

Using Digital Applications as E-Tourist Guides to Revitalize the Turkish Tourism Sector

استخدام التطبيقات الرقمية كمرشد سياحي إلكتروني لإنعاش القطاع السياحي
التركي

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Abstract :

This research paper investigates the effectiveness of digital applications as electronic tour guides in revitalizing Turkey's tourism sector. It underscores the positive impact of digital transformation on the marketing of tourism services, emphasizing how these technologies enhance promotional efforts.

The study reveals that digital applications enable tourists to experience virtual tours and obtain detailed information about attractions and services, thereby improving their overall experience. This advancement not only enriches the tourist experience but also boosts Turkey's appeal as a prime tourist destination. By integrating these digital tools, the paper argues for their significant role in modernizing and promoting the tourism sector in Turkey.

Key words: Digital applications; E-tourism; Turkish tourism sector.

JEL classification codes: M31 ; L83 ; O33 ; Z32.

1. Introduction:

Recent years have witnessed a significant evolution in the use of digital applications and the internet as primary tools for transforming and enhancing various industries, including tourism and travel. Digitization has not only facilitated communication and interaction between individuals but has also enabled seamless and effective interaction with devices, services, and data. This digital revolution has inspired many economic sectors to rely on digital technology to enhance their businesses and attract new customers, and the tourism and travel industry is no exception. Adopting the latest digital applications and technologies has become a necessity to boost business and remain competitive in this vital sector. This advancement has presented enormous opportunities for creating positive changes in the travel and tourism experience. Tourists can now access accurate and useful information about destinations and tourism events and book trips and hotels with ease through digital applications. Additionally, these applications have become virtual tour guides, offering advice and guidance to travelers for an enjoyable and hassle-free travel experience.

Turkey is recognized as one of the world's premier tourist destinations, and it has swiftly kept pace with the digital transformation race. Turkey has seen a significant increase in the number of tourists who prefer using digital applications as their tour guides during their trips. These digital applications provide tourists with comprehensive information about tourist sites, restaurants, shopping, and local culture, making it easier for them to make informed decisions during their travels. This shift in the tourism and travel industry in Turkey, relying on digital applications as electronic tour guides, has become a golden opportunity to advance the tourism sector and increase cultural awareness among visitors. These applications enhance the travel experience and better meet the desires of tourists, benefiting the local economy and contributing to the overall development of tourism.

1.1. Study Problem:

Digitization has transformed the way businesses operate across countries, providing exceptional opportunities to create value across all sectors while considering the strategic impacts of these transformations. Digital applications are a crucial aspect of today's

economies, benefiting many sectors in enhancing their businesses and brands, particularly in the travel and tourism industry. The use of digital applications as tour guides in Turkey represents a positive step toward improving and enhancing the tourism sector in the country. These applications play a vital role in attracting tourists and enhancing their experience, thereby boosting Turkey's tourism economy and reinforcing its status as one of the world's leading tourist destinations.

In light of the above, the study problem can be formulated as follows:

To what extent do digital applications, as electronic tour guides, contribute to revitalizing the Turkish tourism sector?

1.2. Significance of the Study:

The significance of this study stems from the importance of digital transformation in the tourism and travel industry, which has emerged prominently both locally and internationally. By highlighting Turkey's pioneering experience in using digital applications as electronic tour guides to enhance the tourism sector, the study underscores the critical role these applications play in boosting Turkey's attractiveness as a tourist destination. Digital applications have become instrumental in increasing the number of incoming tourists, improving tourism demand in the country, and enhancing tourists' experiences by providing accurate and comprehensive information about tourist destinations, activities, and available services. This can significantly enrich tourists' experiences, making them more comfortable and luxurious.

1.3. Objectives of the Study:

This study aims to achieve the following objectives:

- Highlight the importance of digital transformation in the tourism and travel industry.
- Emphasize the role digital applications play in enhancing tourists' experiences and their satisfaction with tourist destinations.
- Identify the key digital applications used to develop the Turkish tourism sector.

2. Digital Applications:

2.1. Definition of Digital Applications:

According to the French dictionary of internet terms on the web, digital applications are defined as: "independent programs designed to operate on mobile devices such as smartphones or tablets" (Salim & Aliane, 2023, p. 11).

Electronic applications are described as "independent programs designed to run on mobile devices like smartphones or tablets, and they vary according to the purposes they are used for. Additionally, they fall under what is known as electronic marketing" (Matali, 2016, p. 14).

They are also defined as "computer programs designed to run on smartphones, tablets, and other mobile devices. This is a new term in the world of technology, specifically describing the software provided by web developers" (Al-Qahtani, 2022).

Based on the above, digital applications can be defined as: software designed to run on mobile devices such as smartphones and tablets. These applications allow users to access a variety of services and information easily and efficiently, helping individuals manage their tasks and stay connected with the world around them.

2.2. Types of Digital Applications:

There are several different types of digital applications, including the following (Salim & Aliane, 2023, p. 12):

a. Native Applications: Most of the applications we download on our mobile phones today are native applications. A native mobile application is developed for a specific operating system (iOS or Android). They generally use the features available on our mobile phones to offer a unique user experience. An additional benefit is that native mobile applications can be used offline, which is very practical when on an airplane.

b. Hybrid Applications: In the mobile application environment, there are also hybrid applications. The term "hybrid" is used because this type of mobile application combines elements of both native applications and web applications. Since they are coded using web languages such as HTML5 and JavaScript, they can be downloaded from all mobile platforms, which makes them very popular.

c. Web Applications: The third type of mobile application is web applications, or in other words, web apps. These are duplicates of websites optimized for use on mobile phones. To navigate a web application, you can use the search engines on your mobile phone. The weakness of these mobile applications is that they cannot be used offline.

2.3. Characteristics of Smartphone Applications:

There are several important and distinctive characteristics of smartphone applications, which can be summarized as follows (Dagash, Abdel Nabi, & Al-Sayed, 2021, p. 250) :

- **Continuous and Persistent Connectivity:** Smartphone applications are constantly connected to the internet, allowing information and notifications to be continuously delivered to users. This feature ensures that mobile applications are accessible anywhere and remain in users' minds.
- **Ease of Use and Simplicity:** Smartphone applications are designed with simplicity and user-friendliness in mind, ensuring high value and acceptance among users. They incorporate functionalities that help analyze user requirements and formulate diverse solutions effectively.
- **Security and Data Storage:** Mobile applications offer various security aspects, such as secure data transmission over mobile networks. Some applications synchronize data with internet applications, ensuring that information storage on servers remains secure and prevents data breaches.
- **Performance Flexibility:** Quick startup time is a crucial feature for mobile applications because users frequently use mobile devices for extended periods. The ability to start mobile applications quickly is essential compared to other computing devices.
- **Responsiveness:** Mobile devices are compact, yet powerful tools that fit in users' pockets. Despite their size, they handle vast amounts of information and commands executed by applications efficiently, ensuring complete responsiveness and ease of use.

2.4. Android Applications:

Android applications are designed within a specific electronic environment for use on smartphones and tablets. They are among the

most important applications due to their ease of download and availability for free. However, organizations require full control over them and employ specialized personnel for design, updates, and database management to safeguard and protect customer data. Android applications have become competitive with other operating systems like Windows and Apple. They come in various forms, including (Baroud & Abu Salem, 2023, p. 7):

- **Organizational Applications:** These showcase tourism organizations' services, how to access them, and payment methods.
- **Shared Applications:** These offer various services for tourism organizations. Customers can evaluate services, prices, locations, and choose the organization that suits their preferences.
- **Social Media Applications:** These enable individuals to communicate and share information through their personal accounts, fostering social interaction, idea exchange, and information sharing.

3. E-Tourism

3.1. Definition of E-Tourism:

E-Tourism refers to the use of smart technologies in the nature and various patterns of tourism services or in the field of tourism and travel in general, utilizing services provided by internet technologies that have added sophisticated technological dimensions to service delivery processes, conducting thousands of transactions through specific websites, offering more choices, and innovating new services for beneficiaries (Al-Jubouri, 2019, p. 302). E-Tourism also includes mobile tourism (m-tourisme), which involves using electronic devices such as phones and tablets (Djamil, 2021, p. 284).

E-Tourism is the use of digital and electronic technologies, such as the internet, mobile applications, and social media, to facilitate and enhance services and operations related to tourism and travel. E-Tourism encompasses various aspects such as electronic marketing of tourist destinations, online hotel reservations and transportation, providing detailed and updated tourist information, and enabling tourists to interact with tourist destinations and other travel-related electronic services. E-Tourism aims to enhance the travel experience

for tourists and increase the efficiency and effectiveness of the tourism industry overall.

3.2. Digital Platform Marketing in the Tourism Sector:

Digital platform marketing has revitalized the tourism sector through the following factors(Fariha, Thouamria, & Brahmia, 2022, p. 248):

- It has become possible for tourist consumers to access all the data and information they need about flight schedules and prices, hotels and their prices, as well as car rental locations and prices, all through the internet.
- The tourism product is considered high-cost compared to other products offered on the internet. The tourism service is characterized by its ease of transfer and delivery from the product to the consumer through the internet.
- Both the price and services provided to the customer during the booking process are important factors in competing to own a website characterized by modernity and innovation that will enable you to enter global markets.

3.3. The Importance of Electronic Applications in the Tourism Sector:

Electronic applications have become one of the most effective communication tools, offering numerous benefits to both travel agencies and tourists alike(El-Jalil, Mohamed, & Maged G, 2018, p. 5) :

- ✓ Remote Accessibility: Mobile applications enable travel agents and tourists to remotely access information and facilitate decision-making. They allow tourists to book and obtain information without the need to visit travel agencies or make phone calls, available 24/7.
- ✓ Cost Reduction: The use of mobile applications in travel has reduced costs by eliminating the need for printing brochures, advertising expenses, and transportation costs. They also save time in the booking process or online searches, making booking faster and more convenient, thereby advancing business operations to be quicker, easier, and more cost-effective.
- ✓ Increased Tourist Satisfaction: The key feature of electronic applications is maintaining constant connectivity, thereby

increasing tourist satisfaction as mobile apps keep tourists connected throughout their journeys.

- ✓ Provision of Information and Tools for Tourist Agencies: Among the most effective tools for destination management organizations in managing sustainable tools are Location-Based Services (LBS), Destination Management Systems (DMS), Intelligent Transport Systems (ITS), and Visitor Management Applications - technologies for controlling visitor numbers, managing tourist flows, protecting sensitive areas, and managing visitation times.

Furthermore, there are specific benefits of mobile applications for tourism such as influencing and changing user behavior, establishing effective community relations, enhancing tourist experiences, attracting new clients, increasing performance and revenue rates, providing booking services, enhancing brand awareness, meeting tourist expectations, and increasing the competitive edge of travel agencies.

4. Important Digital Applications Used in the Turkish Tourism Sector:

4.1. İstanbul Ulaşım Application

The "İstanbul Ulaşım" application is one of the essential apps in Turkey, specifically in Istanbul. Istanbul, being a city of historical and modern significance, is one of the most attractive tourist destinations globally. This application aims to facilitate the use of public transportation in Istanbul by providing real-time information about bus, metro, and tram schedules. It also includes a map of routes and stations. Users can purchase public transport tickets through the app and use them directly when boarding public transportation vehicles.



From the important services provided by the İstanbul Ulaşım application (Evrak, 2023):

- Users can search for information about public transportation, different lines, and stations in Istanbul. You can search by station

- name or line number to obtain detailed information about routes and schedules;
- The application allows you to plan your trip using public transportation in Istanbul. You can enter your current location and desired destination, and the app will provide you with the best options to reach your destination, including routes, ferries, buses, and metro;
 - You can access real-time information about buses, metro, and trams, and receive updates and notifications about any delays or changes in public transportation services;
 - The app offers an interactive map of Istanbul showing all public transportation modes and stations. You can use the map for navigation and check nearby routes and stations.

4.2. Turkey Hotel Booking Application

This application simplifies the hotel booking process in Turkey. It offers a wide range of hotels, including global five-star brands and local accommodations. You can easily search for hotels near your desired destination, filter results by star rating, price, and property type, and make reservations for large groups or individuals.

One of its key features is the intelligent index that gathers traveler reviews from major hotel booking sites. This feature allows you to read other travelers' comments about hotels you are considering, providing valuable insights before making your reservation. Whether you're planning a trip to Ankara, Istanbul, or any other part of Turkey, booking through this app is the best way to find enjoyable accommodation and plan your trip with ease(Softonic, 2023).

Finding a suitable hotel near the city you wish to visit and searching for one that meets your needs at a reasonable price is not easy. However, with this application, you can find: the type of hotel; hotel ratings and customer reviews; prices; available rooms. All you need to do is enter your travel dates and nights of stay, and choose the room you desire.



4.3. Yelp Application

"Yelp" is an application that aggregates user reviews, opinions, and critiques of restaurants or businesses. Before entering a specific

restaurant, browse the "Yelp" app on your mobile device to read about people's experiences at the place. The main benefit is gaining a suitable idea about the place; you might get excited to visit or avoid a potentially unpleasant experience. Yelp is an ideal option if you're looking for apps you need in Turkey for a seamless tourist experience. Here are some of the services it offers(Evrak, 2023):

- Customer ratings and reviews: You can read reviews and ratings from other customers about restaurants, hotels, entertainment venues, and services in Turkey;
- Search for places: You can use it to search for various places in Turkey, such as restaurants, hotels, parks, stores, and other services;
- Discovering unique places: You can use it to discover unique places in Turkey, exploring highly-rated locations and places recommended by other visitors.

4.4. TürkiyeSeyahatRehberi Application

The "TürkiyeSeyahatRehberi" application is a travel app designed to provide information and tips about traveling in Turkey. The app includes information about tourist, cultural, and natural attractions in Turkey. It also features details about hotels, restaurants, transportation options, and available recreational activities in various Turkish cities. The application can assist tourists in organizing their trips and choosing activities they wish to engage in during their stay in Turkey. TürkiyeSeyahatRehberi helps visitors navigate Turkey without the need for tourist facilities or guiding companies. This application boasts several great features, including(Arab-turkey, 2022):

- Available in two languages (Turkish and English).
- Displays photos of places and landmarks in the selected province.
- Accurately forecasts weather conditions in each chosen location.
- Provides the easiest routes on maps.
- Offers a list containing all emergency center numbers.

4.5. Triposo Application

The "Triposo" application is a tourism app that provides information and tips about travel and tourist attractions across various parts of Turkey. The app offers information about hotels, restaurants, tourist attractions, and recreational activities in different tourist destinations.

Additionally, it includes maps and directions to assist in navigation and city exploration. Triposo relies on artificial intelligence techniques and data analysis to provide personalized recommendations to users based on their preferences and interests.



Triposo is a renowned travel app that offers comprehensive services and information for travelers in Turkey. Here are some of the services it provides (Evrak, 2023):

- Travel Guide: Triposo is one of the essential apps needed in Turkey, providing comprehensive information to users about cities, tourist landmarks, culture, history, and more;
- Maps and Directions: It provides maps for browsing cities and tourist sites, locating your current position, and discovering nearby places;
- Personalized Recommendations: Utilizes artificial intelligence to offer personalized recommendations to users;
- Food and Restaurant Information: Provides information about restaurants and cuisine in Turkey. You can explore traditional dishes, famous restaurants, and recommendations from other users for a unique dining experience;
- Translation and Currency: Offers tools for translation and currency conversion, aiding in easy communication and understanding of information during your travels in Turkey.

4.6. Turkey Travel Guide App

This app serves as a reliable source for all kinds of information you may seek in Turkey and is highly popular among those who have used it before. Designed to assist and guide you through various challenges you might encounter in Turkey, it provides you with comprehensive information and more (Merieme, 2021):

- If you wish to explore the most important and beautiful regions with tourist attractions in Turkey, including famous beaches and resorts;
- Discovering hotels in Turkey and making reservations;
- If you are interested in investing in Turkey, the app will provide you with detailed information about reputable companies in this field or purchasing an apartment;

- Want to visit popular markets that offer low prices, you can also rely on this app;
- Transportation in Turkey - metro and taxis;
- Istanbul and its famous shopping centers available.

This application is designed to enhance your travel experience in Turkey with up-to-date and essential information tailored to your needs.

4.7. TripAdvisor App

Tripadvisor app brings together diverse people, passionate sentiments, and various places, aiming to assist visitors to Turkey in having the best travel experience. From planning, booking, to enjoying a memorable trip, it maximizes the trip experience by discovering places to stay, activities to engage in, and dining options based on guidance from millions of travelers who have visited the same destination before. TripAdvisor app makes trip planning easy and also allows you to guide others through their journeys.



TripAdvisor is a renowned travel app that offers numerous services and features, making it one of the essential apps you need in Turkey. Here are some of the services it provides(Evrak, 2023):

- User reviews and ratings: Read reviews and ratings from other users about hotels, restaurants, tourist attractions, and activities in Turkey;
- Travel suggestions: Provides personalized travel recommendations based on your interests and preferences. Discover famous places, fun activities, cultural events, and more;
- Hotel and tour booking: Allows you to book hotels and tours. It also enables price comparison, viewing available options, and reading reviews before making a booking decision;
- Information about tourist attractions: Offers detailed and reliable information about famous tourist attractions in Turkey. Find descriptions, cultural history, opening hours, tickets, photos, and more;

- Trip planning: Create an itinerary for places you want to visit, save important information, and bookmark your favorite locations.

4.8. Moovit App

Moovit app is one of the most popular applications in Turkey among public transport enthusiasts. This app allows you to enter your destination to receive the optimal route that you can take, along with a timetable for all public transport options along this route. What distinguishes this app is its coverage of many major cities such as Istanbul, Ankara, and Izmir, as well as several other cities like Antalya, Adana, Mugla, and Trabzon (Nada, 2023).

Moovit app is an excellent choice for travelers in Turkey who want to efficiently use public transportation with precise directions. Among the services it offers to its users:

- Public transport information: Provides comprehensive information about public transport. You can find trip schedules, arrival times, waiting stations, and more;
- Directions and routes: Offers detailed directions to reach your desired destination. You will receive specific routes and step-by-step instructions for easy navigation;
- Traffic information: Monitors traffic conditions. This feature helps you avoid congestion and choose the best available routes;
- Enhanced user experience: Focuses on improving the user experience by providing an easy-to-use interface and customization options such as route preferences and language settings.

4.9. Istanbul Eczane App

Istanbul Eczane (Istanbul Pharmacy) app provides information about pharmacies on duty across 81 provinces in Turkey. The app can display the nearest pharmacies to your location, designed to help people in Turkey find 24-hour pharmacies in the city. The app aims to provide accurate and updated information about pharmacy locations and operating hours, assisting people in accessing medication and healthcare they need at any time of day. This app is particularly useful for tourists and visitors who require pharmacy



services outside regular working hours, such as at night, enabling access to nearby pharmacies. It also allows users to obtain detailed information, contact details of pharmacies, create routes, list pharmacies in the area, and organize a panoramic tour of pharmacies(istanbulhomes, 2023).

4.10. Bitaksi App

Bitaksi app makes it easy to hail a taxi when you need one. With this app, you can check the distance traveled, track your taxi, and get an estimate of the fare for your trip. Transparency and reliability are crucial when it comes to taxi services, especially in Istanbul, and Bitaksi significantly simplifies the process. Simply specify your location, and a taxi will arrive within minutes. If any issues arise, you'll have access to details such as the taxi's information, driver's name, and phone number right at your fingertips. You'll be prompted to rate your experience with a star rating from one to five, providing an incentive for drivers to maintain reliability. Lastly, you can use the fare calculator to verify the trip's fare.



Navigating Turkish streets without a guide can be challenging, especially with the crowded streets full of visitors and tourists. However, with the Bitaksi app, you can(Merieme, 2021):

- Easily secure a taxi in less time than searching on the streets, ensuring you can explore every corner of Turkey and enjoy your time to the fullest;
- Access taxi networks in Istanbul and Ankara, Turkey's most congested cities, using the app to find available taxis with options for cash or credit card payments;
- Upon opening the app, it will pinpoint your location using GPS and search for the nearest available taxis in that area, providing driver information, including their mobile number and license plate. The app also allows you to rate the taxi driver for others to see and choose accordingly.

4.11. MARTI: Scooter & TAG App

MARTI: Scooter & TAG app allows you to book and use electric scooters, smart transportation systems, or cars in Istanbul. You can

use the app to navigate the city easily, quickly, and at reasonable prices without worrying about traffic congestion or finding a parking spot. You can download the app, find an available scooter or car near you, and what distinguishes this app is that you can unlock any car or scooter by scanning the code on it and enjoy your trip. When you finish your trip, you can leave the scooter or car in any safe place within the zone and go without needing a driver(proarab, 2023).

4.12. Grand Bazaar App

Grand Bazaar app aims to provide a wonderful shopping experience at the Grand Bazaar in Istanbul. Users can use this app to explore the bazaar's shops, see available products, get special offers and discounts, and receive alerts about upcoming events and activities at the bazaar. The app can be useful for visitors who want to easily explore the famous bazaar and shop there.

The Grand Bazaar is one of the largest and oldest covered markets in the world, consisting of 60 streets and 4,000 shops. With this app, tourists can find specific stores within the bazaar as well as specific restaurants. Additionally, it provides access to points such as ATMs, information desks, and bathrooms without lengthy searches(istanbulhomes, 2023).



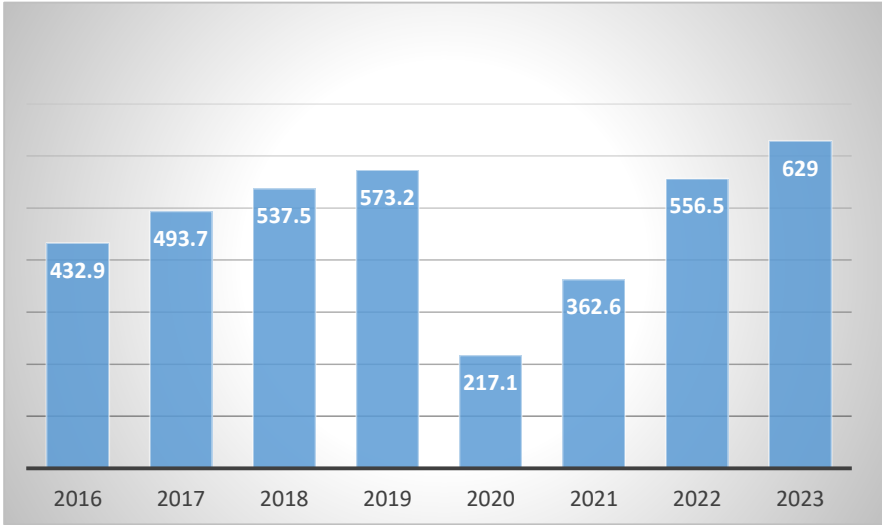
5. Using Digital Applications to Stimulate Tourism in Turkey:

The utilization of digital applications in the tourism industry plays a pivotal role in stimulating tourism and enhancing the overall travel experience for visitors. These applications offer tourists easy access to a wealth of information, including local attractions, accommodations, dining options, and transportation services. By providing real-time updates and personalized recommendations, digital apps help travelers plan their trips more efficiently and make informed decisions. Additionally, features such as virtual tours, language translation, and in-app bookings significantly reduce the barriers faced by international tourists, making the destination more accessible and appealing. As a result, the adoption of digital applications not only boosts tourist numbers but also contributes to increased tourism revenues and the overall growth of the sector.

5.1. Travel app global revenues

The following analysis will delve into the global revenues of travel applications from 2016 to 2023, measured in billion dollars.

Figure (1): Travel app global revenues 2016 to 2023 (\$bn)



Source:(David, 2024)

The column chart depicts the global revenues of travel apps from 2016 to 2023. The data shows a fluctuating trend over these years, reflecting various economic and environmental factors impacting the travel industry.

From 2016 to 2019, there is a steady increase in revenue. In 2016, revenues started at \$432.9 billion and steadily rose to \$573.2 billion by 2019. This growth can be attributed to increasing global travel trends, enhanced app functionalities, and broader adoption of mobile technologies in travel planning and booking.

However, in 2020, there is a significant drop in revenue to \$217.1 billion. This sharp decline is primarily due to the COVID-19 pandemic, which severely disrupted international travel and tourism worldwide, leading to reduced bookings and cancellations.

The recovery began in 2021, with revenue increasing to \$362.6 billion as travel restrictions eased in some regions and vaccination efforts progressed. This represents a partial rebound as travel activities cautiously resumed.

In 2022, revenue further recovered to \$556.5 billion, indicating a stronger comeback as travel confidence increased and pent-up demand fueled bookings and app usage.

Looking forward to 2023, the projected revenue is \$629 billion, continuing the upward trend as global travel continues to recover and adapt to new norms post-pandemic.

In conclusion, the data illustrates the resilience and volatility of the travel app industry, heavily influenced by global events like the pandemic. Moving forward, factors such as economic conditions, technological advancements, and consumer behavior will continue to shape the future trajectory of travel app revenues globally.

5.2. Tourists visiting Turkey:

In recent years, Turkey has witnessed substantial growth in its tourist arrivals, underscoring its status as a premier global tourist destination. This trend is clearly illustrated by the data presented in the following table.

Table (1): Number of Tourists Visiting Turkey Yearly

Year	Number of Tourists
2014	41 415 070
2015	41 617 530
2016	31 365 330
2017	38 620 346
2018	45 628 673
2019	51 860 042
2020	15 826 266
2021	29 357 463
2022	51 369 026
2023	57077440

Source:(Republic of Türkiye Ministry of Culture and Tourism, 2024)

The table illustrates various trends influenced by economic conditions, geopolitical stability, global events, and targeted tourism initiatives.

Turkey maintained stable tourism figures around 41.4 million and 41.6 million tourists in 2014 and 2015, respectively. However, there was a notable decline to 31.4 million tourists in 2016, attributed to security concerns amid regional geopolitical tensions.

Tourist numbers began to recover in subsequent years, rising to 38.6 million in 2017 and further to 45.6 million in 2018, indicating a resurgence driven by improved conditions and restored confidence in Turkey as a travel destination.

The peak in tourist arrivals occurred in 2019, reaching 51.9 million, bolstered by successful tourism campaigns, infrastructure enhancements, and favorable economic factors.

The COVID-19 pandemic profoundly impacted global tourism in 2020, resulting in a significant drop to 15.8 million tourists visiting Turkey. This downturn reflected widespread travel restrictions and reduced international mobility.

Despite ongoing challenges in 2021, Turkey saw a partial recovery with 29.4 million tourist arrivals as restrictions eased gradually.

In 2022, Turkey experienced a robust recovery with 51.4 million tourists, highlighting renewed interest and resilience in the tourism sector.

Looking forward to 2023, projections indicate a continuation of positive growth trends, with an anticipated 57.1 million tourists expected to visit Turkey. This trajectory underscores Turkey's efforts to stabilize and enhance its tourism sector through strategic initiatives.

The fluctuating patterns in tourist arrivals reflect Turkey's adaptive resilience amidst diverse challenges and its proactive strategies in response to global dynamics. Factors such as political stability, economic developments, safety perceptions, and global events will remain pivotal in shaping Turkey's tourism landscape in the foreseeable future.

5.3. Tourism revenues in Turkey:

The following presentation will explore the evolution of tourism revenues and average spending in Turkey, as depicted in the accompanying table. This analysis aims to provide a detailed overview of how tourism revenues have fluctuated alongside changes in average spending patterns over the specified time period.

Table (2): Development of tourism revenues and average spending in Turkey

Year	Tourism revenues (1000 \$)	Average spending (\$)
2014	41 316 834	998
2015	37 700 923	906
2016	26 539 007	846
2017	31 253 835	809
2018	35 920 910	787
2019	42 851 778	826
2020	15 169 371	958
2021	30 309 722	1 032
2022	49 857 030	971
2023	55 874 176	979

Source:(Republic of Türkiye Ministry of Culture and Tourism, 2024)

The table presents annual tourism revenues and average spending per tourist from 2014 to 2023. The data reveals fluctuating trends influenced by economic conditions and other factors affecting global tourism.

In 2014, tourism revenues totaled \$41.32 billion, with an average spending per tourist of \$998. The following year, 2015, saw a slight decrease in revenues to \$37.70 billion, accompanied by a decrease in average spending to \$906.

By 2016, both tourism revenues and average spending declined further to \$26.54 billion and \$846, respectively, potentially reflecting economic challenges or regional factors affecting tourism flows.

Revenues began to recover in 2017, reaching \$31.25 billion, although average spending continued to decrease to \$809. This trend persisted in 2018, with revenues rising to \$35.92 billion while average spending further decreased to \$787.

In 2019, tourism revenues increased significantly to \$42.85 billion, reflecting improved economic conditions and tourism promotion efforts, with average spending also rising to \$826.

The COVID-19 pandemic had a profound impact in 2020, drastically reducing tourism revenues to \$15.17 billion, despite a relatively high average spending of \$958. This indicates changes in travel patterns and preferences during the pandemic.

As travel restrictions eased in 2021, tourism revenues rebounded to \$30.31 billion, with average spending increasing notably to \$1,032, suggesting a shift towards higher-value tourism activities post-pandemic.

By 2022, tourism revenues surged to \$49.86 billion, marking a robust recovery in the sector, while average spending remained steady at \$971.

Looking ahead to 2023, tourism revenues are projected to reach \$55.87 billion, reflecting continued growth and stability in the tourism sector, with average spending expected to maintain at \$979.

the data underscores the resilience and adaptability of the tourism industry amidst global challenges, highlighting the interplay between economic factors, consumer behavior, and tourism policies in shaping revenue trends and average spending patterns over the analyzed period

6. Conclusion:

The adoption of digital technology in the tourism and travel industry in Turkey represents a crucial step towards enhancing services and increasing the attractiveness of tourist destinations. This contributes to boosting the tourism sector and gaining a competitive edge. Embracing digital technology as a vital tool in enhancing and developing Turkey's tourism sector has a significant impact on driving sector growth in the country. Through these applications, communication with tourists, providing them with information and tourism offers, enabling remote booking and payment, all contribute to providing distinctive tourist experiences filled with comfort and ease, thereby enhancing tourist satisfaction. The use of digital applications as tourist guides plays a significant role in attracting more tourists and enhancing profitability in Turkey's tourism sector.

From this research paper, we have reached the following conclusions:

- The use of digital applications as electronic tourist guides contributes to the development of the tourism and travel industry in Turkey by increasing the attractiveness of tourist destinations and enhancing tourist satisfaction;
- Using digital applications as tourist guides improves the tourist experience, increasing their comfort and happiness during their trips;
- Digital applications contribute to increasing cultural awareness among tourists about Turkish history and culture, enhancing Turkey's image as a unique cultural tourist destination;
- Using digital applications as tourist guides can increase tourist spending during their trips due to improved experiences and better services;
- Digital applications increase tourists' interaction with tourist attractions by providing comprehensive and interactive information about them;
- The use of digital technologies in Turkey's tourism sector contributes to developing digital infrastructure and enhancing global competitiveness of tourist destinations in the country.
- The use of digital applications can enhance Turkey's tourism marketing efforts through social media and targeted digital advertisements.

Recommendations:

Based on the findings, we propose the following recommendations:

- Improving digital infrastructure: Countries aiming to revive the tourism sector should work on developing digital infrastructure, such as fast internet networks and wireless coverage in key tourist areas, to enable better use of digital applications;
- Enhancing training and awareness: Tourism organizations and government institutions should enhance training and awareness among their employees regarding the use of digital applications as tools to enhance tourist experience and satisfaction;
- Developing innovative digital applications: Tourism and technology organizations should collaborate to develop innovative digital applications that meet the needs and preferences of tourists, enhancing the attractiveness of tourist destinations;
- Boosting digital marketing: Stakeholders in the tourism sector should enhance digital marketing efforts, such as using social media and digital advertising, to raise awareness of tourist destinations and increase bookings;
- Improving user experience: Tourism organizations should improve user experience in digital applications by designing user-friendly interfaces and providing diverse and engaging content.

7. Bibliography List:

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