Nanotechnology Perceptions
ISSN 1660-6795
www.nano-ntp.com

Architectural Design Policy Framework within Digital Tools and Techniques for Safe Sustainable Green Tourism Facilities at Post

Tilemachos K. Koliopoulos[1], Dimitris Papakonstantinou[2], Galina Petrova Mratskova[3]

[1]Managing Director, Telegeco Research Development, Greece
[2]Researcher, Telegeco Research Development, Greece
[3]Professor, Department Medical Rehabilitation, Occupational Therapy, Physical Medicine & Sport, Trakia University Stara Zagora, Bulgaria.
Email: tilkolgr@gmail.com

This paper presents a useful framework policy for users to explore and promote green design facilities supporting suggested digital tools for environmental health protection within useful digital green architectural landmarks, safe environments at particular sustainable green tourism facilities. Such alternative types of tourism include safe heritage monuments, architectural landscape upgrade at brown-fields, public health protection within nanotechnology perception, risk assessment, monitoring schemes and design concepts for all in a visually engaging and virtual educational tourism way.

Keywords: Green architectural design for all, sustainable designs in green tourism, environmental health protection, digital tools and knowledge transposition.

1. Introduction

Nowadays, safe architectural sites and landscape upgrade are necessary supporting technologies associated with environmental health protection due to several probable environmental pollution events taking into the climate change conditions. Air pollution monitoring schemes are necessary as well as soil bio-remediation projects for landscape upgrade at brown fields either due to environmental pollution by several anthropogenic activities but also due to climate change fires and pollutants that may exist at nanotechnology perception scale magnitudes or other magnitudes. Proper green tourism facilities, effective clean energy production modern technologies from renewable resources, digital tools and risk

assessment monitoring schemes are necessary so as to reduce pollutant emissions at nano-scale magnitudes for qualitative tourism facilities at several hotel building accommodations and associative energy, heating, air conditions, proper green tourism control facilities protecting particular surrounded environmental resources from hotel accommodations, as well as protecting landscape quality and environmental public health within nanotechnology perception for particular environmental pollutants [1]-[21],[27]-[30],[47],[54],[98]-[100]. Green architectural tourism facilities are necessary for reducing particular nanotechnology pollutants from associated anthropogenic activities within tourism sector. This study embarks on a useful framework policy for sustainable architectural green tourism, including educational, training journey to promote sustainable safe cultural tourism traveling attractions through the lens of integrative architectural projects.

It aims to protect architectural landscapes from particular environmental pollutants and enhance safe architectural heritage monuments and cultural landscapes while ensuring the overall environmental health of these areas. The investigated results focus on various integrated green tourism approaches and activities carried out within monitoring systems designed to safeguard the ecological resources, emphasizing the importance of safe and sustainable practices in the realm of associative alternative types of tourism, such as cultural heritage tourism [6],[11], [22]-[26],{31}-[36],[54]. The visited places should include environmental impact assessments for safe and comfortable tourism facilities supporting nice landscape views and particular tourism activities.

Furthermore, nanotechnology holds great promise for enhancing environmental health protection through various innovative applications, but perceptions of its use can vary widely among different stakeholders, including scientists, policymakers, industries, and the general public. Here's a look at the potential benefits, concerns, and public perceptions surrounding nanotechnology in environmental health protection:

A qualitative digital architectural educational design tourism could be achieved by particular 3D virtual user interactions refers to a sophisticated online e-learning, training platform that provides users with an immersive learning experience about architecture and design through interactive 3D models and simulations for safe indoor, outdoor spaces [37}-[49].

A proper e-learning digital platform allows users to explore and interact with virtual architectural spaces, landmarks, and structures, providing a unique opportunity to learn about design principles, construction techniques, and architectural history. Users can navigate through digital reconstructions of famous architectural monuments, study intricate details of buildings, and even participate in virtual design workshops. It is a useful 3D virtual learning simulation world environment about safe architectural designs that promote sustainability not only for tourists but also for stakeholders [50]-[53],[55]-[63]. In this way environmental health and public health are protected.

However, the use of 3D user interactions adds a layer of engagement and interactivity to the learning experience, allowing users to manipulate and customize virtual models, test design concepts, and visualize architectural concepts in a realistic and dynamic way. This hands-on approach helps users gain a deeper understanding of architectural principles and enhances their appreciation for the built environment. Overall, qualitative digital architectural educational design tourism with 3D user interactions offers a cutting-edge and engaging way to educate

people about architecture and green tourism design for all, making it properly web accessible and interactive for a wide audience of elderly people, people with several disabilities like autism, blind students, graduates, professionals, stakeholders, investors and enthusiasts [10]-[14],[28]-[30],[64]-[77],[80]-[83]. Moreover, potential benefits of nanotechnology for environmental health protection should include particular next issues including monitoring schemes, environmental proper digital tools within impact assessments, risk assessments, reclamation projects and making decisions for application of right green tourism designs for all protecting public health for safe comfortable indoor, outdoor green tourism facilities in climate change management at post COVID-19 era [1]-[30],[47],[54],[64]-[77],[80]-[83],[92]-[100].

i. Pollution Remediation: Nanomaterials can be employed to detoxify pollutants in soil and water. For instance, nanoparticles can be designed to absorb or breakdown hazardous substances, making contaminated environments safer.

ii. Waste Management: Nanotechnology can improve waste treatment processes by facilitating the breakdown of harmful substances, making recycling more efficient, and reducing the volume of waste produced.

iii. Sustainable Materials: The development of nanomaterials that require fewer resources for production and offer enhanced performance can reduce the environmental footprint of materials used in various industries.

iv. Energy Efficiency: Nanotechnology can lead to the development of more efficient energy sources and materials, such as solar panels that improve energy capture or batteries that hold more power.

v. Monitoring and Detection: Nanosensors provide advanced capabilities to detect environmental pollutants at very low concentrations, enabling quicker responses to environmental threats and better regulatory compliance.

Moreover, 3D simulation world learning material for user interactions could be based on results from particular geoinformation models, utilities including geoinformation HACCP digital mapping tools that use geographical information systems (GIS) technology to help food producers and distributors adhere to Hazard Analysis and Critical Control Points (HACCP) guidelines for food safety at particular agritourism facilities [7],[13],[14],[25]-[31]. These tools allow users to map out food production facilities, identify potential hazards due pollutants i.e air pollutants, landfill emissions etc., establish critical control points, and implement monitoring and control measures to prevent food contamination.

By integrating geospatial data with HACCP principles, these digital mapping tools offer a comprehensive approach to food safety management. They enable users applying proper digital tools to visualize and analyze spatial relationships between different elements of the food supply chain, such as raw materials, processing facilities, storage areas, and distribution routes [13],[14],[21],[78],[79],[84],[85]-[97]. This information can help identify potential risks and vulnerabilities, optimize control measures, and respond quickly to potential food safety threats. Overall, geoinformation HACCP digital mapping tools provide a powerful tool for enhancing food safety and traceability in the food industry. By leveraging GIS technology, food producers and distributors can improve their compliance with regulatory

requirements, reduce the risk of foodborne illnesses, and enhance consumer trust in the safety and quality of their products.

- Sustainable Approaches and Activities: Green Architecture Design Policy for Cultural Tourism

With the increasing awareness of climate change and the importance of sustainable development, green architecture has become a vital aspect in the design and construction of buildings. Green architecture focuses on the use of sustainable materials, energy-efficient systems, and environmentally friendly practices to reduce the negative impact of buildings on the environment. In addition to its environmental benefits, green architecture also has significant positive impacts on public health by providing healthier indoor environments, reducing harmful emissions, and promoting physical activity [11]-[15],[27]-[32],[50],[78]-[87].

In terms of relative safe green architecture design policy a relative authority, government agency is responsible for approval at big scale new or renew safe building green tourism designs, cultural monuments, supporting public health protection, that it is recognized the importance of promoting safe green architecture in our community to improve public health outcomes [79],[82],[86],[88]-[100]. To achieve this, should be implemented the following policy measures:

1. Mandate all new public or community green tourism based buildings, facilities to be built using green architecture principles, applying relative green construction standards, sustainable materials, health and safety standards, including LEED certification requirements or similar green building facility certifications like Greek KENAK sustainable design regulations [86].

2. Provide incentives and grants for private developers to incorporate green architecture in their projects.

3. Develop guidelines, standards and training utilities for green buildings to ensure they meet high standards for energy efficiency, indoor air quality, safe green outdoor spaces and sustainability.

4. Promote public awareness, proper educational green tourism facilities, remediation projects, alternative types of tourism and vitrual education within 3D interactive simulation world on the benefits of green architecture, landscape upgrade at brownfields, safe indoor, outdoor spaces for public health at post COVID-19 era and in climate change applying proper digital tools and digital techniques.

Based on the above the right project management could exist applying proper simulation virtual educational 3D user interactions for training and decision making scenarios in terms of sustainable green architectural designs and public health protection.

To demonstrate the benefits of green architecture for public health protection at post pandemic COVID-19 era and in climate change, should be initiate a 3D simulation world project to retrofit an investigated simulation green architecture open space with green architecture principles for landscape upgrade and public health protection. The proper monitoring schemes and HACCP applications should exist at old closed sites like

landfill sites, associated brownfields, supporting 3D user interactions for recreation virtual educational projects to be selected for such sites within architectural landscape upgrade that could be next to integrated community health tourism clinic building facilities that could serve a low-income neighborhood with high rates of respiratory illnesses and asthma at post pandemic COVID-19 era and in climate change.

The virtual green architecture educational project policy framework involves digital tools within open source simulation virtual worlds, and digital techniques for the 3D user interactions identifying the topography of open 3D spaces and landscape upgrade at brownfields like old closed landfills next to community health area construction facilities.

The post-COVID-19 era presents an opportunity to reimagine architectural educational green tourism in a more sustainable and resilient way. Some alternative types of tourism that could be promoted include:

7. Green tourism: Emphasizing sustainable practices and eco-friendly sustainable designs, accommodations, activities, sustainable materials and safe mobility, transportation options. This type of tourism focuses on minimizing the environmental impact of travel and supporting conservation efforts, proper reclamation projects supporting renewable resources.

8. Health and wellness tourism: Offering retreats, spas, and wellness centers focused on promoting physical and mental well-being. These facilities could incorporate integrated health solutions and advanced medical technologies to provide a safe and rejuvenating experience for travelers.

9. Agricultural tourism: Promoting visits to farms, vineyards, and local food producers to learn about sustainable agricultural practices and support the local economy. This type of tourism can also include farm-to-table experiences and culinary workshops. Proper sustainable tourism facility maintenance should exist for safe veterinary units supporting public health in post COVID-19 era and in climate management.

10. Community-based cultural tourism: Involving local communities in the tourism industry to share their culture, traditions, heritage and way of life with visitors. This type of tourism can help support rural economies and preserve cultural heritage. Heath and safety issues should be followed properly supporting remediation projects for public health protection.

In order to promote these alternative types of tourism effectively, it is essential to invest in virtual digital educational training schemes for 3D user interactions BIM's and smart ICT's to enhance the visitor experience and ensure safety and security. Proper design and implementation of public health policies will also be critical in the post-COVID-19 era to protect not only travelers but also local residents.

Overall, the promotion of safe, sustainable, and resilient tourism facilities will be essential in adapting to the challenges of climate change and public health concerns in the post-COVID-19 era. By embracing innovative approaches and technology, we can create a more inclusive and responsible tourism industry that benefits both travelers and the environment.

11. Implementing policies to support safe hotel accommodation facilities is crucial for public health, especially in the post COVID-19 era. Stakeholders, including hotel owners, employees, and guests, will benefit from these policies as they promote the use of friendly web

applications for users. This will not only enhance the overall customer experience but also improve project management simulation tools for sustainable designs in light of climate change.

12. By ensuring that hotels adhere to strict health and safety protocols, such as regular cleaning and disinfection, social distancing measures, and guidelines for staff and guests, the public health risks can be minimized. This will not only protect the health of those staying in hotels but also contribute to a sense of security and confidence among stakeholders.

13. Additionally, promoting sustainable designs in hotel accommodations can help reduce the impact of climate change. By incorporating energy-efficient technology, using eco-friendly materials, and adopting practices that minimize waste and water consumption, hotels can contribute to a more sustainable future for the hospitality industry.

14. Overall, supporting safe hotel accommodation facilities through the implementation of the right public health policies is essential for the well-being of stakeholders and the environment. By prioritizing health, safety, and sustainability, hotels can create a positive experience for guests while also contributing to a more resilient and environmentally conscious industry.

However, in figure 1 is presented a useful collaborative learning within educational architectural green design policy for sustainable community health tourism facilities and promotion of digital utilities at post COVID-19 era and in climate change management. The latter one will be useful to create opportunities for training, new services and jobs between emerging technologies, within investors and stakeholders. In such way green tourism facilities are promoted in a good way within a green circular economy supporting safe green tourism designs and protecting public environmental health in climate change management in post COVID-19 era.

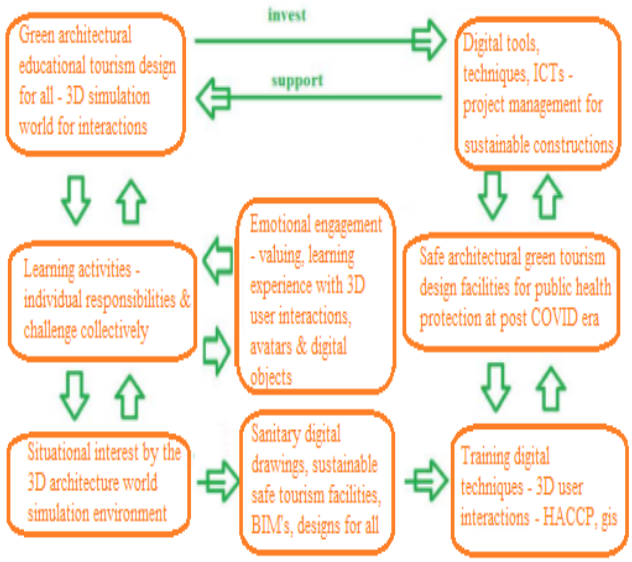

Figure 1. Collaborative learning within educational architectural green design policy for sustainable community health tourism facilities and promotion of digital utilities at post

COVID-19 era and in climate change management.

Based on the above implementing proper policies to support safe associative hotel accommodation facilities is crucial for public health, especially in the post COVID-19 era. Stakeholders, including hotel owners, employees, and guests, will benefit from these policies as they promote the use of friendly web applications for users. This will not only enhance the overall customer experience but also improve project management simulation tools for sustainable designs for all in light of climate change. Proper learning material should be provided for training staff at hotels. Sanitary digital drawings could exist in order to support alternative types of tourism within particular educational architectural tourism facilities.

Therefore, a sanitary digital drawing for a safe architectural landscape would include elements such as:

1. Wide sidewalks and paths for pedestrians, with designated bike lanes and separate lanes for motor vehicles to reduce the risk of accidents.

2. ADA-compliant ramps and accessible entrances to buildings for individuals with disabilities.

3. Well-lit and clearly marked crosswalks and intersections, with traffic signals and signage to help guide pedestrians and drivers.

4. Green spaces and trees to provide shade and improve air quality, as well as seating areas for people to rest and relax.

5. Waste bins and recycling containers to encourage proper disposal of trash and promote a clean environment.

6. Well-maintained public restrooms and hand washing stations for visitors and residents to use.

7. Public art and sculptures to enhance the aesthetic appeal of the area and create a sense of community pride. Hence, by incorporating these elements into a digital drawing, architects, engineers and urban planners can create a safe and sanitary architectural landscape that prioritizes the well-being of its inhabitants. The latter elements will be useful as material for collaborative architectural design learning in terms of safety, monitoring, risk assessment, risk management, decision making and realization of particular remediation, reclamation projects for public health protection due to lock downs at post COVID-19 era and in climate change.

Moreover, the next topics should be taken into account for effective integrated digitized architectural applications for entertainment, leisure, training educational purposes including 3d printing small scale applications for people with several disabilities like blind people, autism people and elderly people that could not access particular architectural, ecological places i.e at mountains with high inclinations or islands with deep seas. According to the above, the next issues should be taken into account.

2. Monitoring Systems:

Proper data collection is necessary for the promotion of a particular architectural project either it is a heritage monument or a modern hotel building facility supporting several community health services and design for all in terms of environmental health protection and safety due to climate change. The latter one should utilize advanced monitoring technologies, including proper measurements for an investigated topography with remote sensing, GIS, surveying mapping, and on-site assessments, to gather data on the condition of particular investigated architectural sites, upgraded outdoors for accessibility, safe mobility at heritage monuments and cultural landscapes. This data is crucial for assessing risks and planning conservation efforts.

Regular Inspections: Implementing a schedule for regular inspections of architectural monuments and landscapes helps identify wear and degradation caused by natural and anthropogenic factors.

(i) Stakeholder Engagement:

Community Involvement: Engaging local communities in the preservation efforts fosters a sense of ownership and responsibility towards cultural heritage. Workshops and educational programs should be organized to raise awareness about sustainable tourism practices at several schools, community health facilities and events supported by hotels, local enterprises so as to promote local products i.e. food, sweets, souvenirs. Collaborations with Local Governments: Partnerships with governmental bodies ensure that policies related to land use, tourism, and conservation align with the sustainable goals of the project.

(i) Safe Green Tourism Infrastructures for Sustainable Tourism Practices:

Eco-Friendly Infrastructure Development: Designing and promoting facilities that adhere to green building standards enhances visitor experience without compromising environmental integrity. Cultural Interpretation Programs: Offering educational tours and workshops that highlight the significance of heritage sites not only enhances visitor experience but also promotes respect and conservation of cultural assets. Support effective green tourism building hotel facilities, sustainable designs for all not only to minimize operational costs but also to provide qualitative, comfortable tourism experiences between tourists and stakeholders at post COVID-19 era and in climate change management.

1. Reflection on Affordances, Merits, and Shortcomings Affordances:

The integration of technology in monitoring systems has opened new avenues for real-time data collection and analysis, leading to proactive conservation methods. Increased community involvement has resulted in stronger advocacy for sustainable practices and a deeper understanding of cultural heritage values within integrated dynamic architectural sites.

Merits: A integrated architectural project should successfully raised awareness about the importance of harmonizing tourism with preservation efforts, resulting in a balanced approach to cultural tourism supporting green tourism. Collaborative efforts with various stakeholders have led to improve policy frameworks that support sustainable practices in tourism and conservation.

Shortcomings: One of the key challenges faced is the variability in stakeholder

engagement levels, with some communities more receptive than others, leading to inconsistencies in implementation. Limited financial resources hampered the scalability of certain initiatives, restricting the extent to which monitoring systems could be enhanced in order to support safe architectural sites, and green tourism facilities, educational tourism applications, training schemes, within design for all.

- A Framework for Integrated Architectural Projects

Additionally, virtual tours of associative building facilities, hotel accommodations can be created for potential guests to explore different outdoor options, amenities, and property features next to integrated community health fscilities before making a reservation [88]-[97]. This can help travelers make informed decisions and ultimately increase bookings for the hotel.

Some useful outcomes are presented below. These are useful not only for working staff but also for tourists supporting sustainable designs and protecting public health at post COVID-19 era. Proper multiple choices could exist for interactive e-learning questionnaires based on virtual reality with avatars and digital objects for 3D simulation scenarios including tests around environmental health protection for safe hotel facilities. In figure 2 are presented some indicative applications of relative open source 3D simulation world, open sim with avatars where particular digital tools and techniques have been applied for associative 3D user interactions between avatar with digital terrain characteristics, properly digitally processed. In this way could be investigated by 3D user sevveral objects, sites at reclamated green open spaces within landscape architectural upgrade at several brownfields like old closed landfills which could be located at safe distances from particular alternative types of educational architectural tourism, nommadic ecotourism facilities and integrated community health tourism units. Red bullets present the monitoring schemes, HACCP, proper digital architectural objects could be used for 3D virtual user e-learning interactions at open sim ICTs. It could be useful the educational digital drawing computer aided design material for learning better monitoring schemes, training staff and creating knowledge for tourist experiences within alternative types of tourism supporting green marketing [44]-[54], [98]-[100].

Overall, leveraging avatar-based simulations and virtual reality technology in the hospitality industry can enhance training programs, improve customer experiences, support associative educational green tourism services and drive business success between tourists and stakeholders for public health protection at post COVID-19 era and in climate change management. OpenSim 3D world or similar ones using avatars and simulation 3D world's could be applied properly so as to simulate associative 3D digital topographies for green open spaces, applying proper 3D user experiences with avatars at associative OpenSim digital simulation environments [10]-[12],[21]-[36].

In order to meet these needs, hoteliers and property developers need to invest in sustainable infrastructure and green technologies that not only provide comfortable accommodations but also minimize the impact on the environment. This includes energy-efficient heating and cooling systems, water conservation measures, and waste management programs.

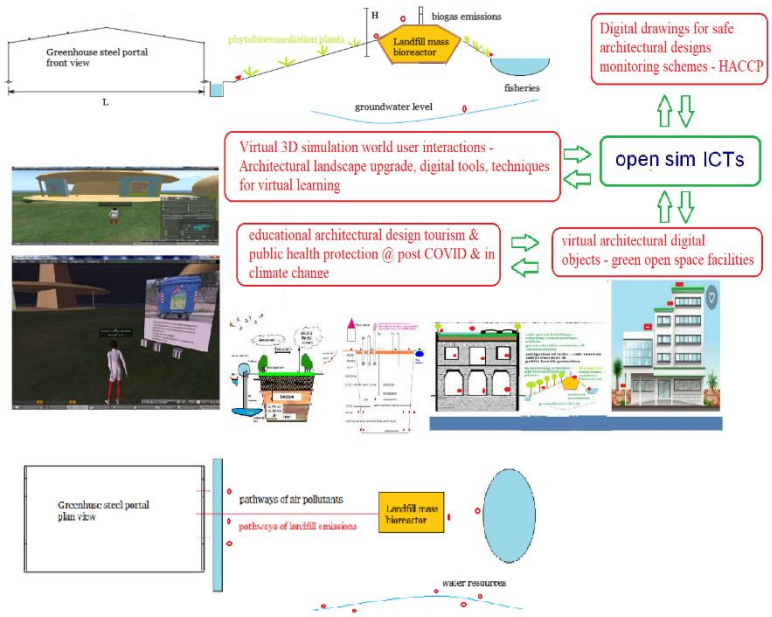

Figure 2. Applied framework for safe green tourism facilities within architectural landscape upgrade design within digital tools, monitoring schemes.

Additionally, there is a growing demand for digital training and entertainment options in accommodations, so investing in technology that enhances the guest experience is essential. This could include smart room features, virtual reality tours, and interactive learning programs.

Furthermore, promoting 3D simulation world for user digital interactions is crucial for user experiences within architectural tourism digital computer aided design techniques. In such way user could understand the importance of safe community health tourism and agricultural tourism safe constructions in the post-pandemic world and in climate change. This involves creating partnerships with local health care facilities, promoting wellness activities, and offering farm-to-table dining experiences [75]-[80].

Overall, hotels and apartment accommodations need to adapt to the changing needs of guests by providing sustainable infrastructure, digital training, and entertainment options at safe indoor, outdoor comfortable green spaces, and promoting safe community health and agricultural tourism practices, safe heritage monuments promotion due to climate change within architectural landscape upgrade at brownfields as well as at safe green tourism facilities. By embracing these trends, property developers can create a unique and desirable experience for guests while also contributing to a more sustainable future. By considering the importance of these factors, all stakeholders involved can work together to create a sustainable and resilient tourism industry around 3D simulation world user interactions with virtual learning, reading applications that prioritizes the well-being of travelers, employees, and the

environment [6]-[16],{31]-[38],[88]-[100]. This will not only benefit the tourism industry, but also contribute to overall economic growth, create new places for employment and stability in the long term. It is crucial for all parties to collaborate and implement measures that ensure safe and enjoyable travel experiences for everyone involved.

Also recommendations for Future Work should be taken into account taking into account the next. Enhanced Funding Strategies: Develop diverse funding sources, including public-private partnerships, to support ongoing monitoring and conservation efforts.

1. Broader Communication Strategies: Establish comprehensive communication plans not only to inform stakeholders but also to actively involve them in decision-making processes. Volunteer works could be established for the upgrade of particular landscapes where it is useful to be applied supporting maintenance especially after extreme weather events and creation of new places for employment. E-learning portals also will be useful not only to support educational tourism but also particular training schemes that promote useful sustainable digital architectural tourism applications in terms of safety, landscape upgrade, environmental health protection within several events providing growth to local regional economy. Promotion of particular architectural projects could be linked with several religious monuments either in past times, or modern historical buildings or other associated ones i.e ancient ruins, byzantine churches, historical old buildings, other cultural indoor elements, outdoor architectural elements combined with ecological landscape.

1. Dynamic Monitoring Systems: Integrate sensors into monitoring systems are necessary in future projects so as to analyze data more effectively and predict potential risks to architectural heritage and landscapes. Proper simulations and designs should exist in terms of sustainability, green circular economy, safe architectural buildings and green tourism infrastructures.

All these could be promoted with several events at hotels or schools, universities within proper green facilities and safe infrastructures so as to promote an integrated green sustainable architectural tourism. Moreover, the integration of new media devices and content is reshaping the landscape of cultural, ecological, heritage tourism. Virtual reality (VR), augmented reality (AR), proper digital surveying applications within three dimensional digital drawings for heritage architectural buildings, monuments representation, and social media platforms are not merely adjuncts to traditional filmmaking; they are becoming essential components that enhance the way audiences engage with films and their settings for designs for all at post COVID-19 era and in climate change management [30]-[33],[78]-[81].

1. Virtual Reality and Augmented Reality: VR and AR create immersive experiences that allow users to engage with film locations in innovative ways to represent particular indoor or outdoor cultural elements, architectural heritage monuments. For example, VR can transport users to iconic film settings, allowing them to explore environments that were featured in their favorite films, while AR can overlay digital content onto real-world locations, providing a richer context through interactive storytelling. This not only enhances the viewer's understanding of the film but also deepens their emotional connection to the locations.

2. Social Media: Platforms like Instagram, TikTok, and YouTube have transformed how people share their architectural heritage tourism, short film tourism experiences and representation of particular architectural elements. Travelers can post photos and videos of their visits to film locations, generating buzz and interest around those destinations. This user-generated content often influences potential travelers' decisions, making film locations more desirable focused on particular architectural elements that are promoted as unique traveling attractions. The presence of film-related hashtags and challenges drives engagement and creates a community around film tourism.

3. Content Sharing and Community Engagement: New media fosters a sense of community among fans, allowing them to connect over shared interests in specific films and locations. This collective engagement can lead to organized events, tours, and festivals, enhancing the film tourism experience.

4. Marketing Opportunities: Filmmakers and tourism boards can leverage these new media platforms for targeted marketing campaigns. By creating AR filters or VR experiences related to their films, they can attract audiences to film locations in novel ways. This marketing not only reaches potential tourists but also encourages film fans to book trips that revolve around the cinematic experience.

5. Cultural Impact: The blurring lines between different types of media enhance the cultural significance of film locations. As virtual and augmented experiences offer deeper insights into the narrative and production, it is becoming increasingly important for scholars and practitioners in film tourism to navigate and define this evolving terminology.

Overall, the intersection of new media and film tourism presents exciting future opportunities for engagement and discovery, providing both hotel accommodation stakeholders, filmmakers and tourists with fresh avenues to explore the worlds crafted in 3d cultural panoramic photos, animation of heritage sites and cinema events promoting local products and services. As technology continues to evolve, so too will the ways in which audiences experience and interact with cultural, architecture historical elements within film-related destinations.

- Effective Architectural Sustained Training Programs within Safe Green Tourism Facilities

Moreover, an integrated architectural design framework should exist within safe sustainable designs and promotion of particular associative green tourism facilities at post COVID-19 era and in climate change management. Proper green circular economy technological changes should be supported as economic instruments for integrated green safe integrated architectural infrastructures at safe indoor, outdoor sites with comfort ability and panoramic views for good traveling experiences. Proper e-learning, training schemes should exist for qualitative green tourism growth, sustainable design facilities for all not only for staff at hotel accommodations, but also for stakeholders creating new opportunities for particular funding supportive projects and investors. Renewable resources and energy from biomass for electricity, heating or other combinations for safe green tourism structures should be supported at integrated green architectural sustainable designs [21]-[28], [31]-[38],[65],[80].

In figure 3, are presented capacity building modules that should enhance an integrated

architectural design so as to promote regional tourism facilities, relative social activities, growth of safe green tourism and promotion of cultural tourism, heritage monuments tourism, associated alternative types of tourism for public health protection and semantics about sustainable tourism infrastructures at post COVID-19 era and in climate change management. These modules could be enhanced by proper digital experiences, surveying applications within monitoring schemes, CAD/CAM, BIM, augmented reality (AR), 360^{o} digital 3d images, 3d printing applications for people with disabilities, digital videos of experiences at particular educational, safe activities, sports, agricultural tourism events, festivals and other interactive applications for elderly people, people with disabilities like autism, blind ones and safe sustainable designs for all [30], [79]-[86], [95]-[101].

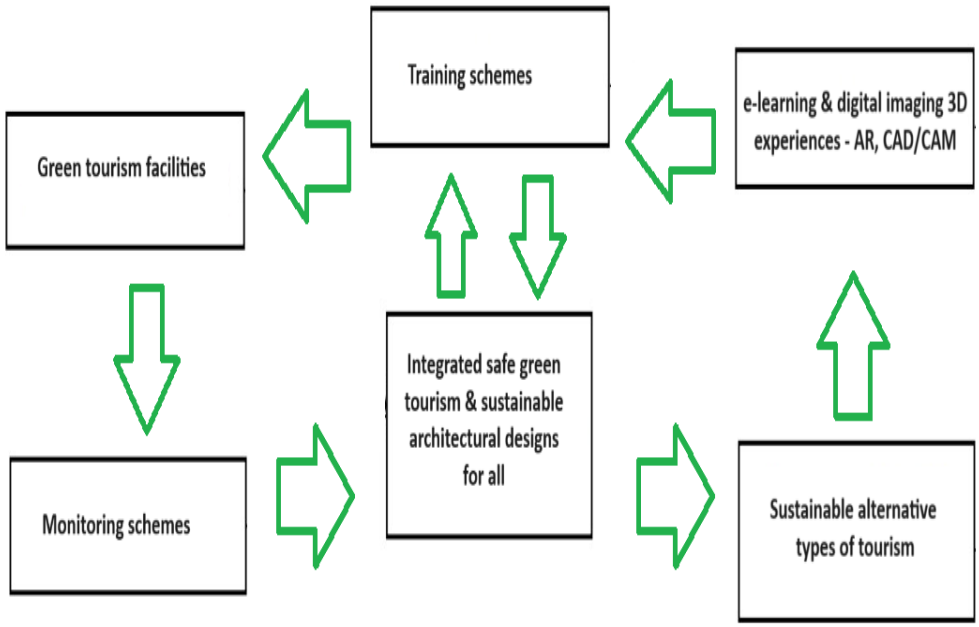

Figure 3. Capacity building modules for an integrated design policy framework within green architectural design so as to promote sustainable tourism facilities, green circular economy, growth of safe green tourism.

Furthermore, based on the above should exist Sustained Training Programs for All: Continuous capacity building for local communities and stakeholders is essential to ensure sustainable practices are maintained and enhanced over time. Workshops could take place at several community health facilities, high schools, schools for people with disabilities, elderly people and other associated facilities for public health protection at post COVID-19 era supporting safe green tourism facilities and sustainable designs for all promoting alternative types of tourism [58]-[64],[81],[97]-[101].

However, below in Table 1, useful indicative results for future green safe accommodation facilities are presented within an integrated green architectural framework supporting sustainable safe comfortable particular tourism infrastructures. The necessity of green architectural building designs should be included at particular training schemes in

climate change management and for public health protection.

Table 1. Investigated indicative green tourism facilities within sustainable architectural tourism designs in climate change management for public environmental health protection

Y Annual energy consumption predicted saving euro.p.Kwh	X1 log[Initial Evaluated Budget (Euros)]	X2 predicted annual emissions reduction co2 kg.p.sm	X3 dummy variable	Preinstalled holistic thermal building insulation
113,9	4,21	37,36	0	no
108,9	4,26	86,87	0	no
109	4,28	30,43	1	yes
98	4,37	27,99	1	yes
174,9	4,02	48,67	1	yes
175	4,32	40	1	yes
109	4,26	86,9	0	no
109,5	4,28	30,5	1	yes
98	4,37	28	1	yes
114	4,21	37,4	0	no
113,95	4,21	37,38	0	no
108,95	4,26	86,88	0	no
109,25	4,28	30,46	1	yes
98	4,32	28	1	yes
174,95	4,02	48,84	1	yes

In table 1, were calculated the above presented relative results, which are useful for particular investigated green tourism striking architectural designs for comfort places at hotel small scale common used apartments' accommodations not only to stay but also providing comfortable places for several activities, events and digital experiences for tourists, presentation of green design schemes, planed expansions of hotel accommodations in terms of ecological friendly designs with low emissions to the environment protecting public environmental health. Results in statistics analysis based on examining sample in table 1, are based on relative Greek regulation KENAK for green building design, applying properly KENAK regulation for indicative examining small scale appartment accommodation case studies by TEE KENAK design regulation, applying properly relative Greek Technical Chamber's official software for the examining case studies in terms of "Energy Performance of Buildings Regulation (KENAK)", legislative published law by Greek Governmental Journal, FEK decision number DEPEA/oik.178581 «Approval Energy Performance of Buildings Regulation (KENAK)» [86].

The relative formula (1) that is presented for the investigated variables based on relative statistical regression analysis is the next, taking into account data from Table 1, so as to calculate a relation between Y : Annual energy consumption predicted saving euro per Kwh and variables X1 : log[Initial Evaluated Budget (Euros)]; X2 : predicted annual emissions reduction co^2 emissions kg per square meter; X3 : dummy existence of pre-installed thermal insulation

Y (euro.p.Kwh) = 1049,0748 + 223,90 (euro.p.Kwh / log[Initial Evaluated Budget (Euros)]) * X1 + 0,168 (euro.p.Kwh / co2 kg.p.sm) * X2 + 16,5 * X3 (1)

where,

Y : Annual energy consumption predicted saving euro.p.Kwh

X1 : log[Initial Evaluated Budget (Euros)]

X2 : predicted annual emissions reduction co2 kg.p.sm

X3 : dummy existence of pre-installed thermal insulation, dummy variable

For the examining Regression Statistics were found the next elements, R^2: 0,984; Standard error: 4,00; Number of variables X: 3; Observations: 15.

Moreover, the above examining case studies are indicative for qualitative green tourism, while more case studies could be investigated for investments at extensions for particular necessities of green tourism accommodation facilities that should exist in near future promoting alternative comfortable tourism facilities and protecting public health in climate change management. The results are useful for stakeholders so as to support green hotel building facilities either for accommodation and for tourists' events, good experiences promoting local products, services within comfortable places, protecting public environmental health at post COVID-19 era and in climate change management. The proposed future planning tourism events should include contemporary events and behavior for good experiences between stakeholders and tourists based on particular investigated architectural heritage sites.

According to the above for the investigated green tourism facility groups that present similarity proper technological changes in applications, combinations should exist for energy recovery, economy of resources, promotion of renewable resources as an economic instrument, sustainable designs and green circular economy growth. The particular necessities for a hotel should be a priority so as to select the right green tourism facility for sustainability and comfort ability of tourists at their travel destinations. Sanitary engineering facilities' consumption should be supported by renewable resources for sustainability, promotion of green tourism and public health protection [61]-[67],[76],[86].

Moreover, good experiences for tourists within sustainable architectural heritage educational tourism should exist. Stakeholders and graduate students at related applications around architectural heritage tourism should take into account the entrepreneurship that could be established for knowledge transfer and sustainable tourism providing good experiences to tourists.

Entrepreneurship as a competency involves not only the technical skills needed to start and run a business but also a broader set of interpersonal skills, attitudes, and values that are integral to success. Below are some key behaviors that underpin the entrepreneurial mindset:

Key Behaviors for Entrepreneurial Competency should take into account the next thematic field for good experiences to tourists and promotion of safe travel destinations within safe sustainable architectural heritage tourism and green tourism.

6. Ability to Build Relationships:

Networking Skills: Entrepreneurs need to network effectively to create connections that can lead to partnerships, mentorships, and business opportunities.

Empathy and Understanding: Building rapport requires the ability to understand others' perspectives, fostering trust and collaboration.

(i) Ability to Maintain Stable Relationships:

Consistent Communication: Regular and open communication is essential to sustain relationships, ensuring all parties are aligned and engaged.

Conflict Resolution: The capacity to address and resolve conflicts constructively aids in maintaining healthy, long-term relationships.

1. Self-Discipline and Rigor:

Goal Setting: Entrepreneurs must set clear, achievable goals and hold themselves accountable for reaching them.

Time Management: Prioritizing tasks and managing time effectively is crucial for maintaining a rigorous approach to work.

1. Cooperation and Teamwork: Support monitoring schemes for environmental impact assessments, maintenance and good operations, right project management in extreme weather events, earthquake events, floods, fires duw to climate change.

2. Collaborative Mindset: Successful entrepreneurs recognize the power of teamwork, actively seeking to engage and empower those around them.

3. Contribution to Group Dynamics: Being adaptable and contributing positively to team efforts while balancing personal objectives is essential.

Personal Discipline: Support e-learning educational, training schemes not only for tourists but also for employees, stakeholders for safe, comfortable working environments.

1. Consistency in Actions: Developing a routine that supports productivity and aligns with long-term goals solidifies the discipline needed for entrepreneurial success.

Resilience: Coping with setbacks and maintaining

focus on objectives is critical for personal and professional growth.

Cultivating these behaviors requires time, practice, training, and a commitment to personal and professional development. Educational architectural systems that integrate these elements into curricula not only prepare graduates, students, stakeholders for entrepreneurial ventures but also equip them with essential life skills that will benefit them in all areas of personal and professional life. Encouraging these competencies from an early age fosters a generation of innovative thinkers, capable of contributing positively to society and the economy [18]-[31],[48]-[64].

Furthermore, the above green tourism results could be linked with smart tourism destinations leverage modern information technologies to enhance both the management of tourism resources and the overall visitor experience. Here are some key aspects of smart tourism that illustrate how these technologies are applied:

Data-Driven Decision Making: Proper web sites for people with disabilities so as to promote smart tourism destinations utilize data analytics to gather insights about visitor

behavior, preferences, green tourism facilities for public health protection and trends. This data helps in decision-making regarding resource allocation, marketing strategies, and infrastructure development.

1. Visitor Experience Enhancement: Technologies like 3d digital representations of architectural heritage elements, supported by future applications within augmented reality (AR) and virtual reality (VR) can enrich visitor experiences by providing interactive and immersive content related to attractions, historical sites, or natural wonders. Mobile apps can also offer personalized recommendations and itineraries based on user preferences.

2. Sustainable Management: Smart technologies help in monitoring the environmental impact of tourism. For example, IoT sensors can track visitor numbers at popular sites, enabling destinations to manage crowds and reduce negative impacts on the environment.

3. Co-creation of Value: Engaging visitors in the creation of their experiences is crucial. Platforms that enable user-generated content, reviews, and social sharing empower travelers to contribute to the tourism narrative, thus enhancing the overall experience for everyone.

4. Seamless Connectivity: High-speed internet access and free Wi-Fi in public areas allow tourists to stay connected, access information in real-time, and navigate their surroundings easily. This enhances their overall satisfaction and encourages longer stays.

5. Smart Transportation Systems: Integration of smart transportation solutions, like mobile ticketing for public transit, real-time updates on traffic conditions, and shared mobility options (e.g., bikes or scooters), improves accessibility and convenience for travelers.

6. Personalized Marketing: Utilizing customer relationship management (CRM) tools and artificial intelligence (AI), destinations can deliver targeted marketing strategies that cater to specific demographics, interests, and behaviors of potential visitors.

7. Community Engagement: Smart tourism encourages local community involvement by promoting local businesses and experiences. This creates a more authentic experience for visitors and benefits the local economy.

8. Crisis Management and Safety: With real-time data monitoring and communication tools, smart tourism destinations can respond quickly to emergencies or crises, ensuring the safety and well-being of visitors.

In conclusion, through the integration of information technologies, smart tourism destinations can effectively manage resources, engage visitors in meaningful ways, and deliver personalized experiences that cater to the needs and preferences of travelers. This not only enhances the tourism experience but also promotes sustainable practices and benefits local communities.

Moreover, future perspectives of current work should include the next topics:

i. the promotion of the particular tourism product, service in the specific contexts of the stakeholders involved;

ii. the issue of the conservation of the particular heritage sites;

iii. the implications for more digital architectural applications within mass tourism in the protected heritage sites like UNESCO destinations;

iv. the relevance of the tourism product for the visitors' experience at scheduled events supporting safe hybrid green tourism facilities; v. to evaluate the opportunities and weaknesses of the particular architectural thematic products for unique travel destinations within safe sustainable tourism designs and environmental health protection.

Moreover, proper technologies based on the above for people with disabilities like autism, elderly people, blind people etc. [80]-[85]. Understanding the stages of behavior escalation in individuals with Autism Spectrum Disorders (ASDs) and developmental disabilities is essential for effective intervention and support. Although individual responses can vary greatly, behavior escalation often follows a general pattern. Below are the commonly recognized stages of behavior escalation:

Stages of Behavior Escalation

Calm Stage

Description: The individual is calm, engaged, and receptive. Communication is typically straightforward, and the individual may be able to articulate feelings or needs.

Intervention Strategies: Use this stage to build rapport, establish connections, and provide positive reinforcement. It's a good time for teaching appropriate coping strategies.

1. Trigger Stage

Description: An event or change in environment may trigger stress or agitation. Triggers can be sensory overload, changes in routine, or conflicts.

Intervention Strategies: Recognize and understand potential triggers. Provide support and guidance, using calming techniques or sensory breaks to mitigate escalation.

(i) Agitation Stage

Description: The individual may display restlessness, increased anxiety, or frustration. Non-verbal cues like fidgeting or changes in posture may become evident.

Intervention Strategies: Acknowledge the agitation without nagging. Offer clear and simple choices, maintain a calm demeanor, and encourage the use of coping strategies.

1. Acceleration Stage

Description: Behaviors may become more intense, such as yelling, crying, or physical agitation. The individual might lose the ability to communicate effectively.

Intervention Strategies: Attempt to de-escalate the situation through calm communication, removing potential stressors, and, if safe, giving the individual space. Engaging in a low-stimulation activity can be beneficial.

(i) Peak Stage

Description: This is the height of behavior escalation, which may include aggressive actions (e.g., hitting, kicking) or self-injurious behaviors. The individual may appear in a state of panic

or inability to control actions.

Intervention Strategies: Ensure the safety of the individual and those around them. Use a calm and non-threatening presence, and employ crisis management strategies as necessary. Avoid physical restraint whenever possible and instead focus on creating a safe environment.

- De-escalation Stage

Description: The intensity of the behavior begins to decrease. The individual may appear fatigued or confused. They may express remorse or exhibit an inability to remember what occurred.

Intervention Strategies: Provide comfort and reassurance, ensuring a calm environment. Offer space but be available for support. Use this opportunity to communicate the importance of feelings and emotions while validating their experiences.

- Recovery Stage

Description: The individual returns to a calm state and is open to communication. They may need time to process the experience.

Intervention Strategies: Engage in gentle conversation to reflect on the events in a non-judgmental manner. Discuss feelings and explore alternative coping strategies while reinforcing positive behaviors.

- Key Considerations

Individual Variability: Each individual may show different reactions and progress through these stages at their own pace. It's important to tailor interventions to their unique needs and profiles.

Prevention Strategies: Avoiding or minimizing triggers whenever possible can lead to fewer escalations. Developing a consistent routine, offering choices, and using visual supports can also help prevent escalation.

Communication: Encourage the use of visual supports, social stories, or communication devices to help individuals express their feelings and needs effectively.

Training for Caregivers and Educators: Understanding these stages can help caregivers and educators respond appropriately and implement effective strategies to support individuals during times of agitation or crisis.

Ultimately, a proactive and understanding approach is key to helping individuals with ASDs and developmental disabilities navigate their emotional and behavioral challenges.

3. Conclusion

The presented type of green architectural qualitative educational tourism policy would focus on ensuring that sustainable constructions within associative hotel accommodations are actively working to maintain a safe and healthy environment for both staff and guests. By utilizing simulations and 3D world technology, staff can be trained on proper health and safety protocols in a more interactive and engaging manner. Comfortable green building facilities

will be useful for digital training experiences supporting sustainable tourism particular facilities for both interesting parties, tourists and stakeholders. Additionally, guests can also learn about best practices for environmental health during their stay. Proper digital educational material and future detailed digital interactive technologies could exist and should be presented for educational and training purposes between tourists, graduates and stakeholders. Relative experiences are important for the success in qualitative services within green architectural educational facilities and promotion of heritage, cultural monuments, local old churches, other attractive structures inspiring events and festivals so as to promote local foods, traditional souvenirs and sports activities at safe ecological sites protecting public environmental health due to climate change. Designs for all especially for elderly people and people with disabilities should exist supporting safe mobility and green tourism infrastructures.

Furthermore, implementing digital monitoring schemes can help to track and address any potential environmental health risks in real-time. This proactive approach can help to prevent issues before they escalate, ensuring a safer and more enjoyable experience for all involved. Proper numerical models, project management utilities, digital tools and techniques could be used in order to support sustainable architectural green tourism facilities at post COVID-19 era and in climate change. Also the following concerns and challenges should be taken into account:

- Health Risks: There are ongoing debates about the potential health risks of nanomaterials, particularly concerning their toxicity and the effects of exposure on human health and the environment.

- Environmental Impact: The ecological consequences of nanomaterials, their persistence in the environment, and their effects on wildlife and ecosystems are significant concerns that need more research.

- Regulation and Oversight: The rapid development of nanotechnology often outpaces regulatory frameworks. Ensuring robust oversight to protect environmental and human health is crucial but challenging.

- Public Awareness and Misinformation: Many people are unaware of what nanotechnology is and how it can impact their lives, leading to misinformation and fear about its implications for health and the environment.

Moreover, the following concerns and challenges should be taken into account:

- Varied Acceptance: Acceptance of nanotechnology can vary widely based on factors such as personal values, trust in institutions, and perceived benefits versus risks. Those who understand its potential may be more favorable.

- Transparency and Communication: Effective communication from scientists and policymakers about the benefits and risks associated with nanotechnology is essential for fostering public trust.

- Ethical Considerations: There are ethical discussions about the implications of nanotechnology, including considerations regarding equity, access, and the potential for unintended consequences.

- Citizen Involvement: Engaging the public in discussions about nanotechnology and its applications can enhance understanding and acceptance, leading to more informed decision-making.

While the potential of nanotechnology to protect environmental health is significant, effectively addressing public concerns and enhancing perceptions requires transparent communication, thorough research into safety and efficacy, and the establishment of effective regulations. Balancing innovation with caution will be essential as society navigates the complexities of integrating nanotechnology into environmental health protection strategies.

Overall, this type of innovative approach to qualitative green architectural educational tourism within public environmental health policy at hotel accommodations can help to promote sustainability, responsibility, and overall well-being within the 3D user interactions industry. Proper architecture design for safe sustainable green tourism facilities is needed applying particular digital tools and techniques for 3D user interactions. In such way associative alternative types within particular associative educational architectural green tourism facilities could be promoted. It showcases a commitment to both the quality of the 3D digital simulation environment and the health of those who visit and work at these facilities.

Green tourism facilities are important for elderly people and people with disabilities supported by proper designs for all in order to represent digital architectural outcomes related to promotion of several architectural heritage monuments either they are religious ones or historical buildings. Safe sustainable structural designs should exist for all in terms of sustainable development and public environmental health protection. The main outcomes of this initiative emphasize the critical need to establish safe and accessible facilities that promote green tourism infrastructure. These facilities are essential for fostering sustainable cultural tourism, ensuring that the experiences offered are inclusive for everyone, particularly for elderly individuals and those with disabilities. Therefore, the key aspects to consider include:

Safety and Accessibility: Sustainable designs for all must prioritize safety and inclusivity, providing easy access for all visitors. This is particularly important for the elderly and individuals with disabilities, ensuring that they can enjoy and engage with cultural sites and architectural heritage comfortably.

Sustainable Cultural Tourism: The emphasis on sustainability reflects the goal of preserving cultural sites while promoting responsible tourism practices. By integrating eco-friendly designs and materials, these facilities can minimize their environmental impact while enhancing visitor experiences.

Green Circular Economy: Collaboration among stakeholders, including local communities, tourists, businesses, and government entities, is crucial in fostering a green circular economy. This approach encourages recycling, resource conservation, and sustainable consumption practices, benefiting both the environment and local economies. Green tourism facilities should be promoted for comfortable accommodation architectural places, events and activities promoting sustainable designs for all.

Promotion of Architectural Heritage: By showcasing significant architectural monuments—whether religious or historical—through innovative digital and physical solutions, tourism initiatives can enrich visitors' understanding and appreciation of cultural heritage. This

includes interpreting the stories behind these sites and using proper digital technology to enhance the visitor experience.

Design Innovations: Implementing advanced digital architectural designs can provide unique solutions that cater to diverse needs while preserving the aesthetic value of historical sites. This can involve the use of augmented reality or interactive installations that bring history to life, creating a memorable experience for all visitors.

In summary, the integration of safe, sustainable, and inclusive designs within green tourism infrastructure is vital for promoting cultural heritage while supporting a holistic approach to tourism that benefits both visitors and the environment.

Based on the above the main outcomes are to provide safe facilities for all supporting green tourism infrastructures presenting their significance in terms of sustainable cultural tourism, safe designs for all and green circular economy between stakeholders and tourists.

Funding Statement: There is no fund received for this article

Conflict of interest: The authors declare that there is no conflict of interest.

References

1. Deblonde, T., Cossu-Leguille, C., Hartemann, P., "Emerging pollutants in wastewater: A review of the literature". Int. J. Hyg. Environ. Health, 214, 442–448, 2011.
2. https://doi.org/10.1016/j.ijheh.2011.08.002
3. Wang, R., Wang, M., Wang, J., Lin, Y., "Habitats are more important than seasons in shaping soil bacterial communities on the Qinghai-Tibetan Plateau". Microorganisms 9, 1595, 2021,. https://doi.org/10.3390/microorganisms908159
4. WHO, "WHO bacterial priority pathogens list, Bacterial pathogens of public health importance to guide research, development and strategies to prevent and control antimicrobial resistance". 2024. https://www.who.int/publications/i/item/9789240093461
5. He Z. L., Yang X. E., Stoffella P. J., "Trace elements in agroecosystems and impacts on the environment", Journal of Trace Elements in Medicine and Biology, 19(2–3), pp. 125–140. 2005, https://doi.org/10.1016/j.jtemb.2005.02.010
6. Cleere, H. "Archaeological heritage management in the modern world". Abingdon: Routledge, 2000.
7. Garrod, B. "Managing visitor impacts". In A. Fyall, B. Garrod, A. Leask, & S. Wanhill (Eds.), Managing visitor attractions: New directions (2nd ed.). Oxford: Elsevier, 2008.
8. Zhou, X., Zhang, B., Li, L. "From waste to resource: Assessing the feasibility of municipal sludge as a fertilizer from soil and microbial perspective", Chemical Engineering Journal Advances, N. 19, 100630, 2024. https://doi.org/10.1016/j.ceja.2024.100630
9. Antonkiewicz, J., Kowalewska, A., Mikołajczak, S., Kołodziej, B., Bryk, M., Spychaj-Fabisiak, E., Koliopoulos, T., Babula, J. "Phytoextraction of heavy metals after application of bottom ash and municipal sewage sludge considering the risk of environmental pollution", Journal of Environmental Management, 306, 114517, 2022. https://doi.org/10.1016/j.jenvman.2022.114517
10. Sara, R. "The Immersive Virtual Environment Design Studio", In X. Wang, J. H. Tsai (Eds.), Collaborative Design in Virtual Environments. Series Intelligent Systems Control and Automation: Science and Engineering, 48, pp. 177-191, Springer, 2011.
11. Schnabel, M. A., Ham, J. "Virtual Design Studio within a Social Network", Journal of

Information Technology in Construction (Itcon), v. 17, pp. 397-415, ITCON organisation, 2012.
12. Jensen, C. R., Naylor, J., "Opportunities in recreation and Leisure Careers", VGM Publishing, 2000.
13. Canter L., "Environmental Impact Assessment", McGraw- Hill, 1996.
14. Friis R.H. and Sellers T.A., "Epidemiology for Public Health Practice", Jones and Bartlett Publishers, 2004.
15. Clark G. J., Dodgshun N., Sale P. W. G., Tang C., "Changes in chemical and biological properties of a sodic clay subsoil with addition of organic amendments", Soil Biology & Biochemistry, 39(11): 2806–2817, 2007.
16. Collins, F., Orpen, D., Fay, C., Foley, C., Smeaton, A.F., Diamond, D., "Web-based monitoring of year- length deployments of autonomous gas sensing platforms on landfill sites", Proceedings of IEEE SENSORS, Limerick, Ireland, 2011.
17. Beirne, S., Kiernan, B., Fay, C., Foley, C., Corcoran, B., Smeaton, A. F., Diamond, D., "Autonomous greenhouse gas measurement system for analysis of gas migration on landfill sites", In: SAS 2010 – IEEE Sensors Applications Symposium, Limerick, Ireland, 2010.
18. Li, Yang, and Allan J. Brimicombe. "Mobile Geographic Information Systems." Ubiquitous Positioning and Mobile Location-Based Services in Smart Phones, edited by Ruizhi Chen, IGI Global, pp. 230-253, 2012. https://doi.org/10.4018/978-1-4666-1827-5.ch009
19. Batty, M., Axhausen, K. W., Giannotti, F., Pozdnoukhov, A., Bazzani, A., Wachowicz, M., & Portugali, Y., "Smart cities of the future", The European Physical Journal Special Topics, 214(1), pp. 481–518, 2012. https://doi.org/10.1140/epjst/e2012-01703-3
20. Ciarkowska, K., Gambus, F., Antonkiewicz, J., & Koliopoulos, T., "Polycyclic aromatic hydrocarbon and heavy metal contents in the urban soils in southern Poland". Journal Chemosphere, pp. 214–226, 2019. https://doi.org/10.1016/j.chemosphere.2019.04.209
21. Koliopoulos, T., Kouloumbis, P., Ciarkowska, K., Antonkiewicz, J., Gambus, F., Mebarek-Oudina, F., Pal, M., Berhanu, G., "Environmental Health Landfill Emissions – Environmental Resources Utilities for Soil Health and Sustainable Development", vol. 3, pp. 76-91, Journal Emerging Environmental Technologies and Health Protection, 2020, ISSN 2623-4874, e-ISSN 2623-4882 https://www.telegeco.gr/3_8.pdf
22. Dereka, D., Karlb, S., Swapnab, G., & Aldoc, D., "Social media enabled human sensing for smart cities". AI Communications, 29(1), 57–75, 2016. https://content.iospress.com/articles/aicommunications/aic683
23. Gonzalez, M. C., Hidalgo, C. A., & Barabasi, A. L., "Understanding individual human mobility patterns", Journal Nature, 453(7196), 779, 2008. https://doi.org/10.1038/nature06958
24. Fay, C.D.; Healy, J.P.; Diamond, D. "Advanced IoT Pressure Monitoring System for Real-Time Landfill Gas Management". Sensors 23, 7574, 2023. https://doi.org/ 10.3390/s23177574
25. Sahni, Y., Cao, J., & Shen, J., "Challenges and opportunities in designing smart spaces", In B. Di Martino, K. C. Li, L. T. Yang, & A. Esposito (Eds.), Internet of everything. Singapore, pp. 131–152. Springer, 2018.
26. Waddell, P., "UrbanSim: Modeling urban development for land use, transportation, and environmental planning", Journal of the American Planning Association, 68(3), pp. 297–314, 2002. https://doi.org/10.1080/01944360208976274
27. Koliopoulos, T., Kouloumbis, P., "Urban Computing and Smart Cities: Web Utilities Characteristics that Support Sustainable Smart Cities", In: Abdalla, H., Rodrigues, H., Gahlot, V., Salah Uddin, M., Fukuda, T. (eds) Resilient and Responsible Smart Cities. Advances in Science, Technology & Innovation. Springer, Cham., 2022. https://doi.org/10.1007/978-3-030-86499-6_11
28. Koliopoulos, T., Papakonstantinou, D., Mratskova G. "Environmental Health Predictions for Fire Resistant and Corrosion Protection Measures for Community Health Tourism Building

Facilities Due to Climate Change", Journal of Electrical Systems, Vol. 20 No. 4s (2024) , 2024. DOI: 10.52783/jes.2083 , ISSN: 1112-5209 , http://dx.doi.org/10.52783/jes.2083

29. Bailenson, J.N., Yee, N., Blascovich, J., Beall, A.C., Lundblad, N., Jin, M., "The use of immersive virtual reality in the learning sciences: Digital transformations of teachers, students, and social context". J. Learn. Sci. 17, 2008, pp. 102–141, https://doi.org/10.1080%2F10508400701793141
30. Babatsikou, F., Koliopoulos, T., Koutis, C., "Efficient Design of a Community Health Infrastructure and Public Health Protection in Emergencies", Review Clinical Pharmacology and Pharmakokinetics, International Edition, vol. 31, pp. 79–84, Pharmakon Press. 2017.
31. Bala, H.A., Arat, Y. "Digital Pedagogy Using Social Network Tools in Architectural Education", Proceedings of 3rd World Conference on Information Technology, WCIT-2012, pp. 160-166, Barcelona, University of Barcelona. 2012.
32. Chang, D.-S., & Wu, W.-D. "Impact of the COVID-19 Pandemic on the Tourism Industry: Applying TRIZ and DEMATEL to Construct a Decision-Making Model.", Journal of Sustainability, 13(14), 7610, 2021. http://dx.doi.org/10.3390/su13147610
33. Capello, R. "Spatial Transfer of Knowledge in High Technology Milieux: Learning Versus Collective Learning Processes", Regional Studies, 33(4), 353-365, 1999. https://doi.org/10.1080/00343409950081211
34. Koliopoulos, T. et al., "Green Designs in Hydraulics—Construction Infrastructures for Safe Agricultural Tourism andSustainable Sports Tourism Facilities Mitigating Risks of Tourism in Crisis at Post COVID-19 Era", In: Carvalho, J.V.d., Liberato, P., Peña, A. (eds) Advances in Tourism, Technology and Systems. Smart Innovation, Systems and Technologies, vol 284. Springer, Singapore, 2022. https://doi.org/10.1007/978-981-16-9701-2_4
35. Koliopoulos T.K., Kouloumbis P., Ciarkowska K., Antonkiewicz J., Gambus F., "A Roadmap for Integrated Green Health EcoTourism Infrastructures, Safe Cultural Heritage Experience and AgriTourism Destinations in the Post Covid-19 Pandemic Era". In: de Carvalho J.V., Rocha Á., Liberato P., Peña A. (eds) Advances in Tourism, Technology and Systems. ICOTTS 2020. Smart Innovation, Systems and Technologies, vol 208. Springer, Singapore, 2021. https://doi.org/10.1007/978-981-33-4256-9_10
36. Zhang, X., Li, W., Zhang, F., Liu, R., & Du, Z., "Identifying urban functional zones using public bicycle rental records and point-of-interest data", ISPRS International Journal of Geo-Information, 7(12), 459, 16, 2018. https://doi.org/10.3390/ijgi7120459
37. Kilova, K., Kitova, T., & Kasnakova, P., "Telemedicine in help of rehabilitation in the conditions of COVID-19. Health policy and technology", 10(2), 100508, 2021.
38. Luzi, L., & Radaelli, M. G., "Influenza and obesity: its odd relationship and the lessons for COVID-19 pandemic", Acta diabetologica, 57(6), pp. 759–764, 2020.
39. Mandal, S., Barnett, J., Brill, S. E. et al. "'Long-COVID': a cross-sectional study of persisting symptoms, biomarker and imaging abnormalities following hospitalisation for COVID-19", Thorax, 76(4), 396–398, 2021.
40. Posadzki, P., Pieper, D., Bajpai, R. et al., "Exercise/physical activity and health outcomes: an overview of Cochrane systematic reviews", BMC public health, 20(1), 1724, 2021.
41. Rausch Osthoff, A. K., Niedermann, K., Braun, J. et al. , "EULAR recommendations for physical activity in people with inflammatory arthritis and osteoarthritis", Ann Rheum Dis. 77(9), pp. 1251–1260, 2018.
42. Mratskova, G., Deliev, R., "Therapeutic Opportunities Of Non-Surgical Treatment in Patients with Urinary Iicontinence", KNOWLEDGE International Journal Vol.32.2, July, pp.261-266, 2019. https://ikm.mk/ojs/index.php/kij/article/view/2159/2158
43. Vaishya, R., Jain, V. K., & Iyengar, K. P., "Musculoskeletal manifestations of COVID-19", Journal of clinical orthopaedics and trauma, 17, pp. 280–281, 2021. https://doi.org/10.1016/j.jcot.2021.03.002

44. Zabi, N.Z., Ibrahim, Wan, W.N., Mohammad Hanapi, N.S., Mat Hadzir, N., "Removal of Various Contaminants by Highly Porous Activated Carbon Sorbent Derived from Agricultural Waste Produced in Malaysia - A review", Nature Environmnet and Pollution Technology, vol. 20, No.3, pp. 1173-1183, 2021.
45. Seth, A., Sherman, M., Reinbolt, J.A., Delp, S.L., "OpenSim: a muscoloskeletal modeling and simulation framework for in silico investigations and exchange", vol. 2, pp. 212-232, Symposium on Human Body Dynamics, 2011.
46. Niu, Z., Li, S. N., & Poursaeid, N., "Road extraction using smart phones GPS", 2nd International Conference and Exhibition on Computing for Geospatial Research and Applications. Washington DC. Retrieved on August 15, 2011. http://www.com-geo.org/
47. Nurminen, A., Kruijff, E., & Veas, E., "HYDROSYS - A mixed reality platform for on-site visualization of environmental data. In Proceedings of the 10th International Symposium on Web and Wireless Geographical Information Systems", pp. 159 – 175, Springer Lecture Notes in Computer Science, 2011.
48. Zhang, C., Shi, L., & Wang, F. S., "Liver injury in COVID-19: management and challenges", The lancet. Gastroenterology & hepatology, 5(5), pp. 428–430, 2020.
49. Koliopoulos, T., Valeri, M. "Efficient Healthcare Policy and Engineering Management Facilities for Planning Sustainable Tourism Development in Post-COVID-19 Crisis Recovery", Valeri, M. (Ed.) Tourism Risk, Emerald Publishing Limited, Bingley, pp. 155-162, 2022. https://doi.org/10.1108/978-1-80117-708-520221011
50. Koliopoulos, T.K. "Digital Transformation Utility for Landfill Gas Emissions and Safety of Infrastructures: Risk Management Public Health Policy for Safe Community Health Tourism's Infrastructures at Post COVID-19 Era," 2021 IEEE International Conference on Engineering Management of Communication and Technology (EMCTECH), Vienna, Austria, pp. 1-4, 2021. doi: 10.1109/EMCTECH53459.2021.9619173.
51. Koliopoulos, T.K. "Digital Utilities for Sustainable Constructions at Landfills Supporting Safe Community Health Infrastructures and Humanity Protection in Risk at post COVID-19 era", 2021 IEEE International Conference on Engineering Veracruz (ICEV), Boca del Río, Veracruz, Mexico, pp. 1-5, 2021. doi: 10.1109/ICEV52951.2021.9632630.
52. Koliopoulos, T., Papakonstantimou, D., Hilcenko, S., Pal, M. "Environmental health utility for air pollutants monitoring at construction facilities – promotion of safe sport green tourism infrastructures at post COVID-19 era", vol. 5, issue 1, pp. 53-59, Journal Emerging Environmental Technologies and Health Protection, 5(1), pp. 53-59, 2022. https://www.telegeco.gr/JEETHP5I1A4.pdf
53. Law R, Qi SS, Buhalis D. "Progress in tourism management: A review of website evaluation in tourism research", Journal Tourism Management, 31(3), 297–313, 2010. https://doi.org/10.1016/j.tourman.2009.11.007
54. Leung, Y. C., Law, C. H. R., van Hoof, H., Buhalis, D. "Social Media in Tourism and Hospitality: A Literature Review.", Journal of Travel and Tourism Marketing, 30(1-2), 3-22, 2013. https://doi.org/10.1080/10548408.2013.750919
55. Obradovi´c, S., Tešin, A. "Local Communities' Perceptions of Tourism Planning in Natural Areas", Journal of Tourism and Hospitality, 4, 336–354, 2023. https://doi.org/10.3390/tourhosp4020021
56. Parga-Dans E, Gonzalez,Alonso, P,Enriquez,Otero, R "The social value of heritage: Balancing the promotion-preservation relationship in the Altamira World Heritage Site", Spain. Journal of Destination Marketing & Management, 2020. https://doi.org/10.1016/j.jdmm.2020.100499
57. Roxas FMY, Rivera JPR, Gutierrez ELM. "Framework for creating sustainable tourism using systems thinking.", Current Issue Tourism 23(3), 280–96, 2020. https://doi.org/10.1080/13683500.2018.1534805
58. Scarrott, M. "Sport, Leisure and Tourism Information Sources" (1st ed.). Routledge,

Butterworth-Heinmann Publishing, 1999.. https://doi.org/10.4324/9780080938820
59. Streimikiene, D., Svagzdiene, B., Jasinskas, E., & Simanavicius, A., "Sustainable tourism development and competitiveness: The systematic literature review", Sustainable Development, 29(1), 259–271, 2021. https://doi.org/10.1002/sd.2133
60. Tanasi D, Hassam S, Kingsland K, et al. "MeliteCivitasRomana in 3D: Virtualization Project of the Archaeological Park and Museum of the DomusRomana of Rabat.", Malta Open Archaeology, 7(1):51–83, 2021. https://doi.org/10.1515/opar-2020-0126
61. Timothy D.J. "Contemporary cultural heritage and tourism: development issues and emerging trends. Public Archaeology", 13(1–3), 30–47, 2014. https://doi.org/10.1179/1465518714z.00000000052
62. Glyptou, K., Kalogeras, N., Skuras, D., Spilanis, I., "Clustering Sustainable Destinations: Empirical Evidence from Selected Mediterranean Countries". Sustainability 14, 5507, 2022.. https:// doi.org/10.3390/su14095507
63. Papadaki, E. "Promoting Green Tourism Synergies with Cultural and Creative Industries: A Case Study of Greece". Sustainability 16, 633, 2024. https://doi.org/ 10.3390/su16020633
64. Hall, P. "Creative cities and economic development". Urban Stud. 37, 639–649, 2000. https://doi.org/10.1080/00420980050003946
65. Koliopoulos, T.K., Papakonstantinou, D., "Allied Architectural Digital Solution Design for All at Landscape & Safe Community Health Facilities at Post COVID era and in Climate Change", Afr.J.Bio.Sc., 6(8), 374-380, 2024. https://doi.org/10.48047/AFJBS.6.8.2024.374-380
66. Pratt, A.C. "Urban regeneration: From the arts 'Feel good' factor to the cultural economy: A case study of Hoxton". Urban Stud. 46, 1041–1061, 2009. https://doi.org/10.1177/0042098009103854
67. Francesca, I., Fasiello, R., Adamo. S., "Sustainability Determinants of Cultural and Creative Industries in Peripheral Areas". Journal of Risk and Financial Management 14: 2021. 438. https://doi.org/10.3390/jrfm14090438
68. Soriano, F.H.; Mulatero, F., "Knowledge Policy in the EU: From the Lisbon Strategy to Europe 2020"; J Knowl Econ 1, 289–302, 2010. https://doi.org/10.1007/s13132-010-0020-9
69. Heger, T.; Bub, U. 'The EIT ICT Labs—Towards a leading European innovation initiative'. IT Inf. Technol. 54, 2012. 288–295.https://doi.org/10.1016/j.techfore.2014.02.002
70. León, G.; Leceta, J.M.; Tejero, A. "Impact of the EIT in the creation of an open educational ecosystem: UPM experience". Int. J. Innov. Sci. 10, 178–206. 2018. DOI:10.1108/IJIS-09-2017-0090
71. Babar, M., & Arif, F. 'Smart urban planning using big data analytics to contend with the interoperability in internet of things". Future Generation Computer Systems, 77, 65–76, 2017. https:// doi.org/10.1016/J.FUTURE.2017.07.029.
72. Baggio, R., & Scaglione, M. "Strategic visitor flows and destination management organization. Information Technology and Tourism", 18(1–4), 29–42, 2018. https://doi.org/10.1007/s40558-017-0096-1
73. Beritelli, P., Bieger, T., & Laesser, C. "Destination governance: Using corporate governance theories as a foundation for effective destination management". Journal of Travel Research, 46(1), 96–107, 2007. https://doi.org/10.1177/0047287507302385
74. Buonincontri, P., & Micera, R. "The experience co-creation in smart tourism destinations: A multiple case analysis of European destinations. Information Technology and Tourism", 16(3), 285–315, 2016 . https://doi.org/10.1007/s40558-016-0060-5.
75. Caragliu, A., Del Bo, C., & Nijkamp, P. "Smart Cities in Europe". Journal of Urban Technology, 18(2), 65–82, 2011. https://doi.org/10.1080/10630732.2011.601117
76. Neuhofer, B., Buhalis, D., & Ladkin, A. "Conceptualising technology enhanced destination experiences". Journal of Destination Marketing and Management, 1(1–2), 36–46, 2012.

https://doi. org/10.1016/j.jdmm.2012.08.001
77. Pramanik, M. I., Lau, R., Demirkan, H., & Azad, A. K. "Smart health: Big data enabled health paradigm within smart cities. Expert Systems with Applications", 87, 370–383, 2017. https:// doi.org/10.1016/J.ESWA.2017.06.027
78. Reinhold, S., Beritelli, P., & Grünig, R. "A business model typology for destination management organizations". Tourism Review, 2018. TR–03–2017–0065. http://doi.org/10.1108/TR03-2017-0065
79. Harper, G. "Sustainable development and the creative economy". Creat. Ind. J. 14: 107–108, 2021. https://doi.org/10.1080/17510694.2021.1952735
80. Busby, G., & Klug, J. "Movie-induced tourism: The challenge of measurement and other issues". Journal of Vacation Marketing, 7(4): 316-332, 2001. https://doi.org/10.1177/135676670100700403
81. Garzón, J., Acevedo, J., Pavón, J., Baldiris, S. "ARtour: Augmented Reality-Based Game to Promote Agritourism". In: De Paolis, L., Bourdot, P. (eds) Augmented Reality, Virtual Reality, and Computer Graphics. AVR 2018. Lecture Notes in Computer Science, vol 10850. Springer, 2018. Cham. https://doi.org/10.1007/978-3-319-95270-3_35
82. Shabani, A., Kioumarsi, M., "Hyperomet: An OpenSees interface for nonlinear analysis of unreinforced masonry buildings", Journal SoftwareX, N. 20, 101230,2022. https://doi.org/10.1016/j.softx.2022.101230
83. Boone, V. M. "Positive for Autism: Powerful strategies to help your child overcome challenges and thrive", Emeryville: Althea Press, 2018.
84. Colvin, G., & Sheehan, M. R. "Managing the Cycle of Meltdowns for Students with Autism Spectrum Disorder", (1st edition). CA: Corwin, 2012.
85. Cooper, J. O., Heron, T. E., & Heward, W. L. "Applied Behavior Analysis" (3rd edition). Hoboken: Pearson, 2020.
86. Jing SHI "Travel as a Mode of responding to Autism Spectrum Disorder: One Family's Journey", Journal of Autism and Developmental Disorders, 53:1706–1709, 2023. https://doi.org/10.1007/s10803-022-05468-4
87. Greek Governmental Journal, FEK decision number DEPEA/oik.178581, "Approval Energy Performance of Buildings Regulation (KENAK)", 2367/B` 12.7.2017, 2017. https://www.elinyae.gr/ethniki-nomothesia/ya-depeaoik1785812017-fek-2367b-1272017
88. Puncello, I., Caprili, S. "Seismic Assessment of Historical Masonry Buildings at Different Scale Levels: A Review", J. Appl. Sci. 13(3), 1941; 2023. https://doi.org/10.3390/app13031941
89. Shabani, A., Kioumarsi, M., "A novel macroelement for seismic analysis of unreinforced masonry buildings based on MVLEM in Opensees", Journal of Building Engineering, N. 49, 104019, 2022. https://doi.org/10.1016/j.jobe.2022.104019
90. Gustafsson, C.; Lazzaro, E. "The innovative response of cultural and creative industries to major European societal challenges: Toward a knowledge and competence base. Sustainability", 13, 2021. 13267.https://doi.org/10.3390/su132313267
91. Lampel, J.; Germain, O. "Creative industries as hubs of new organizational and business practices". J. Bus. Res. 69, 2327–2333, 2016. https://doi.org/10.1016/j.jbusres.2015.10.001
92. Grossi, E.; Sacco, P.L.; Blessi, G.T.; Cerutti, R. "The impact of culture on the individual subjective well-being of the Italian population: An exploratory study". Appl. Res. Qual. Life 6, 387–410, 2010. DOI 10.1007/s11482-010-9135-1
93. Tussyadiah, I., P., Wang, D., Jungc, T.H., Claudia, M. tom Dieckd "Virtual reality, presence, and attitude change: Empirical evidence from tourism," Journal Tourism Management, 66, 140-154, 2018. https://doi.org/10.1016/j.tourman.2017.12.003
94. Connell, J. "Toddlers, tourism and Tobermory: Destination marketing issues and television-induced tourism". Tourism Management, 26, 763–776, 2005.

https://doi.org/10.1016/j.tourman.2004.04.010
95. Connell, J., & Meyer, D. "Balamory revisited: An evaluation of the screen tourism destination-tourist nexus". Tourism Management, 30(2), 194–207, 2009. https://doi.org/10.1016/j.tourman.2008.06.001
96. European Parliament. Recommendation of the European Parliament and of the Council on "film heritage and the competitiveness of related industrial activities". 16 November 2005 https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32005H0865.
97. Papathanassis, A. "The long tail of tourism: holiday niches and their impact on mainstream tourism". Heidelberg: Springer, 2011.
98. Byers, T. H., Dorf, R. C., & Nelson, A. J. "Technology ventures: management dell'imprenditorialità e dell'innovazione" New York: McGraw-Hill, 2011.
99. Cope, J. "Entrepreneurial learning and critical reflection: Discontinuous events as triggers for 'higher-level' learning". Management Learning, 34(4), 429–450, 2003. https://doi.org/10.1177/1350507603039067
100. Dhingra, R., Naidu, S., Upreti, G., Sawhney, R., "Sustainable Nanotechnology: Through Green Methods and Life-Cycle Thinking", Sustainability, 2, 3323-3338; 2010. doi:10.3390/su2103323
101. Helland, A., Scheringer, M. , Siegrist, M. , Kastenholz, H. , Wiek, A. , Scholz, R.W. "Risk assessment of engineered nanomaterials – a survey of industrial approaches", Environmental Science & Technology, 42, pp. 640–646, 2008.