

Cultural entrepreneurship in industrial buildings on the coastal islands of LESBOS - LIMNOS

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Abstract

This study examines the concept of industrial tourism and cultural entrepreneurship, with emphasis on the utilization of industrial buildings on the islands of Lemnos and Lesbos. It focuses on the importance of these buildings as cultural heritage and their contribution to the development of cultural tourism. In particular, it highlights the role of industrial heritage, such as mills and windmills, and their contribution to local development. Through the survey, which was based on questionnaires, the participants' attitudes towards the contribution of these buildings to the economy and culture, their willingness to visit them and their intention to participate in actions to promote them are analyzed.

Keywords: Cultural Entrepreneurship; Industrial Buildings; Akritic Islands; Lesbos, Lemnos; Lesbos

1. Introduction

Industrial heritage is an important and integral part of the overall cultural heritage, playing a key role in preserving and strengthening the identity of local communities, while at the same time contributing to the sustainable development of local economies. Industrial heritage concerns not only the physical infrastructure of the industrial era, but also the intangible values associated with it, such as the social and technological development embodied in these structures and practices.

According to the definition provided by the International Council for the Conservation of Industrial Heritage (TICCIH), industrial heritage includes the material remains of industrial civilization that have significant historical, technological, social, architectural or scientific value. These remains are not limited to factories or production sites, but extend to a wider scale that includes:

- **Buildings:** Factories, warehouses, workshops, and other industrial facilities that are examples of industrial architecture and are associated with the economic and technological development of their time.
- **Machinery and technological tools:** Equipment and machinery used in production and manufacturing that testify to the technological innovations and developments of the industrial period.
- **Production and processing facilities:** premises used for the production of raw materials or products, such as factories, mines, steel mills, and other industrial facilities.
- **Social infrastructure:** Spaces that served the social needs of the workers in the industries, such as workers' housing, schools, hospitals, recreational facilities, but also religious and cultural spaces.
- **Communication and transport infrastructure:** Transport and communication networks that served the needs of industrial production, such as railway stations, ports, bridges, canals and other infrastructure related to the movement of goods and workers.

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The industrial heritage is inextricably linked to the evolution of local societies and their transition from rural to urban and industrial economies. This heritage shapes the cultural identity of the areas where it has developed and is a living testimony to human creativity and the quest for progress. Recognition of its importance and its preservation is not limited to historical and academic circles, but extends to local communities, which often recognise in these monuments their history, the labour of their ancestors and the potential for future development through cultural tourism and other sustainable activities.

Therefore, industrial heritage is not only a monument of the past, but also an active tool for the development of modern societies and economies, offering the possibility of using these sites for educational, cultural and tourist purposes, with respect to the history and values they represent.

2. Industrial tourism and heritage

The study of industrial heritage, according to Alfrey and Putnam (1996), involves both the recognition of the functional value of industrial remains and the protection and conservation of buildings and machinery because of their historical, technical or aesthetic value. It also includes the reuse of abandoned industrial assets, such as factories and industrial buildings, for new uses that contribute to local development. The management of these resources is not limited to their protection, but also includes the development of strategies that link industrial remains to the current and future needs of local communities, promoting the development of cultural entrepreneurship.

The individual elements of the industrial heritage include the industrial facilities, the living quarters of the workers, the infrastructure for transporting raw materials and products, as well as the machinery and tools used in the production process. Some of these buildings and facilities have been respectfully preserved in their original form and have been converted into museums, art and cultural activities.

Industrial heritage, as it evolved as a subject of study, began in England shortly before the Second World War. Until then, the architectural and technological output of the 19th and early 20th centuries were treated in an almost contemptuous manner, seen as inferior in comparison to classical architectural and technological achievements (Beaudet, 1996). In Germany and Great Britain, industrial heritage values were recognized early on and incorporated into national cultural policy. In contrast, in Southern Europe, as de Roux (2000) notes, many industrial buildings were destroyed after their withdrawal from the active production process, thus missing the opportunity to emerge as cultural assets. Traganou-Deligianni (2001) states that in Greece, industrial heritage has not yet been fully recognised as an essential part of national identity, despite the familiarity of the inhabitants with industrial buildings and the processes associated with them.

The emergence of Industrial Archaeology as a field of study in England in the early 1950s contributed to a deeper understanding of industrial heritage and its relationship with the history of architecture, technology and the social sciences (Mitzalis, 2007). Although the term has not been widely adopted in Greece, studies on industrial heritage focus on the historical significance of industrial remains (Traganou-Deligianni, 2006). Polyzos (1998) stresses that Greece did not experience the industrial revolution with the intensity observed in Central Europe and did not develop heavy industry, comparable to that of other European countries.

Greek industry started its activities in 1830 and reached its peak in the 1950s, during the period of post-war reconstruction (Chatzijosif, 1993). Important industrial cities emerged in the second half of the 19th century, such as Livadia, which exploited agricultural production and water sources to develop factories for the processing of raw materials (Karavasilis and Mikelakis, 1999). An important branch of Greek industry was the textile industry, followed by the food industry, shipbuilding and construction industries, and metallurgy.

Nikos Sifounakis (1994) stresses that industrial buildings in Greece, which were symbols of technological progress, are still numerous, despite the degradation they have suffered.

Lesvos, in particular, was a centre of industrial activity in the 19th and early 20th centuries, with the construction of olive mills, soap factories and flour mills. Although many of these buildings have been abandoned, some of the more notable ones have been restored and are now used as museums and cultural activities. Typical examples are the 'Vrana' oil mill and the Museum of Industrial Olive Oil Production in Agia Paraskevi on Lesvos (Sifounakis, 1986)

3. Cultural entrepreneurship and heritage

Cultural and heritage tourism, as a sub-category, belong to the special interest tourism sector, which has developed particularly in the post-modern era. Postmodernity is characterised by a strong link between consumption and cultural production, where consumption plays a key role in shaping cultural creation (Richards, 1996). Richards points out that culture is consumed as a tool for economic revitalization, while the creation of cultural attractions and sites with cultural value is an important factor in the competition to attract tourists and investment.

A characteristic feature of postmodernity is the gradual elimination of the traditional divisions between production and consumption, as well as between the cultural and economic spheres. McCannell (1992), as cited by Richards (1996), describes this change as the breakdown of the distinction between the means of production and the production of culture itself, a process leading to the interconnection of these two sectors.

Hughes & Kroehler (2007) define culture as the social heritage of a people, including not only the ideas, feelings and actions, but also the material goods produced by it. For his part, Tomlinson (1991) argues that the multiple definitions of culture either indicate confusion or highlight the great breadth of the concept, which can cover a wide range of characteristics. McCannell (1976) and Cohen (1979) argue that culture, as a living process, is related to tourists' search for authenticity. Visitors seek a meaningful connection with the place they are visiting, trying to make sense of their tourism experience through the discovery of cultural elements that are considered authentic. (Manola & Papagrigoriou, 2020)

In recent decades, social and economic changes have led to a significant shift in the consumption habits of tourists, who are now looking for specialized experiences beyond simple relaxation. Modern tourists have increased demands for new cultural experiences that provide them with a deeper understanding of the place they are visiting. This demand for specialized tourism services reinforces the link between culture and tourism, as travelers seek to learn about and experience the culture of their destination. (Manola, 2019)

Boniface (1995) argues that without culture, all places in the world would look identical, reducing the incentive for travellers to explore new places. Culture adds uniqueness to a destination, making it attractive to tourists seeking different experiences. However, as Richards (1996) points out, research on cultural tourism is still limited, especially in terms of the motivations, expectations and benefits sought by cultural tourists. The global rise of cultural tourism is linked to the development of a new social service class and the changing nature of consumption. (Manola & Tsatambassoglou, 2021) (Manola, 2022b). (Manola, 2022c).

According to Hall and Weiler (1992), cultural tourists find their main rewards in self-actualization, personal enrichment, self-expression and self-image satisfaction. An understanding of these needs is essential for the development of successful cultural destinations. From a marketing perspective, it is crucial to understand the nature of the tourism product so that tourists' needs, whether obvious or latent, are met (McKercher & du Cros, 2002). Wanhill (2000) stresses that the success of cultural destinations depends on creativity in their design, which must combine authenticity and interpretation for optimal visitor experience. Easy access, realistic approach and the creation of sustainable structures are also important elements for the success of these destinations. (Maniou, 2024b). (Mitoula, & Economou, 2014).

Cultural entrepreneurship plays an important role in the development of sustainable cultural destinations. As Zhou, Chan and Song (2017) point out, strategic investments in human, financial and social capital are necessary to enhance the cultural experience and create heritage-based business ventures. Through these ventures, the development of new forms of tourism that offer authentic and memorable experiences to tourists is promoted, while contributing to the economic and social development of destinations. (Maniou, 2023b), (Maniou, & Mitoula, 2024). (Maniou et al., 2024).

Finalizing this section we emphasize the importance of all digital technologies in the field of culture and education. These technologies are highly effective and productive and facilitate and improve both education and cultural presentations and awareness, procedures through mobile devices that bring educational and cultural activities everywhere [30-31], various ICTs applications that are the main supporters of education and cultural representations [32-40], and AI, STEM, and ROBOTICS [41-45] that raise educational and cultural procedures to new performance levels. In addition, the development and integration of ICTs with theories and models of metacognition, mindfulness, meditation, and the development of emotional intelligence [46-52], accelerates and improves educational and cultural practices and results even more.

4. Methodology research -analysis of findings

The questionnaire aims to collect data and opinions on the use of industrial buildings and its role in cultural entrepreneurship and local development for Lemnos and Lesvos. It concerns questions related to the experience of the sample in contact with industrialized buildings, but also about the importance of these buildings in terms of cultural heritage, as well as their contribution to cultural tourism.

Statistical description of results The survey was conducted with the participation of 130 people, of which 53.7% were women and 46.3% were men. In terms of age distribution, 35.2% of the sample were young people aged 18-24 years, followed by young adults aged 25-34 years with 27.8%. 50% of the participants stated that they had Higher Education, which suggests that the sample is educated. 29.6% of the sample is from Athens and Lesvos, while 18.5% is from Lemnos. The representation of the two islands, Lemnos and Lesvos, enhances the representativeness of the survey, given that these islands are the focus of the study.

Regarding the professional status of the participants, 61.1% (33 persons) are employed, followed by students with 25.9%. Overall, the survey includes mainly women, young highly educated and employed persons, with a particular representation from Lemnos, Lesvos.

4.1. Knowledge and visits to industrial buildings

This was followed by two questions about how aware the sample participants are of the industrial buildings in the area, focusing on the knowledge and personal experience of the sample. In these questions 59.3% were aware of the existence of industrial buildings in Lemnos or Lesvos, and it can be seen that more than half are aware of oil mills, windmills or other industrial buildings. (Table 1.) The next question has to do with the personal experience of the sample regarding a visit to an industrial building that has been exploited for cultural purposes, surprisingly despite the sample's awareness of industrial buildings 51.9% answered that they have not visited an industrial building that has been exploited for cultural purposes. (Table 2.)

4.1.1. Q1 Are you aware of the existence of industrial buildings (e.g. olive mills, windmills) on Lemnos or Lesvos?

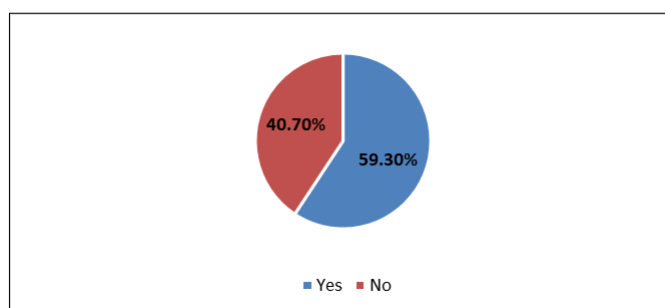


Figure 1 Are you aware of the existence of industrial buildings (e.g. olive mills, windmills) on Lemnos or Lesvos

4.1.2. Q2 Have you ever visited an industrial building that has been used for cultural purposes (e.g. museum, exhibition space)?

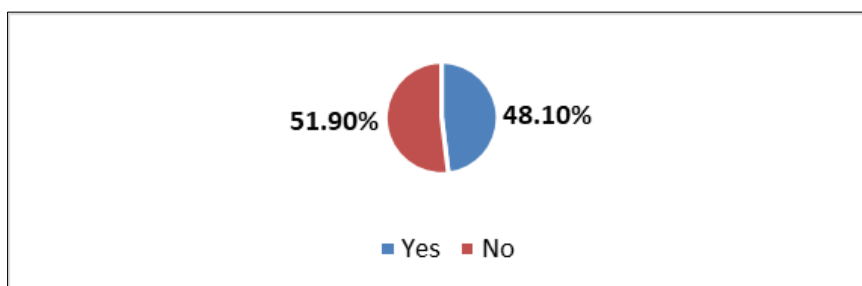


Figure 2 Have you ever visited an industrial building that has been used for cultural purposes (e.g. museum, exhibition)

4.2. Utilisation of industrial buildings in Lemnos and Lesvos

Following the survey, two more questions were asked that focused on the public's interest in the cultural uses of industrial buildings. The first was open-ended with four suggested responses, offering respondents the opportunity to choose as many answers as they wished. For this reason, a large number of responses were observed in relation to the sample size. The most popular response was conducting educational programmes/workshops on local arts and products, which attracted 27 responses, followed by organising cultural events such as concerts and theatre performances with 24 responses (Table 3).

The second question concerned the public's interest in participating in activities, such as workshops or tastings, in venues housed in industrial buildings. 46.3% of the sample expressed interest in such activities, which is confirmed by the results of the previous question (Table 4). This response indicates that many of the participants are interested in educational activities and would like to get to know the region and its culture through traditional local products.

4.2.1. Q3 Which of the following uses of industrial buildings do you consider most interesting?

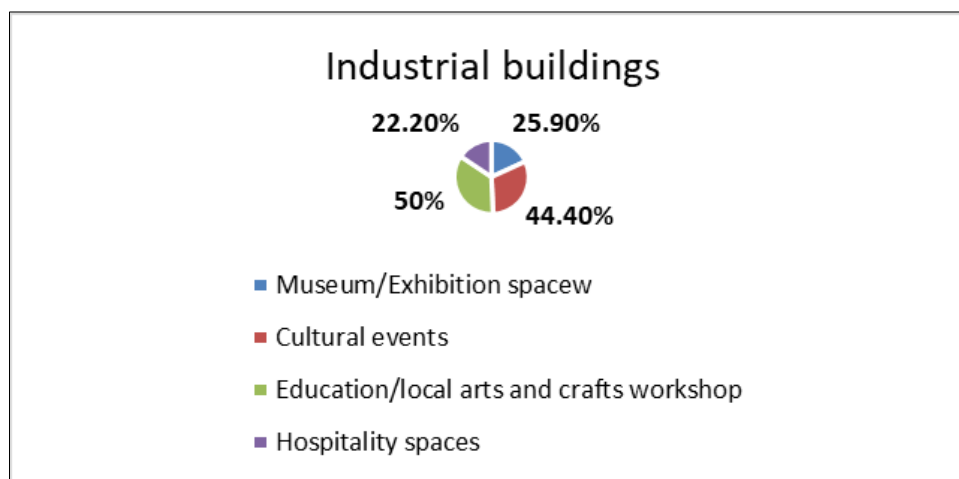


Figure 3 Which of the following uses of industrial buildings do you consider most interesting

4.2.2. Q4 Would you participate in activities (e.g. workshops, tastings) that are housed in an industrial building?

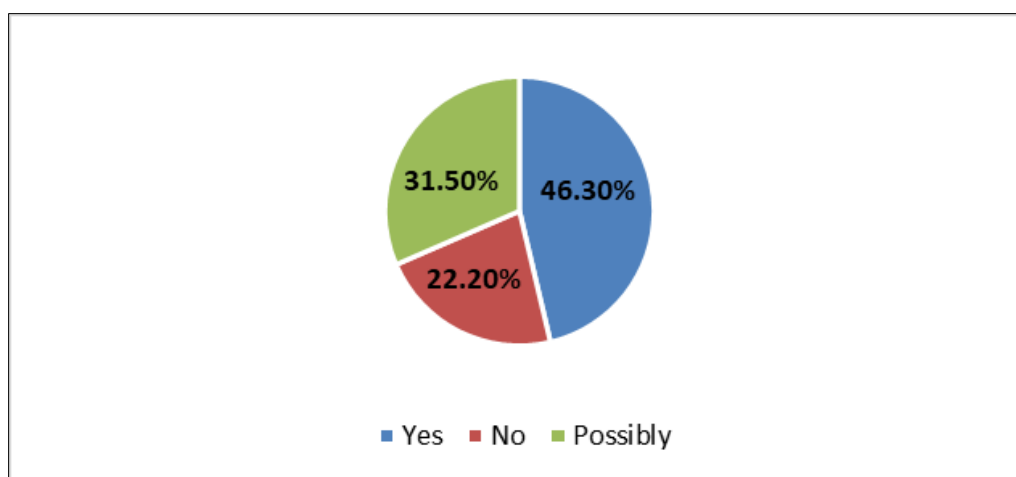


Figure 4 Would you participate in activities (e.g. workshops, tastings) that are housed in an industrial building?

4.2.3. Q5, do you believe that the utilization of industrial buildings contributes to local economic development?

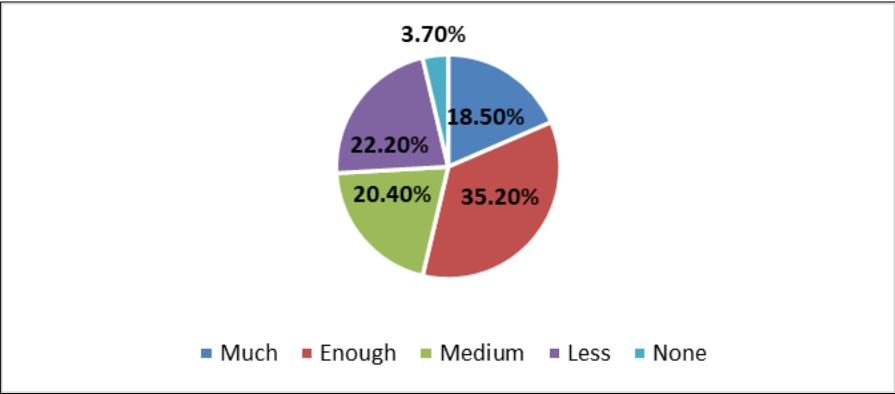


Figure 5 Do you believe that the utilization of industrial buildings contributes to local economic development?

4.2.4. Q6 How important do you consider the preservation of industrial buildings as part of cultural heritage?

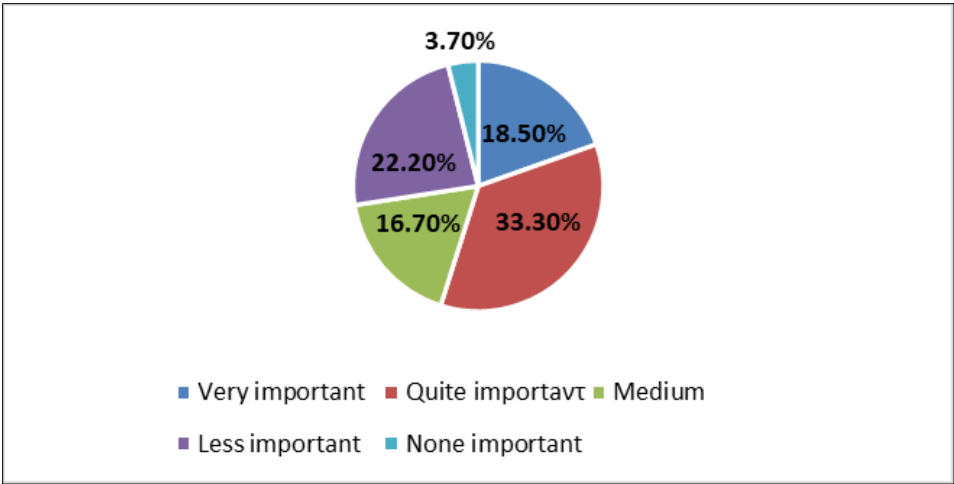


Figure 6 How important do you consider the preservation of industrial buildings as part of cultural heritage?

4.2.5. Q7 How would you rate the contribution of such places to the cultural tourism of the region?

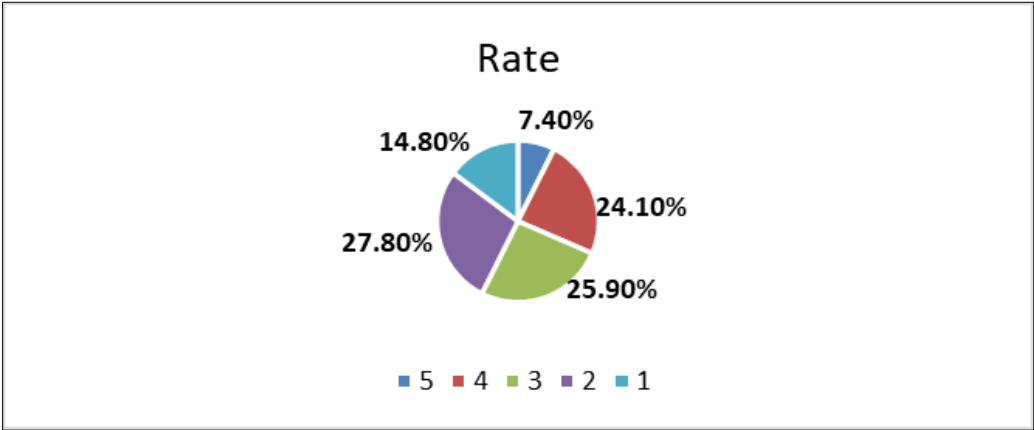


Figure 7 How would you rate the contribution of such places to the cultural tourism of the region?

4.2.6. Q8, do you believe that the utilization of industrial buildings can attract tourists interested in history and culture?

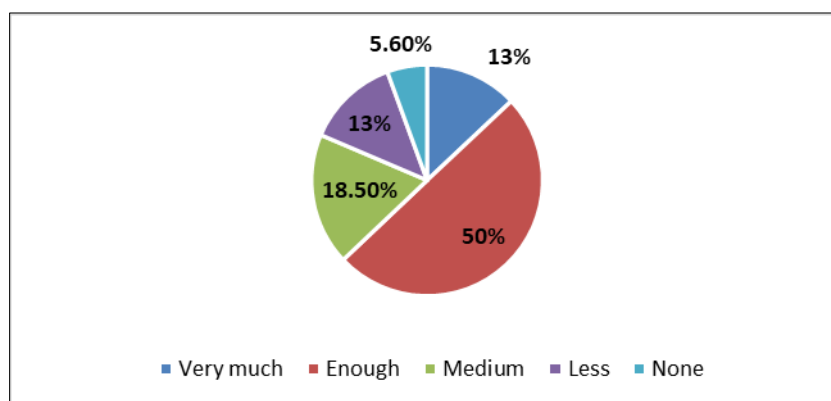


Figure 8 Do you believe that the utilization of industrial buildings can attract tourists interested in history and culture?

4.3. Contribution to local development and cultural tourism

Subsequent questions focused on the contribution of industrial buildings to local development and tourism, and the importance of cultural heritage to the sample. In the first question, the sample was asked to rate how much they believe that the use of industrial buildings contributes to local economic development, using a Likert scale. The most popular response was 'Quite a lot', with 35.2%, while 22.2% responded 'A little', reflecting a varied view in the sample. (Table 5.)

The next question, also on a Likert scale, was about the importance of preserving industrial buildings as part of cultural heritage. 33.3% of the sample responded that they considered this preservation "Quite important", while 24.1% described it as "Very important". (Table 6.)

The sample was then asked to rate the contribution of industrial buildings to the cultural tourism of Lemnos and Lesvos, also through a Likert scale, where 1 represents "Not at all" and 5 "Very". The majority of responses ranged from 2 to 4, with 27.8% selecting a score of 2 and 25.9% selecting a score of 3 (Table 7.)

Finally, the sample was asked whether they thought that the development of industrial buildings could attract tourists interested in history and culture. Half of the respondents answered that they thought that the development of the buildings would attract "Quite a few" tourists, with 50% of the respondents saying that they thought that the development of the buildings would attract "Quite a few" tourists. (Table 8.)

5. Conclusion

The survey shows that the public is interested in participating in activities, such as workshops or tastings, that take place in industrial buildings. Many of the participants showed an interest in such activities, which is also confirmed by the results of previous questions. This response indicates that many are interested in educational activities and would like to explore the region and its culture through traditional local products. The sample recognises the contribution of industrial buildings to local development and tourism and their importance as part of the cultural heritage. In the first question, participants were asked to assess whether the use of industrial buildings contributes to local economic development. The majority felt that these buildings make a significant contribution, while a smaller proportion expressed a more cautious view.

The research then focused on the importance of preserving industrial buildings as part of the cultural heritage. Most participants considered preservation to be fairly to very important, indicating the importance they attached to this part of history.

Regarding the contribution of industrial buildings to cultural tourism, the opinions of the sample ranged from neutral to positive. Participants rated the contribution of these buildings to tourism in Lemnos and Lesvos with varying degrees of interest, suggesting that there is some degree of impact, but not absolute agreement.

Finally, the participants consider that the use of industrial buildings could attract tourists interested in history and culture. The majority of participants believe that this initiative would have a positive impact on tourism, enhancing the cultural image of the area.

Compliance with ethical standards

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Disclosure of conflict of interest

The Authors proclaim no conflict of interest.

References

- [1] Alfrey, J., & Putnam, T. (1992) *The Industrial Heritage: Managing Resources and Uses*, London: Routledge. [Alfrey, J., & Putnam, T. (1996), *The Industrial Heritage: Managing Resources and Uses*, translated by Eleana Vlachou, Athens: Cultural Technological Foundation ETBA.
- [2] Beaudet, G. (1996). 'Patrimoine et Tourisme Industriel et la Resource Patrimoniale: en user sans en abuser', *Revue Téoros*, 15(2), pp. 3-4.
- [3] Boniface, P. (1995) *Managing Quality Cultural Tourism*, London and New York: Routledge.
- [4] Chatziois, Chr. (1993) *The Aged Moon: Industry in the Greek Economy, 1830-1940*. Athens: Themelio Editions.
- [5] De Roux, E. (2000) *Patrimoine industriel*, Paris: Éditions Scala/Éditions du Patrimoine.
- [6] Hall, C.M. & Weiler, B. (eds) (1992) 'Introduction: What's Special about Special Interest Tourism', in *Special Interest Tourism*, pp. 1-14.
- [7] Hughes, M. & Kroehler, C. (2007) *Sociology*, edited by Iosifidis, Th. Athens: Kritiki Editions.
- [8] Karavassili, M. & Mikhelakis, E. (1999). 'Industrial tourism: highlighting the industrial heritage of Central Greece through a network of cultural routes of special interest', *Technologia*, 9, pp. 50-52.
- [9] MacCannell, D. (1992) *Empty Meeting Grounds: The Tourist Papers*, London: Routledge.
- [10] Maniou, F. (2023b). 'Cultural entrepreneurship and sustainable tourism in Mediterranean islands', *Journal of Tourism Research*, 30(B).
- [11] Maniou, F. & Mitoula, R. (2024). 'Cultural entrepreneurship and industrial buildings - Case study: olive oil mill-museum of Vrana in Gera Lesvos', 1st National Conference on "Urban Sustainability - Historic Cities", Ancient Olympia, 18-20 October, Harokopio University, Department of Economics and Sustainable Development-Syros Institute.
- [12] Maniou, F., Mitoula, R., & Kostakis, I. (2024). 'The possibilities for cultural entrepreneurship in Eleusis as the European capital of culture', *International Journal of Science and Research Archive*, 13(01), pp. 841-849. DOI: <https://doi.org/10.30574/ijrsra.2024.13.1.1750>.
- [13] Maniou, F. (2024b). 'Cross-border cultural entrepreneurship with a focus on the Ottoman monuments of Lesvos', in 1st Open-Air Cities International Conference: Local and Regional Sustainable Development & Urban Reconstruction.
- [14] Manola, M. (2019). 'The impact of information society and cyber-culture in Greek tourism phenomenon', *Informatica Economică*, 23(1), pp. 61-71, indexed in Google Scholar, Repec peer-reviewed.
- [15] Manola, M. & Papagrigoriou, A. (2020). 'Empathy in tourism industry: a human- centered approach of hospitality in business world', *Scientific Magazine Tourismos*, 12(2).
- [16] Manola, M. & Tsatambassoglou, A. (2021). 'The city of "Matera" cultural capital and cinematographic destination with the power of literature', *Journal of Asian Research*, 5(1).
- [17] Manola, M. (2022b). 'Fairy tale as a "touristic product" and its significance on local development', *Studia ad Didacticam Biologiae Pertinentia*, 2(2), pp. 12. DOI: 10.24917/20837267.12.20.

- [18] Manola, M. (2022c). 'Italy's Theme Parks as Places of Education', in 8th International Conference on the Promotion of Educational Innovation, October 14-15, University of Volos, Larisa. Available at: <https://synedrio.eepek.gr/el/to-synedrio/praktika-synedriou>.
- [19] Mitoula, R. & Economou, A. (2014). 'Business and Entrepreneurship in South Coastal Zone of Attica Region in Greece', *Eurasian Journal of Business and Management*, 2(2), pp. 14-24
- [20] Polyzos, G. (1998). 'Past and Future for the "Silent Machines"', in E.M.P./E.I.E., *Historical-Industrial Equipment in Greece*, Athens, University Editions E.M.P. - Odysseas Editions, pp. 17-23.
- [21] Richards, G. (1996). 'Production and Consumption of European Cultural Tourism',
- [22] *Annals of Tourism Research*, 23(2), pp. 261-281.
- [23] Sifounakis, N. (1986) *Industrial Buildings in Lesvos: Olive Mills - Soap Factories. 19th and early 20th century* T.E.D.K. N. Lesvos, Kastaniotis Editions, Athens.
- [24] Sifounakis, N. (1999). 'Recording: an example of the preservation of industrial and pre-industrial buildings in Greece', *Technologia*, 9, pp. 18-20.
- [25] Tomlinson, J. (1991) *Cultural Imperialism*, Baltimore: The Johns Hopkins University Press.
- [26] Tragani-Deliouanni, O. (2001). 'Technical culture museums in Greece: from design to creation', *Technologia*, 10-11, pp. 6-8.
- [27] Tragani-Deliouanni, O. (2006) 'The European Network of Eco-museums for industrial heritage', *En Volos*, 23, Oct-Dec, pp. 20-25.
- [28] Wanhill, S. (2000). 'Mines - A Tourist Attraction: Coal Mining in Industrial South Wales', *Journal of Travel Research*, 39(August), pp. 60-69.
- [29] Zhou, L., Chan, E. & Song, H. (2017). 'Social capital and entrepreneurial mobility in early-stage tourism development: a case from rural China', *Tourism Management*, 63(1), pp. 338-390.
- [30] Stathopoulou A, Karabatzaki Z, Tsiros D, Katsantoni S, Drigas A, 2019 Mobile apps the educational solution for autistic students in secondary education , *Journal of Interactive Mobile Technologies (IJIM)* 13 (2), 89-101 <https://doi.org/10.3991/ijim.v13i02.9896>
- [31] M Karyotaki, A Drigas, C Skianis 2022 The Role of Mobiles and Women in the Sustainable Local Economic Development. *International Journal of Interactive Mobile Technologies* 16 (22)
- [32] I Chaidi, C Papoutsis, A Drigas, C Skianis 2022 Women: E-Entrepreneurship and Emotional Intelligence Technium Soc. Sci. J. 30, 214
- [33] Karyotaki M, Bakola L, Drigas A, Skianis C, 2022 Women's Leadership via Digital Technology and Entrepreneurship in business and society , *Technium Social Sciences Journal*. 28(1), 246-252. <https://doi.org/10.47577/tssj.v28i1.5907>
- [34] Pappas M, Drigas A, Papagerasimou Y, Dimitriou H, Katsanou N, Papakonstantinou S, et al. 2018; Female Entrepreneurship and Employability in the Digital Era: The Case of Greece. *Journal of Open Innovation: Technology, Market, and Complexity*. 4(2): 15.
- [35] M Pappas, Y Papagerasimou, A Drigas, D Raftopoulos, P Nikolaidis 2017 ICT-based Innovation and Employability for Women *International Association of Online Engineering* 7 (2), 36-47
- [36] MA Pappas, AS Drigas, Y Papagerasimou, H Dimitriou, M Giannacourou, ...2017 Online Research for the Impact of ICTs on Greek Women's Employability and Entrepreneurship. *International Journal of Advanced Corporate Learning* 10 (1)
- [37] Drigas A, Petrova A 2014 ICTs in speech and language therapy , *International Journal of Engineering Pedagogy (ijEP)* 4 (1), 49-54 <https://doi.org/10.3991/ijep.v4i1.3280>
- [38] Alexopoulou, A., Batsou, A., & Drigas, A. S. (2019). Effectiveness of Assessment, Diagnostic and Intervention ICT Tools for Children and Adolescents with ADHD. *International Journal of Recent Contributions from Engineering, Science & IT (ijES)*, 7(3), pp. 51-63. <https://doi.org/10.3991/ijes.v7i3.11178>
- [39] Bamicha V, Drigas A, 2022 The Evolutionary Course of Theory of Mind - Factors that facilitate or inhibit its operation & the role of ICTs , *Technium Social Sciences Journal* 30, 138-158, DOI:10.47577/tssj.v30i1.6220

- [40] Galitskaya, V., & Drigas, A. (2020). Special Education: Teaching Geometry with ICTs. *International Journal of Emerging Technologies in Learning (iJET)*, 15(06), pp. 173–182. <https://doi.org/10.3991/ijet.v15i06.11242>
- [41] Lytra N, Drigas A 2021 STEAM education-metacognition-Specific Learning Disabilities , *Scientific Electronic Archives journal* 14 (10) <https://doi.org/10.36560/141020211442>
- [42] Pergantis, P., & Drigas, A. (2024). The effect of drones in the educational Process: A systematic review. *Education Sciences*, 14(6), 665. <https://doi.org/10.3390/educsci14060665>
- [43] Chaidi, I., Pergantis, P., Drigas, A., & Karagiannidis, C. (2024). Gaming Platforms for People with ASD. *Journal of Intelligence*, 12(12), 122. <https://doi.org/10.3390/jintelligence12120122>
- [44] Demertzi E, Voukelatos N, Papagerasimou Y, Drigas A, 2018 Online learning facilities to support coding and robotics courses for youth , *International Journal of Engineering Pedagogy (iJEP)* 8 (3), 69-80, <https://doi.org/10.3991/ijep.v8i3.8044>
- [45] Chaidi I, Drigas A 2022 Digital games & special education, *Technium Social Sciences Journal* 34, 214-236 <https://doi.org/10.47577/tssj.v34i1.7054>
- [46] V Galitskaya, A Drigas 2021 The importance of working memory in children with Dyscalculia and Ageometria , *Scientific Electronic Archives journal* 14 (10) <https://doi.org/10.36560/141020211449>
- [47] Drigas A, Mitsea E, Skianis C. 2022 Virtual Reality and Metacognition Training Techniques for Learning Disabilities , *SUSTAINABILITY* 14(16), 10170, <https://doi.org/10.3390/su141610170>
- [48] Drigas A., Sideraki A. 2021 Emotional Intelligence in Autism , *Technium Social Sciences Journal* 26, 80, <https://doi.org/10.47577/tssj.v26i1.5178>
- [49] Mitsea E, Drigas A,, Skianis C, 2022 Breathing, Attention & Consciousness in Sync: The role of Breathing Training, Metacognition & Virtual Reality , *Technium Social Sciences Journal* 29, 79-97 <https://doi.org/10.47577/tssj.v29i1.6145>
- [50] Kontostavrou, E. Z., & Drigas, A. (2021). How Metacognition Supports Giftedness in Leadership: A Review of Contemporary Literature. , *International Journal of Advanced Corporate Learning (iJAC)*, 14(2), pp. 4–16. <https://doi.org/10.3991/ijac.v14i2.23237>
- [51] Drigas A, Mitsea E, Skianis C, 2022 Intermittent Oxygen Fasting and Digital Technologies: from Antistress and Hormones Regulation to Wellbeing, Bliss and Higher Mental States , *Technium BioChemMed journal* 3 (2), 55-73 80no107
- [52] Chaidi, I., & Drigas, A. (2022). Social and Emotional Skills of children with ASD: Assessment with Emotional Comprehension Test (TEC) in a Greek context and the role of ICTs. , *Technium Social Sciences Journal*, 33(1), 146–163. <https://doi.org/10.47577/tssj.v33i1.6857>