

# Investigation of Artificial Intelligence in the Development of Tourism in Bamyan

Mohammad Reza AMIRI, Department of Architecture, Lecturer at Avicenna and Kateb University, Kabul (Afghanistan), Afghanistan  
Marzieh KARIMI, Department of Architecture, Faculty of Fine Arts, University of Tehran (Iran), Afghanistan

**Keywords:** Bamyan — Artificial Intelligence — Virtual tour — Tourism

**CHNT Reference:** Amiri, M., Karimi, M. (2021). 'Investigation of Artificial Intelligence in the Development of Tourism in Bamyan', in CHNT – ICOMOS Editorial board. *Proceedings of the 26th International Conference on Cultural Heritage and New Technologies*. Heidelberg: Propylaeum.

## Abstract

Communication and information technologies have fundamentally and unpredictably changed societies over the past few decades and the tourism industry is part of this transformation. Utilizing information and communication technology tools in the tourism industry has led to many changes due to more efficient use of resources and new opportunities with faster knowledge transfer (Marasco and Micera, 2012). Tourism has seen tremendous growth and prosperity throughout the world in the 21st century. Tourism is considered a bridging point of culture, economy, and technology, which has contributed to the success of the travel industry, job creation, and currency exchange, all of which have contributed greatly to a country's economic health. Virtual tourism, also known as virtual reality tourism, has become increasingly popular amongst tourism industry stakeholders in recent times. Fuelled by technological developments and Internet usage worldwide and closely linked with the concept of smart tourism, now see virtual tourism activities in many parts of the travel and tourism industry. Tourism in Afghanistan with its intact natural attractions and landscapes is crucial for economic growth and development in our war-torn country. Private sector investment in this area can help create employment and generate income (Fig1- Afghanistan in 2019 from tourism and tourist).

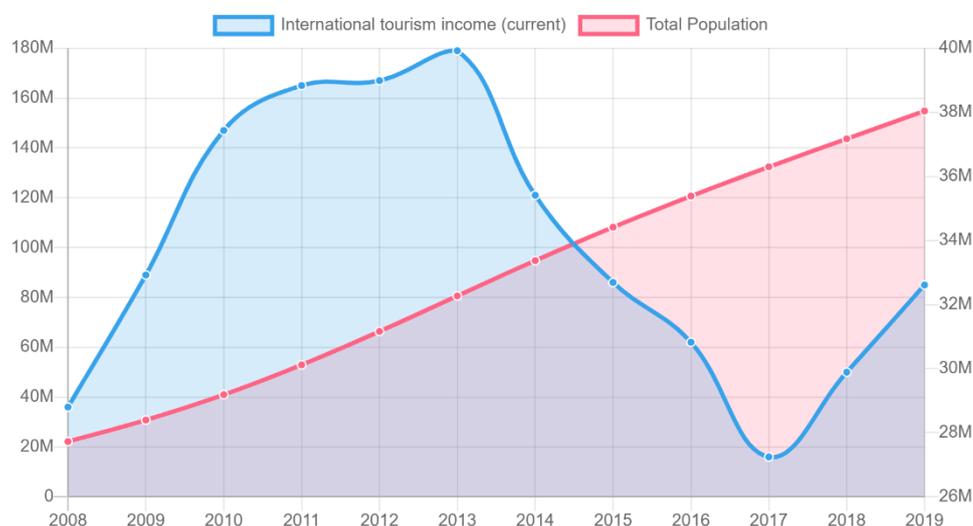


Fig. 1. Afghanistan's latest<sup>st</sup> International tourism income (current) is US\$85,000,000  
World Tourism Organization, Yearbook of Tourism Statistics, Compendium of Tourism Statistics and data files.  
([www.worldbank.org](http://www.worldbank.org))

There is substantial potential for a tourism hub in Afghanistan in the legendary city of Bamiyan with its many historical monuments dating from different historical periods. The destroyed Buddha statues, Zahak city, Ghalghaleh city and thousands of caves (small and large) on Bamiyan's landscape have made this place a world heritage site. Although Bamiyan is world-famous, it has not attracted much attention from foreign tourists due to a lack of infrastructure and security. Among the existing monuments, only 15 have been registered in the Ministry of Culture and Information as national monuments, of which eight are listed in 2003 as World Heritage.

Sites under the United Nations Educational, Scientific, and Cultural Organization (UNESCO). National or international institutions have not yet registered many of these historical monuments. While their study and research can provide answers to many questions about Afghanistan and its surrounding land and researchers have produced few or no studies about them so far (Javidi, 2018) (Fig 2 – Buddhas in Bamiyan).



Fig. 2. Cultural Landscape and Archaeological Remains of the Bamiyan Valley (Afghanistan) © Shutterstock / Torsten Pursche (<https://whc.unesco.org/en/news/2253>)

In today's world, security is regarded as the most fundamental principle when developing tourism development strategies. Tourism, stability, development, and security all go hand in hand. To a large extent, the development of tourism infrastructure depends on other current and civil activities in a region, supporting factors, laws and regulations (security), information, coordination of related organizations and development of tourism transport infrastructure. Moreover, use of violence at various levels will irreparably harm the industry. One of the major obstacles to tourism development and tourists' reluctance to travel to Afghanistan is the lack of security and inadequate facilities and infrastructure.

In several sectors of the tourism industry, artificial intelligence seems limitless and very capable in preserving showcasing and managing cultural heritage, reservation systems, tour management, health tourism, ecotourism, Internet of Things (IOT), smart cities, and virtual tourism, as well as personalization of travel experience, automation of tourism ranking platforms and offers, providing chatbot, improving customer service and designing flexible pricing systems.

At present, our primary focus in Afghanistan's tourism development is to introduce to the world the untouched places that have cultural and historical significance. With 3D pictures and direct communication, tourists will be offered information at anytime, anywhere, with high efficiency and low cost, which in return will help Afghanistan's tourism thrive.

Using virtual tours to introduce tourist spots by providing audio, video, and textual information can encourage tourists to visit Afghanistan's most attractive locales and lead to a desire to visit those places. Tourists coming from different parts of the world will serve as a lever for investment and creating the necessary infrastructure to accommodate tourists' needs.

In essence, virtual tourism facilitates a tourism experience, without actually having to travel anywhere. Virtual tourism takes many different forms and comes in vary degrees of technological capability. In its simplest form, virtual tourism may comprise of a video of a tourism destination. The 'tourist' watches the video, utilising their hearing and sight senses. More sophisticated forms of virtual tourism include being immersed in an environment through use of a headset or simulator. It may involve use of various props, users may be required to wear gloves and there may be additional sensations such as movement (like in a rollercoaster simulator), feeling (for example if the user is sprayed with water) and smell. Virtual tourism covers a broad spectrum of digitally mediated reality, which includes virtual reality, as well as mixed reality and augmented reality (<https://tourismteacher.com/>) (Fig3 - an image of a Buddha idol reconstruction in Bamyan).

Cyberspace with many capabilities such as simulation of leisure centres, buildings, towns, stores, factories and education with the ability to connect to the actual place and submit events in real time in cyberspace and the ability to give addresses and find locations before travelling and even advertisement and educational usages, are now very powerful tools for advertisement.

The study tries to identify the existing potential for virtual tourism in Bamyan city according to library data and to revitalize tourism and provide a set of solutions, examines the use of Artificial intelligence and Virtual tourism in the development of Bamyan tourism.



*Fig. 3. People watch a three-dimensional projection at the site where the Buddhas of Bamyan statues stood before being destroyed by the Taliban in March 2001.—AFP*  
(<https://inhabitat.com/>)

## References

- Javidi, Gholamreza, (2018). 'Bamyan Historical Monuments Registered in UNESCO World Heritage List', 3rd International Conference on Management Research and Humanities, University of Tehran
- Marasco, A., and Micera, R. (2012). 'The role of virtual communities for the innovation of tourism service experience: the case of MSC FRIENDS', in Proceedings of ET Tourism Conference 2012, Competition and Innovation in Tourism: New Challenges in an Uncertain Environment ", Naples, 13-14th September: 893-913, ISBN 978-88-89677-88-9. <https://tourismteacher.com/virtual-tourism/>