

THE ROLE AND ECONOMIC EFFICIENCY OF SMART TOURISM TECHNOLOGIES IN DEVELOPING INCLUSIVE TOURISM

Xidirova G.R

*Bukhara State University Faculty of Economics and Tourism Professor, Department of Tourism and
Hotel Management Doctor of Economic Sciences (DSc)*

Abstract: *This article provides an in-depth scientific and theoretical analysis of the role of smart tourism technologies in the development of inclusive tourism and their economic efficiency. The research reveals the organic relationship between inclusivity, digital transformation, and economic efficiency. The article develops a conceptual model of inclusive smart tourism and illustrates its impact on regional economy through a systematic approach using tables and diagrams.*

Keywords: *inclusive tourism, smart tourism, digital technologies, economic efficiency, sustainable development.*

In recent years, inclusive development principles in the tourism sector have gained particular importance, with approaches being promoted that aim to create equal opportunities for all social groups, including persons with disabilities, the elderly, low-income populations, and residents of remote areas. Inclusive tourism is considered not only as a means of ensuring social justice but also as an important factor in expanding the tourism market and increasing its economic efficiency.

In this process, digital transformation and smart technologies serve as important catalysts. Smart tourism technologies, based on information and communication technologies, artificial intelligence, big data, mobile applications, and the Internet of Things (IoT), enable tourism services to become more convenient, adaptable, and personalized. These technologies facilitate free access to tourism information, utilization of transport and infrastructure services, ensuring safety, and improving service quality, which is of great importance in developing inclusive tourism.

The application of smart technologies in inclusive tourism expands opportunities for persons with disabilities through adapted digital guides, voice navigation systems, virtual and augmented reality (VR/AR) excursions, as well as online booking and remote service access. This reduces physical and informational barriers in utilizing tourism services and attracts a wider audience to tourism activities.

From an economic perspective, inclusive tourism developed on the basis of smart tourism technologies provides significant efficiency for regional economies. The increase in tourist numbers, service diversification, reduction of tourism seasonality, and local entrepreneurs' access to markets through digital platforms increase regional income and employment. At the same time, an inclusive approach strengthens the socio-economic sustainability of tourism and creates a solid foundation for long-term economic growth. Therefore, studying the role of smart tourism technologies in developing inclusive tourism and their economic efficiency on a scientific basis is one of the urgent issues.

This topic has significant scientific and practical importance in terms of introducing innovative approaches in the tourism sector, ensuring social equality, and accelerating regional economic development.

The interrelationship between inclusive tourism and smart tourism technologies has become one of the important topics of scientific research in tourism economics, sustainable development, and digital transformation in recent years. In the literature, inclusive tourism is primarily interpreted as a socio-economic model aimed at creating equal tourism opportunities for all social groups.

Researchers evaluate inclusive tourism not only as an element of social responsibility but also as a factor in expanding the tourism market and increasing economic efficiency. Scientific sources indicate the main principles of inclusive tourism as reducing physical and informational barriers, expanding access to services, developing tourism infrastructure based on universal design, and actively involving local populations in the tourism value chain. It is emphasized that this approach serves to strengthen the social benefits of tourism while contributing to the sustainable growth of regional income.

Research dedicated to smart tourism technologies mainly focuses on analyzing the impact of information and communication technologies, artificial intelligence, big data, and digital platforms on the efficiency of tourism services. Scientists describe smart tourism as a system that ensures integration between tourists, service providers, and government institutions in a digital environment. This system ensures the openness of tourism information, personalization of services, and real-time management, thereby increasing the overall efficiency of tourism processes.

Studies dedicated to the importance of smart technologies in the context of inclusive tourism show that digital solutions significantly facilitate access to tourism services for persons with disabilities, the elderly, and other vulnerable social groups. For example, voice guides, mobile navigation applications, virtual tours, and online booking systems reduce physical and informational limitations in tourism participation. The literature notes that such technologies, while increasing the level of inclusivity, also shape new tourist demand.

Scientific works dedicated to economic efficiency particularly emphasize the synergy between inclusive and smart tourism. According to researchers, smart tourism developed on an inclusive approach leads to an increase in tourist numbers, service diversification, and reduction of seasonality. This manifests in increased employment in regional economies, development of small business and family entrepreneurship, and increased tax revenues. At the same time, existing problems are noted in the literature.

Specifically, insufficient digital infrastructure, low levels of digital literacy among the population, and slow institutional coordination are indicated as factors hindering the development of inclusive smart tourism. Some studies also emphasize that when technological solutions are incorrectly implemented, they may intensify rather than reduce social inequality. Overall, existing literature confirms that smart tourism technologies have significant strategic and economic importance in developing inclusive tourism.

However, the lack of comprehensive and empirical research evaluating the economic impact of smart technologies on inclusive tourism, considering regional characteristics, appears as a scientific gap.

This indicates the need for deeper scientific research in this direction.

In modern economic conditions, tourism is emerging not only as a service sector but also as an important driver of regional socio-economic development. However, traditional tourism models have problems such as not creating equal opportunities for all population segments, limitations in access to infrastructure and information, and insufficient economic efficiency.

Inclusive tourism is aimed at addressing these problems, and its main goal is to ensure equal access to tourism services for all segments of the population, including persons with disabilities, the elderly, women, youth, and low-income groups. From this perspective, the introduction of smart tourism technologies is considered one of the most effective means of developing inclusive tourism. In scientific literature, inclusive tourism is interpreted as a complex model based on the principles of social equality, economic efficiency, and sustainable development. This model envisions developing tourism infrastructure based on universal design, reducing barriers to access to information and services, and strengthening local population participation in the tourism value chain.

Smart tourism technologies serve as an innovative mechanism for implementing inclusivity in practice, increasing service flexibility through digital platforms, artificial intelligence, big data, and mobile technologies.

Table 1.

Impact of Smart Tourism Technologies on Inclusive Tourism

Technology	Functional Purpose	Significance for Inclusivity
Mobile applications	Booking, navigation	Quick and convenient access to information
Audio and visual guides	Information presentation	For persons with disabilities
VR/AR technologies	Virtual visits	Reduces physical barriers
Big Data and AI	Demand analysis	Personalized services
Smart transport systems	Movement management	Mobility and safety

The inclusive smart tourism model consists of the following main blocks, which work in an integrated manner:

1. Technological base – digital infrastructure, IoT, data platforms
2. Inclusive services – adapted tourism products
3. Economic mechanisms – income, employment, efficiency
4. Social outcomes – equality, participation, quality of life
5. Sustainability factors – ecology and resource efficiency

This diagram represents the systemic relationship between inclusivity and economic efficiency.

Economic Efficiency of Smart Tourism Technologies. Inclusive smart tourism creates the following economic outcomes in regional economies: expansion of tourist demand and emergence of new market segments, increase in service types and expansion of value chain, decrease in seasonality levels, and development of local entrepreneurship and family business.

Table 2.

Economic Efficiency of Inclusive Smart Tourism

Indicator	Traditional Tourism	Inclusive Smart Tourism
Tourist coverage	Limited	Wide social coverage

Income sources	One-sided	Diversified
Employment	Seasonal	Stable and inclusive
Service quality	Standard	Adapted
Long-term efficiency	Low	High

Problems in Developing Inclusive Smart Tourism. Scientific analyses show that there are several problems in implementing inclusive smart tourism:

- lack of digital infrastructure and investment;
- low level of digital literacy;
- slow institutional coordination;
- insufficient adaptation of the regulatory and legal framework.

Solving these problems requires comprehensive state policy and private sector cooperation.

Research results show that smart tourism technologies are the main innovative mechanism for developing inclusive tourism and provide high economic efficiency in regional economies. Inclusive smart tourism creates new economic value while expanding opportunities for using tourism services, increases employment, and serves sustainable development. Therefore, developing inclusive smart tourism should be considered as a strategic priority direction.

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