while maintaining the tour's authenticity. Community engagement is vital in addressing ethical dilemmas, fostering a sense of ownership, and ensuring equitable distribution of economic benefits. Collaborative efforts empower residents,

creating a harmonious relationship between economic growth and community welfare. Strategies involving local communities in shaping tourism's ethical trajectory contribute to the success of these initiatives. Education is a cornerstone of ethical dark tourism, advocating for a balanced approach that combines informative tours with sensitivity to the tragic history. Sensationalism is cautioned against, emphasising the gravity of historical events without diminishing their significance. This educational dimension is critical for fostering responsible tourism practices.

The analysis of dark tourism in MHTs reveals its intricate dynamics, highlighting the economic, cultural, and ethical aspects that influence its management. This understanding contributes to the ongoing discourse on sustainable development of dark tourism in historically significant mining towns.

## 7. Conclusions

The review emphasises the importance of balancing economic development with ethical preservation in dark tourism within MHTs. Tourism contributes significantly to the local economy, creating revenue employment opportunities and supporting community welfare. However, this must be balanced with preserving these sites' cultural and historical integrity. The authenticity of the visitor experience is crucial, as deviating from this may dilute the educational and empathetic aspects of the tour. Site managers must integrate economic interests, such as increased visitor numbers, to maintain the site's authenticity. Ethical responsibility in managing dark tourism sites within MHTs is ensuring visitor safety while preserving the site's integrity. Implementing necessary safety measures is essential, even if these precautions may limit visitors' freedom of exploration. Ethical concerns necessitate stringent safety protocols, shielding visitors and the site from potential harm. Community engagement is vital in addressing ethical dilemmas. Active involvement of the local community in tourism initiatives fosters a sense of ownership and ensures equitable distribution of economic benefits. Collaborative efforts empower residents to shape the ethical trajectory of tourism in their area. Education is a cornerstone of ethical dark tourism, balancing the informative nature of tours with a sensitive approach to the tragic history. Sensationalism must be avoided, emphasising the gravity of historical events without diminishing their significance. By prioritising authenticity, visitor safety, community

engagement, and responsible education, heritage site managers can navigate these ethical challenges and ensure the sustainable growth of dark tourism in MHTs.

This study explores the sustainable growth of dark tourism in historically rich destinations, focusing on balancing economic progress with ethical responsibilities. It emphasises the importance of community engagement in preserving these sites' authenticity and historical integrity. The study also highlights the role of local communities in fostering a sense of ownership and ensuring equitable distribution of economic benefits. Education is identified as a cornerstone for ethical dark tourism, emphasising the need to balance informative tours with a sensitive approach to tragic history. This approach enhances the visitor experience, fostering respect and empathy. The study integrates heritage tourism, dark tourism, and ethical decision-making frameworks, offering a comprehensive lens to analyse the relationships and trade-offs in managing dark tourism in MHTs. Heritage site managers can draw practical insights from the study, emphasising authenticity, visitor safety, community engagement, and responsible education. However, the study's limitations include the specificity of the studied cases, the dynamic nature of tourism, and evolving visitor expectations.

The sustainable development of dark tourism sites in MHTs requires ongoing research, stakeholder collaboration, and ethical awareness. Research helps understand the evolving needs of these sites, offering insights into visitor expectations, safety protocols, and community engagement strategies. Stakeholder collaboration fosters a collective approach to decision-making, ensuring diverse perspectives are considered and leading to more inclusive, culturally sensitive, and community-supported initiatives. Ethical awareness is crucial for sustainable development efforts, promoting ethical consciousness among tourists, site managers, and the wider community. Ethical guidelines help site managers make informed decisions prioritising cultural preservation, visitor safety, and community welfare. Local communities must also be empowered with ethical knowledge to engage in the tourism industry while safeguarding their cultural heritage. Ethical awareness extends to environmental considerations, promoting eco-friendly practices within these sites. Sustainable environmental practices, including waste management, energy conservation, and habitat preservation, ensure the long-term ecological

viability of these destinations. This study enriches the academic discourse on dark tourism and provides actionable insights for heritage site managers and policymakers.

## 8. Future research directions

To further advance the understanding of dark tourism in MHTs, future research avenues include:

- Longitudinal studies: Investigating the evolution of dark tourism sites over time to capture changing dynamics, visitor trends, and the long-term impact on local communities.
- Comparative analyses: Conduct in-depth comparative analyses between dark tourism destinations to discern unique challenges, opportunities, and managerial strategies.
- Environmental considerations: Exploring the intersection of dark tourism and environmental sustainability, examining how eco-friendly practices can be integrated into the management of these sites.
- Tourist perspectives: Delving deeper into the perspectives and expectations of tourists engaging in dark tourism, understanding how their motivations and experiences evolve.

The sustainable development of dark tourism sites in MHTs involves ongoing research, stakeholder collaboration, and ethical awareness. This approach allows these sites to thrive as educational, cultural, and economically viable destinations while preserving their historical and environmental legacy for future generations.

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### Annexure A

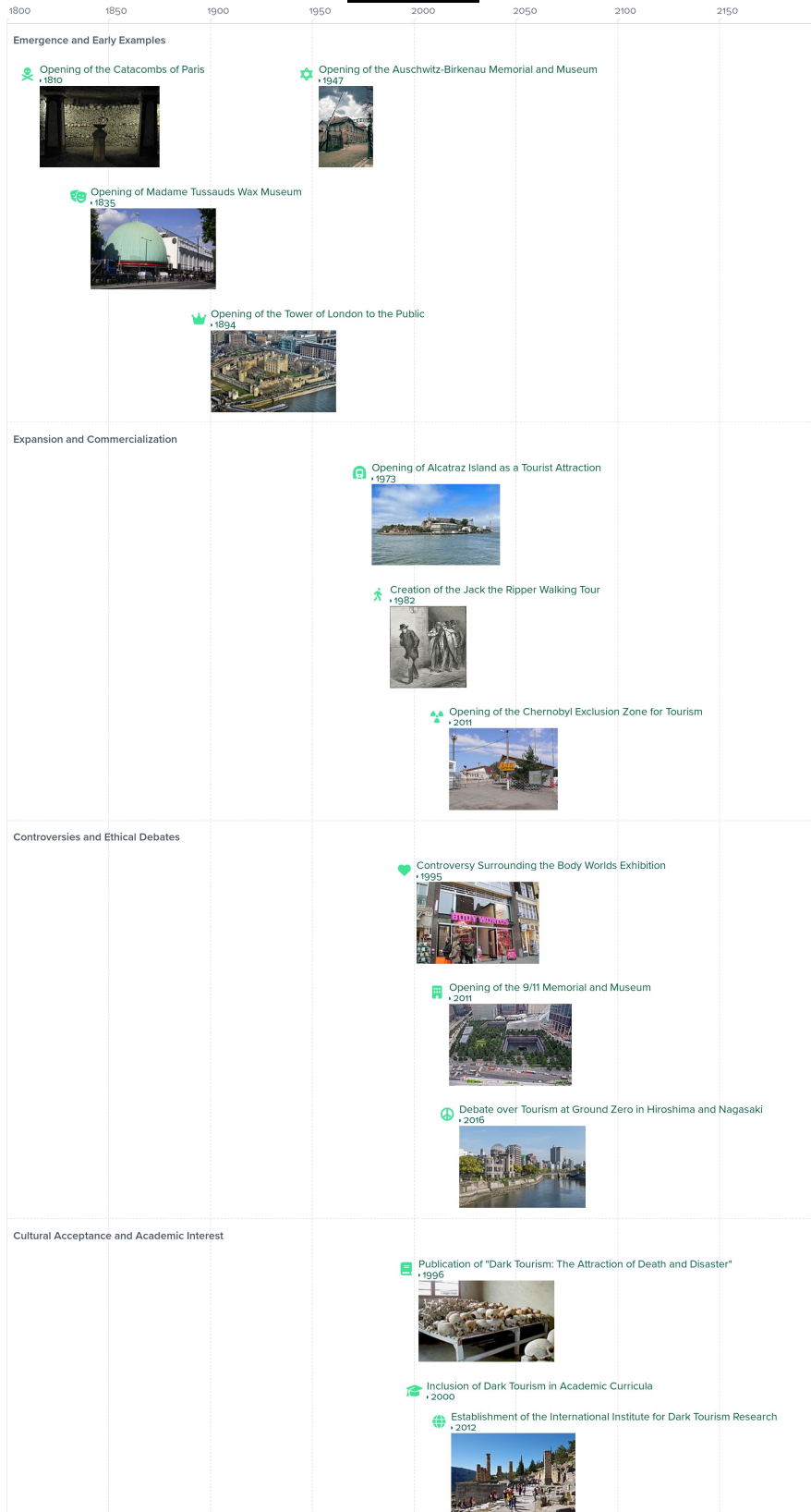


Figure 4. Evolution timeline of dark tourism as a cultural phenomenon.



## کاوش گردشگری تاریک در میراث معدن: رقابت و معضلات اخلاقی

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## چکیده:

این مقاله مروری به پدیده فرهنگی رو به رشد گردشگری تاریک می‌پردازد، به طور خاص ارتباط آن با شهرهای میراث معدنی (MHTs) را بررسی می‌کند. این مقاله تعامل پیچیده بین رقابت پذیری گردشگری و ملاحظات اخلاقی در این مکان‌های مملو از آسیب‌های تاریخی را از طریق تجزیه و تحلیل دقیق ادبیات موجود، مطالعات موردی و چارچوب‌های اخلاقی بررسی می‌کند. گردشگری تاریک، که با کاوش در مکان‌های مرتبط با تراژدی مشخص می‌شود، به عنوان یک روند جهانی ظاهر شده است و باعث بررسی انتقادی ابعاد اقتصادی، فرهنگی و اخلاقی آن در بافت‌های میراث معدنی شده است. این بررسی جامع با تکیه بر مجموعه وسیعی از منابع، چالش‌های پیش روی مدیران سایت‌های میراث را روشن می‌کند و معضلات اخلاقی پیچیده‌ای را که با آن روبرو هستند روشن می‌کند. این مقاله به طور جامع رابطه پیچیده بین رقابت پذیری گردشگری و شیوه‌های اخلاقی را تجزیه و تحلیل می‌کند. این به طور انتقادی تأثیر گردشگری تاریک را بر چشم‌انداز اقتصادی MHTs ارزیابی می‌کند، پیامدهای فرهنگی آن را بررسی می‌کند، و در پیچیدگی‌های اخلاقی چنین بازدیدهایی کاوش می‌کند، گفتمان آکادمیک را غنی می‌کند و راهنمایی‌های ارزشمندی را برای پزشکان و سیاست‌گذاران ارائه می‌دهد. این مطالعه درک نقش گردشگری تاریک را در MHTها افزایش می‌دهد و از توسعه گردشگری پایدار حمایت می‌کند، و بر ملاحظات اخلاقی در شکل‌دهی به آینده این مکان‌های منحصر به فرد و تاریخی مهم تأکید می‌کند.

**کلمات کلیدی:** گردشگری تاریک، میراث معدنی، رقابت پذیری گردشگری، ملاحظات اخلاقی، آسیب‌های تاریخی.