

The Role of Modern Technologies in the Development of Gastronomy Tourism

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Abstract: Tourism is slowly waking up after COVID-19, and travel leaders are looking for ways to save their businesses. Participants in the tourism market have been interested in AR and VR for some time. But how will these tools affect the industry post-pandemic? As the demand for travel and hospitality services increases, we are seeing a growing interest in AR and VR tourism. Travel and tourism companies are investing in AR and VR development to increase bookings and provide more engaging experiences to their customers. Apps are being developed to help customers access real-time versions of the destinations they want to visit.

Keywords: Gastronomy tourism, Food and beverage, Hospitality, Tourists, Breakfast

Introduction. In recent years, the concepts of "virtual reality (VR)" and "augmented reality (AR)", which are important components of technological developments in the reality-virtual dimension, have offered many new applications in gastronomy. Before exploring these applications, it is important to understand the meaning and specifics of the two concepts mentioned. VR is a technology that recreates three-dimensional digital images and videos to create an authentic visual experience for users. VR is defined as a three-dimensional (3D) system that allows people to be present in an environment through the use of various imaging devices, including 3D glasses, immersive cabin environments, and laptop or desktop computers. gives a feeling. The aim is to make people feel as if they are in a 3D environment thanks to 3D glasses and learn by exposure to new experiences. AR, on the other hand, enriches the user's perception and provides a vivid view of the real world with digital information. provides. While many of them are still in the experimental stage, understanding the goals and usage patterns of these apps can help improve or increase the number of these apps in the future. The concept of AR involves combining real world and virtual information. AR is defined as "any scenario in which a real environment is enhanced through the use of virtual (computer-generated) objects." In this real-world connected environment, data and images can be added to real-world images, allowing real and virtual objects to be perceived simultaneously in the same environment. Using a screen or projector, virtual objects are combined with the current environment to visually transform them into physical reality.¹

Key drivers of AR and VR and their market size in the travel industry. The main factors currently driving the demand for AR and VR tourism are increasing awareness of AR/VR, advances in technology, and increased consumer spending on these innovations. The global AR and VR market is projected to grow at a high CAGR and reach \$304.4 million by 2023. The growing demand for travel and tourism contributes to these indicators. For example, despite the pandemic, the direct contribution of

¹ <https://onlinelibrary.wiley.com/doi/full/10.1002/efd2.84>

tourism to GDP in 2020 was about 4.7 trillion dollars. North America now has the largest share of tourism-related AR and VR, thanks to travel companies' increasing investment in advanced AR/VR tools. In turn, the Asia-Pacific region is expected to show the fastest growth rates in the region due to government initiatives to promote and support the tourism industry. Some of the most promising areas for AR/VR in travel and tourism include travel booking services, gaming, navigation and hospitality.

Main challenges of AR/VR in tourism. The unprecedented COVID-19 pandemic has hit the tourism industry hard, with countless countries closing their borders to travelers. According to the UN report, the arrival of tourists around the world in January 2021 decreased by 87% compared to January 2020. As a result, tourism service providers have had to change their business models and reduce their spending on advanced digital technologies due to low return on investment. Travel companies have focused on building safer infrastructure to ensure the well-being of travelers. Despite these challenges, AR and VR tourism has allowed the industry to improve its services and offer an at-home travel experience for people who don't want to travel yet.

How can AR technology enhance travel apps? The biggest advantage of AR travel apps is that they can help change and improve people's perception of their environment. They engage their senses to give them an interactive and immersive experience. By 2023, the number of AR users is expected to reach 2.4 billion. Travel agencies can use this trend to create unique offers for their customers. Currently, there are major types of AR applications that can add value to the travel experience.

These include:

Location based applications. These are AR apps that rely on GPS for location tracking. Such applications are best suited for developing AR-based city tours and excursions or navigation solutions.

Marker based applications. Also known as recognition apps, they provide users with detailed information after recognizing a particular object. A good example is recognizing and providing relevant information about artworks in a museum.

SLAM software. Simultaneous localization and mapping software, also known as SLAM, uses sophisticated algorithms to detect objects around the user. It understands the physical world through feature points and enables immediate observation and scene detection. For example, the Walt Disney Company has received a patent for a "Virtual World Simulator" that works using SLAM technology and simulates a digital world in a real-world theme park.

According to statistics, the size of the VR market is expected to exceed \$12 billion by 2024. Virtual reality technologies have created a wide range of VR tours by providing interactive 3D tours that allow users to take a virtual tour of different locations. VR is a great tool for travel agencies that want to drive more bookings and increase their sales. For example, Amadeus is already developing and testing a Virtual Reality search and booking experience as a travel booking option. VR also helps by allowing customers to "try out" a location before spending money on an actual trip. Alternatively, agencies can sell VR tours and provide users with special equipment such as helmets and other equipment to provide users with an immersive user experience.

Virtual reality tour. VR tourism is shaping the future of travel by allowing users to visit a new place without having to physically travel. Obviously, it can't replace the actual travel experience, but it can help people explore parts of the world virtually, or at least check out a destination before they get there. VR travel apps help tourists get to remote or hard-to-reach places. One of the successful examples is the Patagonia project. This is an Oculus 360 tour that allows users to visit Argentina's most famous mountain, Monte Fitzroy, and its glacial lake, Laguna Sucia. VR tourism can benefit not only tourists but also travel agencies. According to research conducted by Statista in Germany, about 50% of people would use VR to choose a vacation destination if it were free, while 13% of those surveyed would be willing to pay for VR.

Virtual hotel tours. Based on the "try before you buy" concept, virtual hotel tours are typically

designed for customers who want to gauge a hotel in detail before booking a room. Several high-end destinations, such as the Maldives and Dubai, are using virtual reality to promote themselves. For example, Dubai's Atlantis, the Palm hotel created a 360-panoramic VR video that provides a whistle-stop tour of the hotel's key features. These include the lobby, the hotel's largest suite (Royal Bridge), the famous Nobu restaurant, and more.

Immersive navigation and guided tours. AR travel is mainly focused on geolocation and navigation processes, especially for those who travel on foot. For example, Google Lens and Google Translate let you scan and translate maps, guides, and street signs in real-time, providing an AR layer of translation in multiple languages. "VR is a more immersive form of advertising that helps people feel like they're actually at the event. Destination marketers should consider using VR to engage and build relationships with potential visitors, but stick more to call-to-action marketing. AR and VR are definitely worth adopting in the tourism industry as they can do a lot to enrich the traveller's experience. From virtual reality tours to virtual hotel tours, test drives and immersive navigation, there are many exciting ways to use the technology. The AR/VR market continues to grow, with many major corporations such as Microsoft and HTC Corporation devoting themselves to the development of AR and VR-based tools and related hardware (such as AR glasses and VR headsets).²

Emerging technology-based concepts in gastronomy tourism include:

- Online cooking courses. In this case, it will be possible to study the national dishes of each country online by purchasing courses. This will not only introduce food to the world, but also lead to an increase in the number of gastro tourists. Anyone interested in learning online will also visit to eat in the atmosphere of that country.

- Remote party and social catering. Mainly developed during the pandemic, in which communities, relatives and other close people communicate via video on social networks and chat, show each other all the food they have prepared, and drink together despite being far away.

Using AR and VR applications in restaurants. VR and AR applications in restaurants are more than just a simple QR code that makes it easy to navigate to a web page. These technologies can increase interest in products or menus with benefits such as changing the menu or seeing each dish in detail. The rapid development of virtual technologies has paved the way for multi-sensory restaurant applications. Restaurants have innovated their services using science and technology to beautifully convey food and drinks to consumers. Some of these innovations are creating a multi-atmosphere using technology, offering services by combining virtual images with real images, trying to engage all the senses in the service, and thematic that make consumers feel like they are in different environments. includes meals.

Rich in history and culture, the city of Navoi is now focusing on developing gastronomic tourism to showcase its unique culinary heritage. Combining traditional Central Asian and modern influences, Navoi cuisine offers visitors colorful and delicious dishes. To enhance this offering, the city is turning to technology to create engaging experiences for tourists. Augmented reality is one of the main technologies being considered for the development of gastronomic tourism in Navoi. By placing digital data in a real environment, AR can provide interactive and educational content related to Navoi gastronomy. Visitors can explore the city's culinary hotspots and learn about historical facts, recipes and cooking techniques. In addition to AR, virtual reality (VR) is being explored as a means of transporting visitors to different kitchen settings. Through VR, tourists can immerse themselves in Navoi's rich culinary heritage and experience traditional markets, cooking workshops and historic eateries. These virtual tours and interactive storytelling experiences provide a deeper understanding of the city's food culture. Mobile apps are also being developed to offer culinary tours, interactive maps of local eateries,

² <https://pixelplex.io/blog/ar-and-vr-in-tourism/>

and access to digital content about Navoi gastronomy. These apps are a valuable resource for tourists, providing information and guidance as they explore the city's culinary offerings. Interactive exhibitions in museums, cultural centers and culinary establishments are another technology used to showcase Navoi's gastronomic traditions. Through multimedia content, virtual cooking demonstrations and interactive storytelling, visitors can gain a deeper understanding of the city's culinary heritage. Online platforms such as websites and social media channels are also being used to promote Navoi's gastronomic tourism offerings. These platforms provide visitors access to digital resources such as recipes, videos and virtual experiences to further enhance their understanding and enjoyment of Navoi cuisine. By embracing these technologies, Navoi is poised to create a unique and immersive gastronomic tourism experience that celebrates its culinary heritage and attracts visitors from around the world. With a blend of traditional flavors and modern innovations, the city is poised to make its mark on the global culinary scene. As Navoi continues to develop its gastronomic tourism, it will become a must-visit destination for food lovers looking for an unforgettable culinary experience.

These ideas are used in several areas. They have made it possible for gastro tourists to use these apps online and aim to attract customers to inspire future visits.

Using the above information, several suggestions can be made:

- To increase the interest of tourists in our food and drinks by using VR and AR applications in restaurants based on foreign experience in organizing a gastro tour according to Navoi;
- AR and VR tours: Create virtual tours of Navoi's gastronomic attractions, such as local markets, restaurants and food festivals, allowing users to experience the sights and sounds of the city's cuisine from anywhere in the world.
- Interactive cooking classes: development of AR and VR cooking classes showcasing traditional Navoi dishes, allowing users to virtually participate in the cooking process and learn about local ingredients and cooking techniques.
- Virtual Tasting Experiences: Using AR and VR technology to create an immersive tasting experience where users can sample and learn about Navoi's signature flavors and ingredients through a virtual environment.
- Storytelling through AR and VR: Developing interactive narrative experiences that illuminate the history and cultural significance of Navoi gastronomy, allowing users to engage with the city's culinary heritage in a dynamic and immersive way.
- Partnering with local businesses: partnering with local restaurants, food producers and artisans to help promote Navoi's gastronomic offerings to a global audience, creating AR and VR experiences showcasing their products and services.

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