

# Cybersecurity Considerations for Ethnotourism Destinations: A Comprehensive Guide

Durbek Sayfullaev,<sup>1,a)</sup> Bobir Odilov,<sup>2,b)</sup> Nodir Karimov,<sup>3,c)</sup> Asror Kayumov,<sup>4,d)</sup>  
Temirbek Kuchkarov<sup>5,e)</sup> and Zilola Sattorova<sup>6,f)</sup>

<sup>1,2,3,6</sup>*Tashkent State University of Oriental Studies, Tashkent, Uzbekistan.*

<sup>4</sup>*University of Economics and Pedagogy, Andijan, Andijan region, Uzbekistan.*

<sup>5</sup>*Oriental University, Tashkent city, Yakkasaroy district, Uzbekistan.*

<sup>a)</sup> *Corresponding author: durbek\_sayfullayev@tsuos.uz,*

<sup>b)</sup> *odilov\_bobir@tsuos.uz, <sup>c)</sup> nodir-karimov@list.ru, <sup>d)</sup> asror\_kayumov@mail.ru, <sup>e)</sup> temirbek\_kuchkarov@list.ru,*

<sup>f)</sup> *Zilola2022@list.ru*

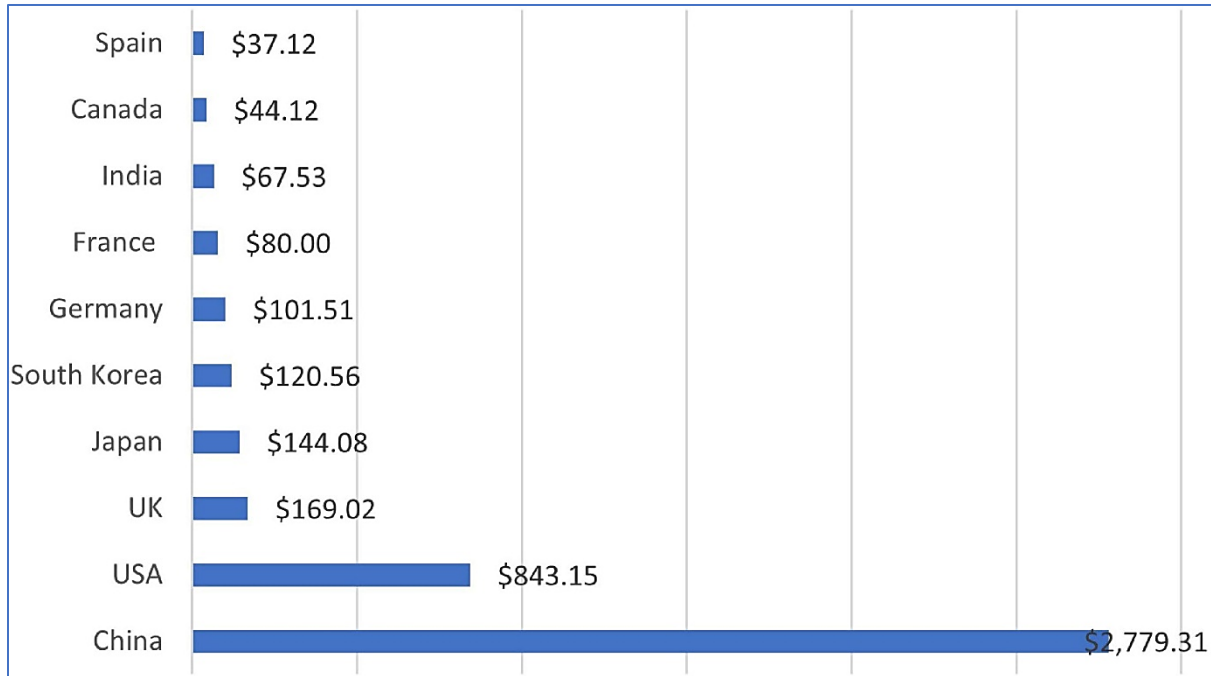
**Abstract.** Particular to ethnotourism places are cybersecurity risks that jeopardise visitor data and private cultural information. This thorough handbook can help ethnotourism locations handle cybersecurity issues, protect cultural assets, and guarantee tourist safety. The worldwide tourist market has undergone substantial changes in the last 20 years. First and foremost, because of the introduction of new travel destinations, new niche markets, and steady development in both quality and quantity, tourism has been the main driver of economic activity. Travelling today is essentially defined by a greater variety of services, improved quality, and quicker, less expensive, and easier travel. It is now more difficult than ever for individual tourists to compete in the travel industry due to the explosion of tourism programs. A destination's tourism offer's substance is more significant than its cost or level of quality. Unquestionably, a tourism destination's uniqueness, propensity for a healthy lifestyle, and abundance of natural and cultural resources derived from sustainable and socially conscious development are the most important components of its competitive edge. The needs and habits of people for things like housing, food, drink, entertainment, transportation, and other necessities have changed a lot in the post-industrial era, which has affected how tourists travel around the world.

**Keywords.** Cybersecurity, Comprehensive Guide, Variety of Services.

## INTRODUCTION

The worldwide tourist market has undergone substantial changes in the last 20 years. First and foremost, because of the introduction of new travel destinations, new niche markets, and steady development in both quality and quantity, tourism has been the main driver of economic activity. Travelling today is essentially defined by a greater variety of services, improved quality, and quicker, less expensive, and easier travel [1]. It is now more difficult than ever for individual tourists to compete in the travel industry due to the explosion of tourism programs. A destination's tourism offer's substance is more significant than its cost or level of quality. Unquestionably, a tourism destination's uniqueness, propensity for a healthy lifestyle, and abundance of natural and cultural resources derived from sustainable and socially conscious development are the most important components of its competitive edge [2]. The generation that emerged from post-industrial civilisation changed people's wants and preferences regarding housing, food, drink, entertainment, transportation, and other items, which had a significant impact on worldwide tourism trends [3-5]. Examining the causes behind tourists' arrivals, it is clear that, albeit on the decline, passive vacation remains the main driver of tourism. This indicates that tourists are becoming more interested in the tourism offer, which includes a variety of activities like trying new things, learning about the locals' way of life, and enjoying food (gastronomy), where "value for money" is crucial [6]. When all things are considered, the majority of visitors to a destination go on nature walks, visit national parks, plan their own field trips or just unwind [7]. This may be a reflection of both their needs and their lack, as it suggests that people make use of natural resources that are readily available to them [8]. In terms of the area in which tourists visit, cities, spas, and the shores of lakes and rivers account for the majority of continental tourism. Cyber Threat in Various Countries shown in fig. 1.

## Recent Trends in Artificial Intelligence Cybersecurity and Embedded Systems



**FIGURE 1.** Cyber Threat in Various Countries

The word is the opposite of coastal tourism and refers to any type of tourism that takes place within a country's inland (the continental region) [9]. These two types of tourism ought to be viewed as related and complementary forms of travel given that coastal tourism has historically outperformed continental tourism and is anticipated to continue doing so going forward. Additionally, coastal tourism aids in the growth of continental tourism [10-13]. The region's unique natural, cultural, historical, and other resources, as well as its established receptive capacities and its transit links with Europe and the rest of the world via land, air, and maritime channels, shape the future opportunities for continental tourism.

## LITERATURE SURVEY

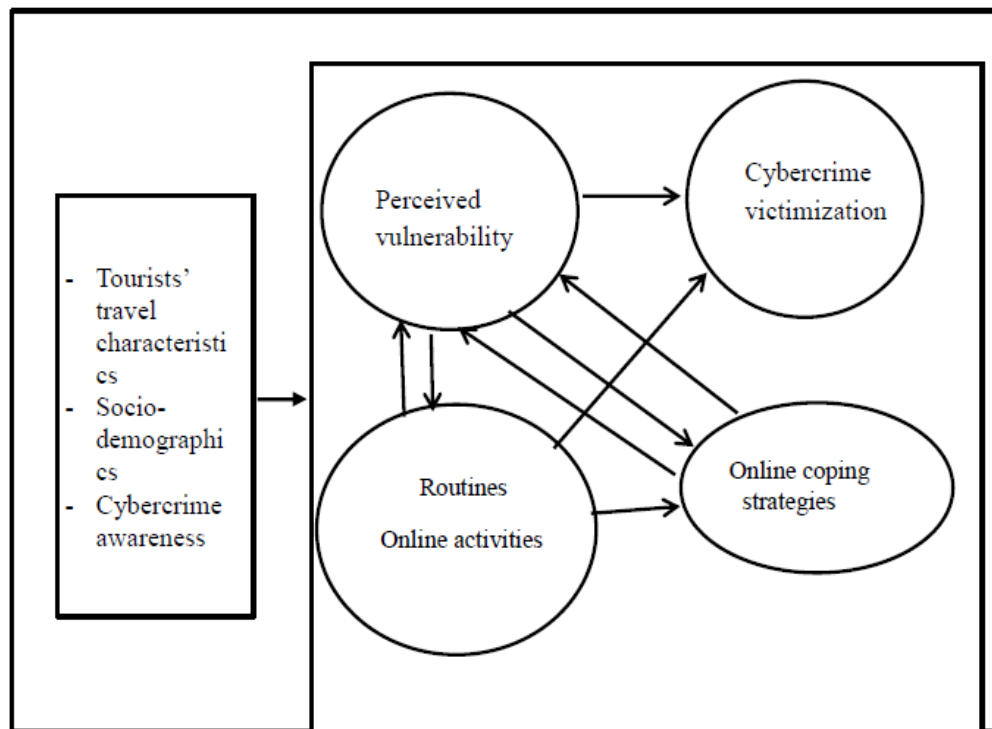
The Internet has developed into a necessary tool for daily living and human progress. People rely on information and communication technologies (ICTs), which include laptops, mobile devices, and computers, for e-shopping, e-learning, and e-communication [14]. Thanks to social media sites like Facebook and Twitter, connections have been made, messages about current affairs have been shared, political opposition has been encouraged, and support for both social and political causes has grown. Governments can now use the Internet as a tool to further and promote national objectives [15]. Governments all throughout the world have embraced the Internet as a means of promoting human and economical development. Some governments use the Internet to advance socioeconomic development, while others use it to support good governance. Another group is embracing the Internet in an effort to close the digital divide and strengthen society [16]. Organisations and corporate entities rely extensively on ICT systems, networks, and the Internet for e-commerce and e-business. Businesses want accurate information to make strategic and operational choices, boost productivity, and stay competitive in today's uncertain and unpredictable cyberworld. Computers, information systems, and networks that electronically create, process, store, and transact information are today highly valued by organisations [17]. Even if the Internet has completely transformed businesses, governments, and communities, the increasing reliance on it has increased the importance of cybersecurity. "Technologies, processes, and policies that help to prevent and/or reduce the negative impact of events in cyberspace that can happen as a result of deliberate actions against information technology by a hostile or malevolent actor" is what is meant when the term "cybersecurity" is used. It impacts both established and underdeveloped countries, regardless of their level of economic development, technical sophistication, or security infrastructure. Massive data breaches caused by cybercrimes and cyberattacks can endanger national security as well as the economy.

### CYBERSECURITY MEASURES

Examining the causes behind tourists' arrivals, it is clear that, albeit on the decline, passive vacation remains the main driver of tourism. This indicates that tourists are becoming more interested in the tourism offer, which includes a variety of activities like trying new things, learning about the locals' way of life, and enjoying food (gastronomy), where "value for money" is crucial. When everything is taken into account, most people who visit a place go on nature walks, visit national parks, plan their own field trips, or just relax. This suggests that people take advantage of readily available natural resources, which may be due to a lack of other tourism opportunities as well as their requirements.

### RESEARCH FRAMEWORK

Conducting qualitative research on the attitudes of groups that, through their ongoing interactions, form an indivisible whole of the tourism process as an interaction of motives, interests, and benefits of the development results is necessary for understanding and evaluating the state of tourism development for each destination. In these situations, surveys are typically conducted. By emphasising the recognisability of continental tourism and the preferences of its target audience, a poll of Zagreb's citizens was conducted to underscore the significance of its expansion. The study indicates that the target population, which consists of citizens of Zagreb, also regularly and merrily travel to rural areas as tourists and excursionists. Finding out what they thought of visitors' stays and activities in the adjacent continental areas was the aim of the poll. The word "excursionist" refers to the concept that an excursion is a planned pairing of two or more distinct services, like lodging or other tourist and hospitality services, that takes place over the course of less than a day and does not involve an overnight stay. The term "excursionist" refers to visitors who remain for just one day, whereas tourists stay for at least one night. Proposed Conceptual Framework shown in fig. 2.



**FIGURE 2:** Proposed Conceptual Framework

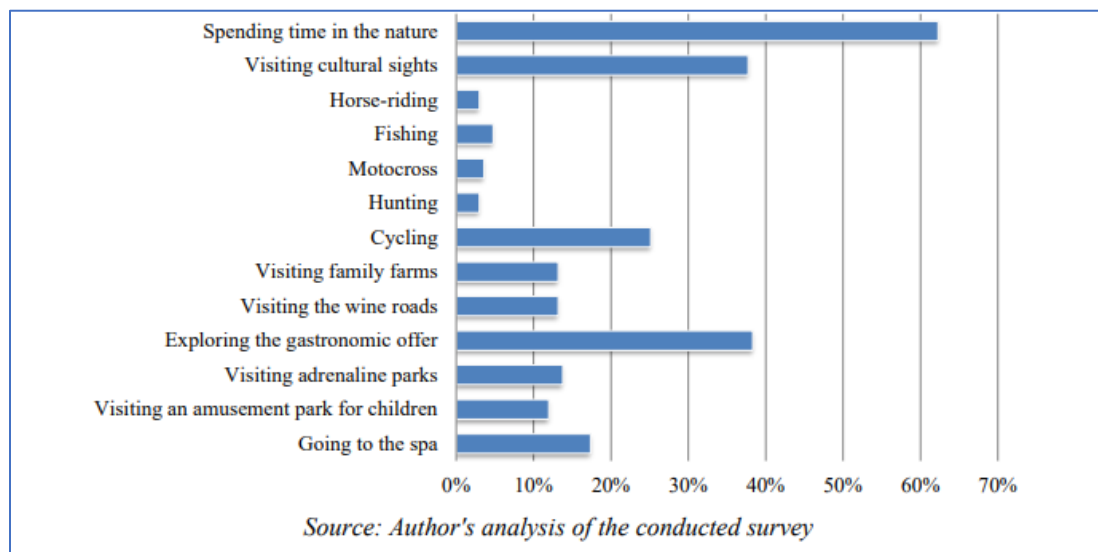
The study was conducted in December 2024 on Zagreb's Ban Jelai Square. Five days later, randomly selected bystanders provided 253 correctly filled out questionnaires. It is evident from looking at the respondents'

## Recent Trends in Artificial Intelligence Cybersecurity and Embedded Systems

sociodemographic details that 39% of them are men and 61% of them are women. According to the majority of respondents, they live in Krapina, Veliko Trgovie, Jastrebarsko, Zagreb, Zabok, and Zaprei.

### STATISTICAL ANALYSIS

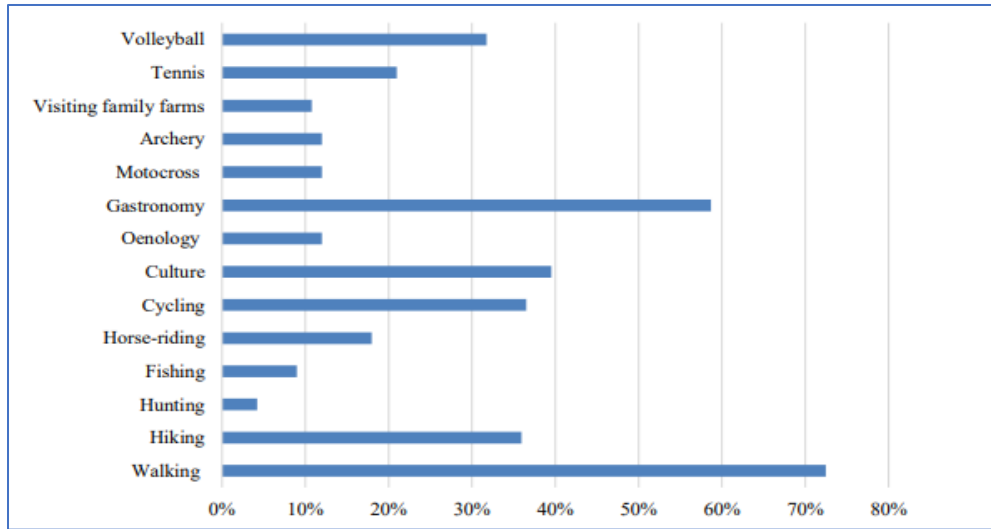
Because they are potential tourists or travelers to the continental macro-region's surrounding areas, this sample of respondents is suitable for the research. In order to learn more about potential excursionists' motivations, routines, and leisure activities, a series of closed-ended survey questions was employed. To begin with, residents of Zagreb were asked a series of questions concerning their leisure activities, interests, and most common pastimes. What they do when they're not Working shown in fig. 3.



**FIGURE 3.** What they do when they're not Working

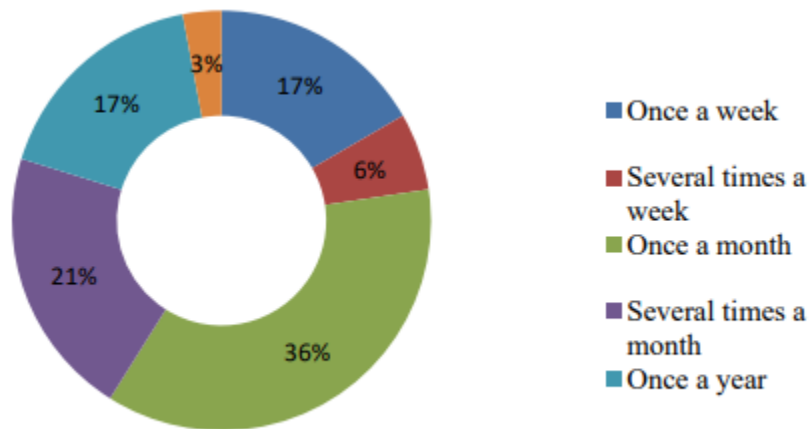
According to the responses that were provided, up to 62.3% of respondents spend their leisure time outdoors. 38.3% of respondents decided to try new local food options after spending time outside, and 37.7% decided to go to cultural sites. Up to 25.1% of respondents pedal in their free time. Spas, adrenaline parks, family farms, wine roads, and children's amusement parks are just a few of the activities that roughly 15% of participants engage in. During the Excursion, the Respondents' Favorite Activities shown in fig. 4.

## Recent Trends in Artificial Intelligence Cybersecurity and Embedded Systems



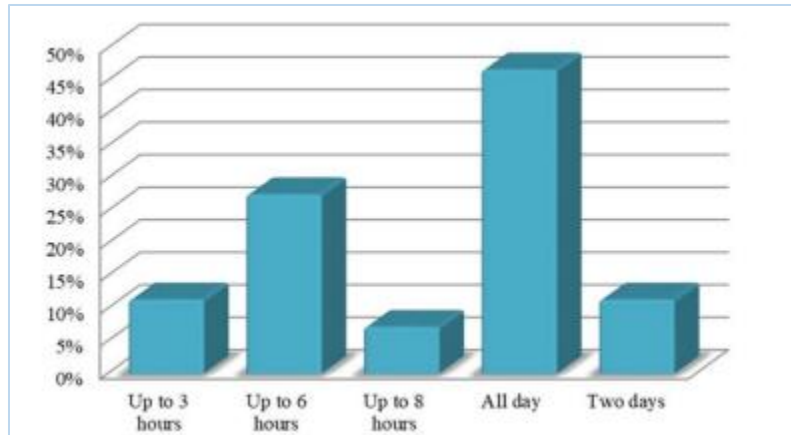
**FIGURE 4.** During the Excursion, the Respondents' Favorite Activities

The answers to the preceding question are continued in the answers to this one. Consequently, a sizable portion of participants—72.5%—expressed an interest in taking a stroll. This is consistent with the responses to the previous question, in which 62.3 percent of participants stated that they would like to spend their free time outdoors. Again, culture and food rank highly (58.7% and 39.5%, respectively). Excursionists are interested in cycling (36.5 percent), hiking (34.9 percent), volleyball (31.7 percent), tennis (21 percent), horseback riding (18 percent), motocross, and archery (12 percent). Only 10.8% of respondents are interested in contributing to the production of organic food, and less than 10% are interested in hunting and fishing. Excursions Outside shown in fig. 5.



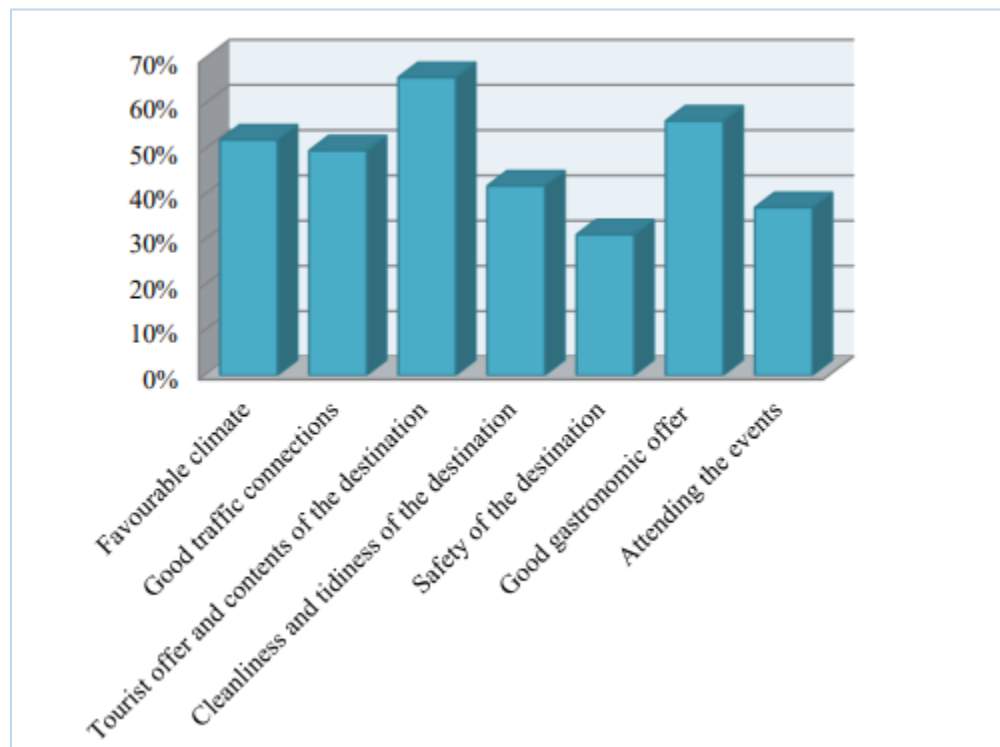
**FIGURE 5.** Do you go on Excursions Outside

The study's most crucial question, which concerns the excursionists' routines, is "Do you go on outings that are up to an hour's drive from where you live?" According to the comments, the participants often partake in extensive physical exercise and make short journeys outside of their homes. Excursionists' Duration of Stay at the Destination shown in fig. 6.



**FIGURE 6.** Excursionists' Duration of Stay at the Destination

Throughout history, there have been many different reasons why people have travelled. As tourism grew, so did the particular requirements of the modern traveler. The subsequent survey question was used to investigate the requirements of tourists visiting tourist destinations on the continent. When asked what factors they consider most important when selecting a vacation spot, the respondents (accounting for 65.9% of those surveyed) listed the destination's tourism attractions and offerings as paramount. 52.1% of respondents stated that a pleasant atmosphere is crucial for time spent outside of one's daily residence, while 56.3% of respondents stated that a decent food selection is significant. This is due to the fact that outside activities are frequently restricted by the weather. Not less significant were the following factors: safety, orderliness and cleanliness of the destination, good transit connections and event participation. Important Factors When Choosing an Excursion Destination shown in fig. 7.



**FIGURE 7.** Important Factors When Choosing an Excursion Destination

## Recent Trends in Artificial Intelligence Cybersecurity and Embedded Systems

Lack of free time is the most prevalent reason given by the respondents (65.3%) for why they do not go on more frequent excursions in the neighbourhood. According to between 22% and 27% of respondents, there weren't enough activities for different age groups, the tourist offer wasn't sufficiently enticing, and they weren't familiar with the destination or offer. Some responders added that they didn't take trips to neighbouring places since they didn't have enough money.

### CONCLUSION

Tourism locations across the globe are facing an increasing number of environmental and social difficulties, which presents a variety of development and management challenges. Governments at all levels are pushing ethnic tourism more and more as a way to stimulate regional development, but this is affecting many communities in both positive and harmful ways. Tourism's trademarks include the emergence of new travel motivations and the continual evolution of visitor demand patterns. Travellers are no longer satisfied with merely a nice place to stay or a typical tourist product. They want an experience that implicitly includes first-rate lodging and services. Market trends are used to analyse changes in the reasons behind tourists' arrivals as well as the overall amount of activity at tourist sites. Ethnotourism sites need to have sufficient cybersecurity to protect cultural assets and guarantee visitor safety. By using this thorough advice, destinations can handle particular cybersecurity issues and establish a secure atmosphere for cross-cultural interactions.

Free time is one of the most precious commodities for modern busy individuals, and tourism is eating up some of that time. Because of this, a tourist is extremely driven, daring, and genuinely wants to appreciate the location they are visiting, but they are also extremely perceptive, demanding, and critical. Tourism is defined by the emergence of new travel motivations and the ongoing changes in visitor demand patterns. Travellers now demand an experience that encompasses both excellent lodging and services; they are not satisfied with a single tourism offer or simply a nice place to stay. The regions that are next to urban centres provide more tourism attractions. The expansion of continental tourism would improve traveler experiences overall, enable year-round traveler supply (minimising seasonal variations in visitor numbers), encourage greater use of available lodging options, and ultimately increase traveler consumption.

### REFERENCES

1. D. Lukić, and S. Andjelković, "Rusallias—A Basis for Promoting Ethno-Tourism in Eastern Serbia," *In Modern Management Tools and Economy of Tourism Sector in Present Era*, 701-718 (2018).
2. A. Llobet, "Promoting Ethno-Tourism in the Costa Rican Indigenous Territories to Achieve Economic Prosperity," *Valley International Journal Digital Library*, 7036-7039 (2024).
3. L. Caviglione, S. Wendzel, A. Mileva, and S. Vrhovec, "Guest Editorial: Multidisciplinary Solutions to Modern Cybersecurity Challenges," *Journal of Wireless Mobile Networks, Ubiquitous Computing, and Dependable Applications*, **12**(4), 1-3 (2021).
4. S. B. Boldyreva, Z. O. Kekeeva, and O. Kekeev, "Ethno-Cultural Aspects of Tourism Development in the Republic of Kalmykia," *Journal of Environmental Management and Tourism*, **9**(2), 318-324 (2018).
5. R. Mukatova, N. Kulcsár, and A. Tleubayeva, "Residents' Attitude Towards Ethno-Tourism in Ulytau, Kazakhstan," *Geo Journal of Tourism and Geosites*, **52**(1), 77-84 (2024).
6. B. Sujadmiko, "Ethno Development," *Planning*, **17**(3), 787-794 (2022).
7. R. Mukatova, K. Mussina, and M. Rodríguez, "The Untapped Potential of Ethno-Tourism in Ulytau Region," *Journal of Environmental Management & Tourism*, **13**(6), 1534-1550 (2022).
8. B. Melović, and D. Ćirović, "Sustainable Development Through the Prism of Ethno-Tourism—Example of Montenegro," *In MATEC Web of Conferences*, **193**, 05078 (2018). <https://doi.org/10.1051/mateconf/201819305078e>
9. A. Surendar, V. Saravanakumar, S. Sindhu, and N. Arvinth, "A Bibliometric Study of Publication-Citations in a Range of Journal Articles," *Indian Journal of Information Sources and Services*, **14**(2), 97–103 (2024). <https://doi.org/10.51983/ijiss-2024.14.2.14>

## Recent Trends in Artificial Intelligence Cybersecurity and Embedded Systems

10. M. Wang, "The Social Life of Scripts: Staging Authenticity in China's Ethno-Tourism Industry," *Urban Anthropology and Studies of Cultural Systems and World Economic Development*, 419-455 (2012).
11. B. A. Odilov, and A. Madraimov, "Utilizing Deep Learning and the Internet of Things to Monitor the Health of Aquatic Ecosystems to Conserve Biodiversity," *Natural and Engineering Sciences*, **9**(1), 72-83 (2024).
12. S. Khaydarova, and S. Khujamova, "The Vital Role of Libraries in Enriching Tourism Experiences," *Indian Journal of Information Sources and Services*, **14**(2), 11–16 (2024). <https://doi.org/10.51983/ijiss-2024.14.2.02>
13. D. Bobojonova, "Traditions and History of Librarianship in Central Asia," *Indian Journal of Information Sources and Services*, **14**(2), 70–77 (2024).
14. C. V. Bartholomew, M. T. Abdullah, R. Abdullah, and G. R. Clements, "Ethno-tourism: A Review on Natural Resources Use Pattern by Indigenous Community in Peninsular Malaysia," *Ecotourism Potentials in Malaysia* (2017).
15. Surendran, D., Arulkumar, V., Aruna, M., Sangamithrai, K., & Thangadurai, N. Improving the quality of education through data analytics and big data contributions. *In AIP Conference Proceedings*, (2742)1, 2024.
16. Guruprakash K.S, Siva Karthik P,Ramachandran A,Gayathri K, "Crop pest identification using deep network based extracted features and MobileENet in smart agriculture", *Land Degradation and Development*, (35)11, 3642–3652, (2024).
17. Cherukuri, Bangar Raju, and V. Arulkumar. "Optimization of Data Structures and Trade-Offs with Concurrency Control in Multithread Software Structures Using Artificial Intelligence." *IEEE International Conference on Computing, Power and Communication Technologies (IC2PCT)*. (5)1, 2024.
18. T.M. Nithya, P. Rajesh Kanna, S. Vanithamani, P. Santhi, "An Efficient PM - Multisampling Image Filtering with Enhanced CNN Architecture for Pneumonia Classification", *Biomedical Signal Processing and Control*, (86)2, 1746-8094, (2023).
19. G. B. Assanova, "National Priorities for the Tourism Industry Development in Kazakhstan in Conditions of Economy Digitalization and Modernization of Public Consciousness," (2018).
20. K. P. Thooyamani, "Secure Incentive Protocol for Multi-Hop Wireless Network with Limited Use of Public Key Cryptography," *Middle-East Journal of Scientific Research*, 20(11), 1651-1656 (2014).
21. R. M. Alguliyev, Y. N. Imamverdiyev, R. S. Mahmudov, and R. M. Aliguliyev, "Information Security as a National Security Component," *Information Security Journal: A Global Perspective*, **30**(1), 1-18 (2021).