

# The Effect of Design and Implementation of Mobile Application on Increasing Market Share of Health Tourism and Related Services

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**Abstract** In this study, the market share of health tourism and related services is analyzed in relation to the design and deployment of mobile applications. In order to gain market share, the study investigates the value of user-friendly interfaces, improved accessibility, thorough information, online booking and appointment scheduling, personalization, and seamless integration of services. Through an analysis of existing literature, case studies, and expert opinions, this study provides insights into how mobile applications can effectively contribute to the growth and success of health tourism offerings. The findings highlight the importance of a well-designed mobile application in attracting and retaining healthy tourists, ultimately leading to an increase in market share.

**Keywords:** mobile application, design, implementation, market share, health tourism, user-friendly interface, accessibility, comprehensive information, online booking, personalization, seamless integration.

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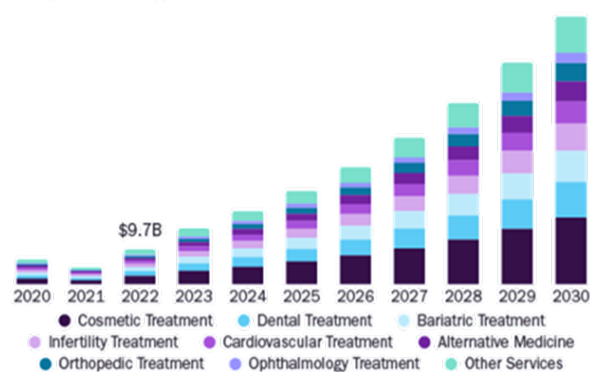
## 1. Introduction

Health tourism, also known as medical tourism or medical travel, refers to the practice of individuals traveling to other countries to seek medical treatments, procedures, or healthcare services [1]. This emerging trend has gained significant popularity in recent years, as people are increasingly seeking high-quality healthcare options at more affordable prices, coupled with the opportunity to combine medical treatments with leisure and tourism activities [2]. The healthcare industry has experienced significant growth and transformation with the advent of technology. Health tourism, which involves traveling to another country for medical treatments or procedures, has gained popularity among patients seeking high-quality and cost-effective healthcare services [3].

The concept of health tourism is not new and can be traced back to ancient times when people traveled long distances in search of therapeutic remedies and healing waters. However, the modern era of medical tourism began in the late 20<sup>th</sup> century, with the advent of affordable international air travel, advancements in medical technology, and the growing disparity in healthcare costs worldwide as predicted in Figure 1.

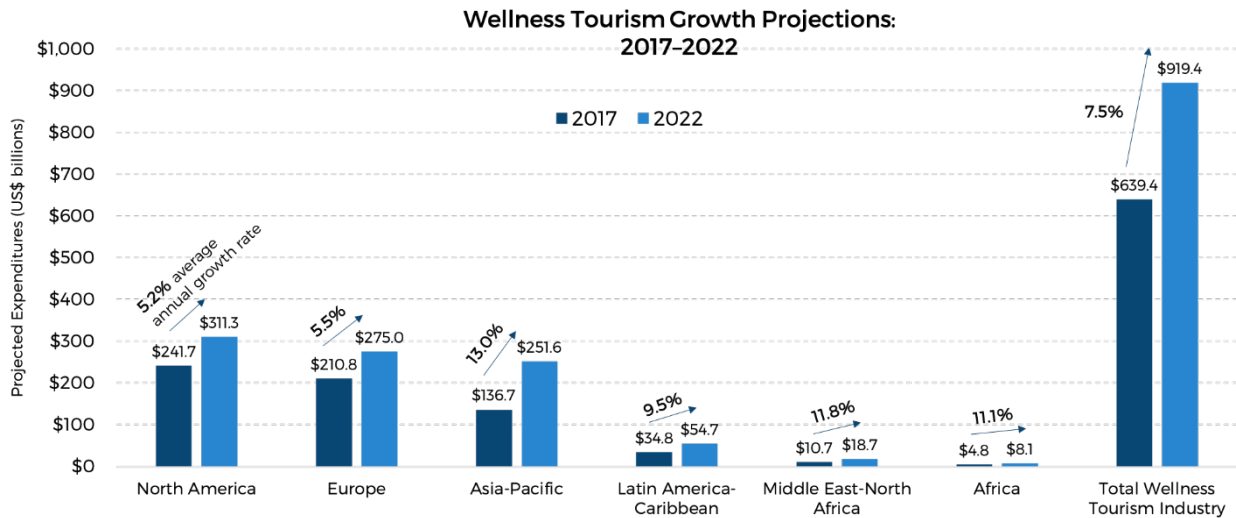
### Global Medical Tourism Market

Size, by Treatment Type, 2020 - 2030 (USD Billion)



**Figure 1.** Global medical tourism market size (Source: <https://www.grandviewresearch.com/industry-analysis/medical-tourism-market>)

While medical tourism has gained popularity worldwide, it is important to acknowledge that the availability and scope of these services are relatively limited in Africa and the Middle East regions as depicted in Figure 2. Despite the potential benefits that medical tourism offers, various factors contribute to the restricted growth and development of this industry in these regions [4].



Source: Global Wellness Institute, *Global Wellness Tourism Economy*, November 2018.

**Figure 2.** Wellness Tourism Growth Projections

One of the primary reasons for the limited scope of medical tourism in Africa and the Middle East is the disparity in healthcare infrastructure and quality [5]. Many countries in these regions face challenges in terms of inadequate healthcare facilities, limited access to advanced medical technology, and a shortage of skilled healthcare professionals [6]. These factors diminish the attractiveness of these regions as destinations for medical travelers seeking high-quality healthcare services. Moreover, the perception and reputation of healthcare services in Africa and the Middle East also play a significant role in limiting the growth of medical tourism [7]. Negative perceptions related to quality of care, safety concerns, and lack of transparency can deter potential medical travelers. Building a positive reputation requires concerted efforts in improving healthcare infrastructure, enhancing quality standards, and effectively promoting the region as a reliable medical tourism destination [8].

### 1.1. Factors Driving Health Tourism

- Cost:** One of the primary motivations for health tourism is the substantial cost savings compared to domestic healthcare services. Patients from developed countries often find medical treatments abroad significantly more affordable, even when considering travel expenses [9].
- Quality of Care:** Many countries offering health tourism services have invested heavily in healthcare infrastructure, medical facilities, and highly skilled healthcare professionals. These destinations often boast internationally accredited hospitals and clinics that adhere to strict quality standards, providing a level of care that meets or exceeds patients' expectations [10].
- Waiting Times:** Health tourism also appeals to individuals who face long wait times for medical procedures and treatments in their home countries. By seeking treatment abroad, patients can bypass waiting lists and receive prompt care, which can be crucial for critical or time-sensitive conditions [11].

- Accessibility to Specialized Treatments:** Some medical procedures or treatments may not be available or approved in a patient's home country. Health tourism offers individuals the opportunity to access cutting-edge treatments, experimental therapies, or procedures that are otherwise inaccessible in their local healthcare system [12].

### 1.2. Types of Health Tourism

- Medical Procedures and Surgeries:** This includes elective surgeries such as cosmetic procedures, dental treatments, orthopedic surgeries, cardiac procedures, and infertility treatments [13].
- Wellness and Preventive Care:** Many individuals seek health tourism for wellness retreats, spa treatments, rejuvenation therapies, and health check-ups, often combined with leisure activities [14].
- Rehabilitation and Physical Therapy:** Patients may travel abroad for specialized rehabilitation programs, physical therapy, or neurorehabilitation services [15].
- Alternative and Traditional Medicine:** Health tourism also caters to those seeking alternative or traditional medicine practices such as Ayurveda, acupuncture, or herbal remedies [16].

While medical tourism services are currently limited in Africa and the Middle East, there is potential for growth and development. Addressing the challenges related to healthcare infrastructure, quality, perception, and regulatory frameworks is essential to unlock the potential of these regions. By investing in healthcare infrastructure, promoting medical tourism potential, and fostering collaborations, Africa and the Middle East can gradually emerge as competitive medical tourism destinations, offering high-quality healthcare services to international patients while simultaneously benefiting their own healthcare systems and economies. Mobile applications, commonly known as mobile apps, have emerged as powerful tools in the healthcare sector, enabling patients

to access information, communicate with healthcare providers, and manage their health remotely [17]. The primary objective of this study is to analyze the effect of mobile applications on the market share of health tourism. By examining the benefits, challenges, and prospects of mobile applications in the healthcare sector, this research aims to provide insights into how mobile technology can contribute to the growth and success of health tourism and related services.

## 2. Design and Implementation of Mobile Application for Health Tourism

Mobile applications designed for health tourism have the potential to revolutionize the way users' access and engage with healthcare services abroad. By prioritizing UX design principles, such as accessibility, convenience, personalization, reliable information, seamless communication, and feedback systems, these applications can

significantly enhance the user experience. Moreover, the use of blogs in advertising can be analyzed through various communication theories that help understand their effectiveness and impact on audiences. Two communication theories that can be applied to this context are the uses and gratifications theory and the social influence theory [18].

### 2.1. User-Friendly Interface

In the digital age, mobile applications have become integral tools for various industries, including health tourism. Mobile applications designed specifically for health tourism play a crucial role in enhancing the overall experience of users seeking medical treatments or healthcare services abroad. This article highlights the importance of user experience (UX) in the design of mobile applications for health tourism, outlining its benefits for users, healthcare providers, and the industry as a whole as designed prototype in Figure 3.

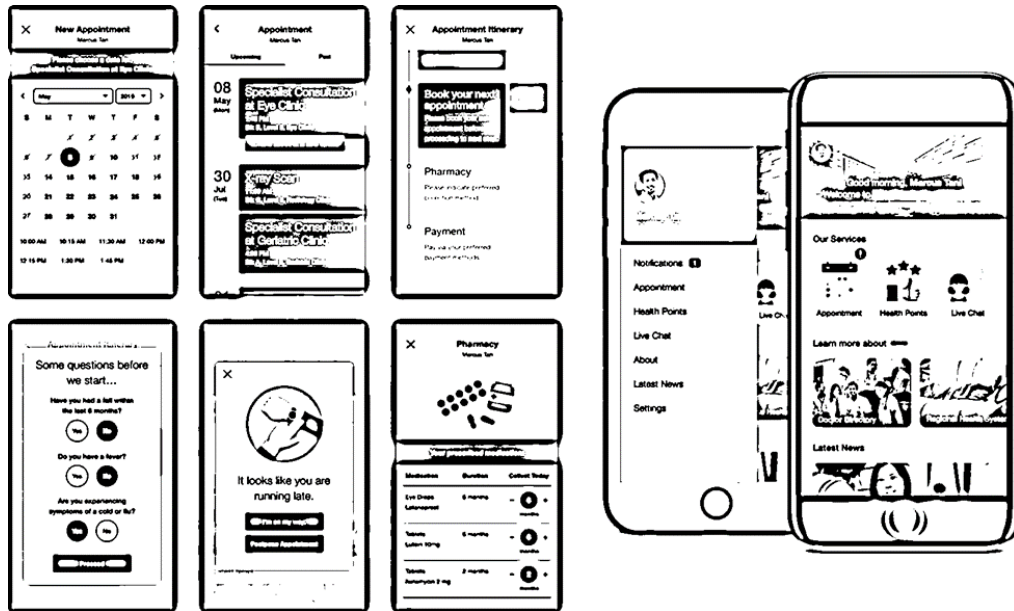


Figure 3. Paper prototype of mobile application for health tourism

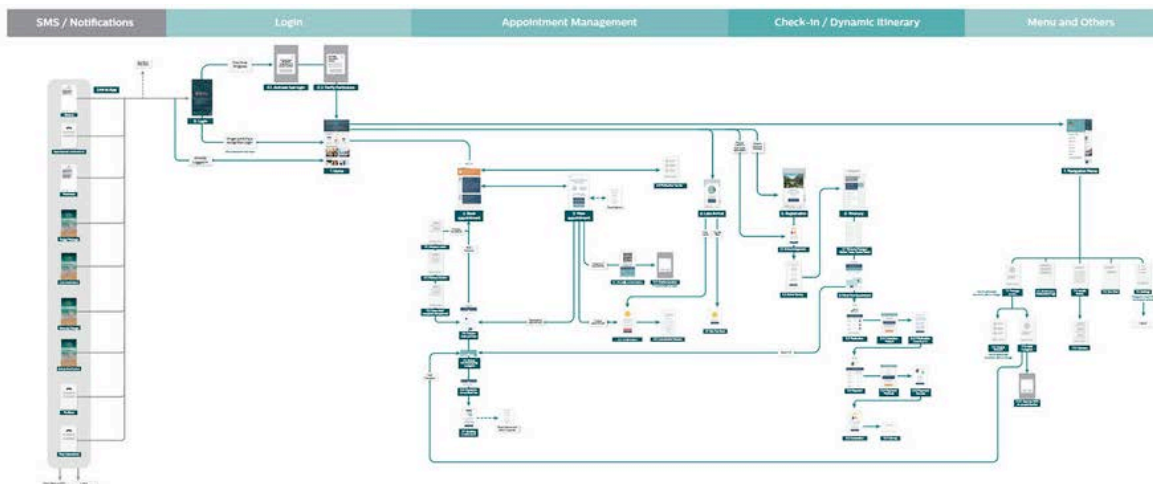


Figure 4. The accessibility and convenience of health tourism services

## 2.2. Enhanced Accessibility

Blogs often have influential authors or bloggers who are considered opinion leaders in their respective niches. Advertisers can collaborate with these opinion leaders to promote their products or services through sponsored blog posts or partnerships [19]. Mobile applications provide users with easy access to information and services, making it convenient for individuals interested in health tourism. By focusing on UX design principles, such as intuitive navigation, clear and concise content, and user-friendly interfaces, mobile applications can simplify the user journey, enabling users to effortlessly access essential information about medical procedures, treatments, healthcare providers, and travel-related details. This enhances the accessibility and convenience of health tourism services, empowering users to make informed decisions as we designed in our app in Figure 4.

## 2.3. Online Booking and Appointment Scheduling

Integration of appointment scheduling functionalities within a mobile application for health tourism is a crucial component that enhances the user experience and streamlines the process for both users and healthcare providers [20]. Here are some key benefits and considerations related to the integration of appointment scheduling functionalities:

- a. **Convenience and Accessibility:** By integrating appointment scheduling features within the app, users can easily browse available healthcare providers, view their schedules, and book appointments at their convenience. This eliminates the need for users to make phone calls or visit multiple websites to find and secure appointments, saving time and effort [21].
- b. **Real-Time Availability:** Integrating the scheduling system within the app allows users to access real-time availability of healthcare providers. This ensures that users can see up-to-date information on available time slots, reducing the chances of double bookings or outdated appointment information [22].
- c. **Seamless User Experience:** An integrated appointment scheduling system provides a seamless user experience by keeping users within the app ecosystem. Users can navigate through the app, search for healthcare providers, view their profiles, and directly schedule appointments without being redirected to external websites or third-party platforms [23].
- d. **Automated Reminders and Notifications:** Appointment scheduling functionalities within the app can include automated reminders and notifications to keep users informed about their upcoming appointments. These reminders can be sent through push notifications or email, reducing the likelihood of missed appointments, and improving overall patient adherence [24].
- e. **Customization and Personalization:** The integration of appointment scheduling within the app allows for customization and personalization options. Users

can set their preferences, such as preferred dates, times, or specific healthcare providers, enabling the app to provide tailored appointment recommendations based on their needs and preferences [25].

- f. **Integration with Healthcare Provider Systems:** It is essential to establish seamless integration between the appointment scheduling system within the app and the healthcare provider's own scheduling systems. This integration allows for real-time synchronization of appointments, ensuring that the availability displayed to users is accurate and up to date. It also enables healthcare providers to manage their schedules efficiently and avoid scheduling conflicts [26].
- g. **Considerations for Healthcare Providers:** Healthcare providers should have access to an intuitive and user-friendly interface within the app to manage their appointment schedules. This interface should allow them to view and update their availability, block off time slots for other tasks, manage patient information, and send appointment confirmations or reminders [27].
- h. **Security and Data Privacy:** Data literacy communities refer to groups or networks of individuals who come together with the shared objective of promoting and advancing data literacy skills and knowledge. These communities often provide resources, support, and opportunities for individuals to learn and improve their understanding of data-related concepts and practices. Integration of appointment scheduling functionalities should prioritize the security and privacy of user data. Appropriate measures should be implemented to protect sensitive information, such as personal details, medical history, and appointment records, in compliance with relevant data protection regulations [28].
- i. **User Feedback and Reviews:** The appointment scheduling system within the app can include features that allow users to provide feedback and leave reviews about their experience with the scheduling process. This feedback can help improve the system's usability and address any issues or concerns raised by users [29].

Integrating appointment scheduling functionalities within a mobile application for health tourism brings numerous benefits, such as convenience, real-time availability, seamless user experience, automated reminders, customization options, and integration with healthcare provider systems. However, it is crucial to ensure data security and privacy, consider the needs of healthcare providers, and provide avenues for user feedback and reviews to continuously enhance the scheduling system's performance and user satisfaction [30].

## 3. Method

In recent years, the health tourism sector has grown significantly. The World Health Organization (WHO) estimates that every year, millions of patients travel abroad for medical treatment. Factors contributing to the growth of health tourism include rising healthcare costs in

developed countries, advancements in medical technology, globalization of healthcare services, and increasing awareness and acceptance of health tourism as a viable option for medical treatments. Mobile applications offer numerous benefits to patients and healthcare providers in the health tourism industry [31]. These benefits include increased accessibility and convenience, enhanced customer experience, improved communication, and information sharing, expanded market reach, and a competitive advantage for healthcare providers. Mobile apps allow patients to access healthcare information, connect with healthcare providers remotely, and manage their health before, during, and after their medical travel. They provide a seamless experience, personalized care, and empower patients to take an active role in their healthcare journey [32].

### 3.1. Case Studies on Successful Mobile Applications

This case studies of successful mobile applications in health tourism. It examines specific examples of mobile apps that have effectively enhanced the market share of health tourism services. Case studies may include apps developed by healthcare providers, medical tourism facilitators, or government organizations. The analysis will highlight the key features, benefits, and outcomes of these mobile applications [33,34,35].

## 4. Impact of Mobile Applications on Market Share

### 4.1. Increased Accessibility and Convenience

Mobile applications have significantly increased the accessibility and convenience of health tourism services. Patients can easily search for healthcare providers, compare treatment options, view patient reviews and ratings, and access detailed information about medical procedures and facilities. Mobile apps provide a one-stop platform for patients to gather information, make informed decisions, and plan their medical travel efficiently [36].

### 4.2. Enhanced Customer Experience

Mobile applications contribute to an enhanced customer experience in health tourism. Patients can communicate with healthcare providers through secure messaging systems, video consultations, or chatbots. This improves patient engagement, reduces anxiety, and fosters a sense of trust and confidence in the healthcare provider. Additionally, mobile apps enable personalized care, allowing patients to receive tailored recommendations, reminders, and post-treatment support [37].

### 4.3. Improved Communication and Information Sharing

Mobile applications facilitate seamless communication and information sharing between patients and healthcare providers. Patients can securely share medical records,

diagnostic reports, and images with healthcare professionals, eliminating the need for physical copies or lengthy email exchanges. Real-time communication features allow patients to ask questions, seek clarifications, and receive prompt responses, ensuring a smooth and efficient healthcare experience [38].

### 4.4. Expanded Market Reach

Mobile applications have the potential to expand the market reach of health tourism services. By reaching a global audience, healthcare providers can attract patients from different countries, thereby increasing their market share. Mobile apps eliminate geographical barriers and enable healthcare providers to showcase their services, expertise, and success stories to potential patients worldwide [39].

### 4.5. Competitive Advantage

Incorporating mobile applications into health tourism strategies can provide a competitive advantage for healthcare providers. Organizations that offer user-friendly, feature-rich, and innovative mobile apps stand out in a crowded market. Mobile apps can differentiate healthcare providers by offering unique features such as virtual tours of facilities, multilingual support, personalized treatment plans, and integrated travel and accommodation arrangements [40].

## 5. Conclusion

Health tourism has evolved into a global industry, driven by affordability, accessibility, and the pursuit of high-quality healthcare services. Its significance extends beyond individual patients, impacting healthcare systems, economies, and cross-cultural interactions. As the demand for health tourism continues to grow, it is crucial for stakeholders to address ethical concerns, establish regulatory frameworks, and foster collaboration to maximize the benefits while mitigating potential risks. Mobile applications designed for health tourism have the potential to revolutionize the way users' access and engage with healthcare services abroad. By prioritizing UX design principles, such as accessibility, convenience, personalization, reliable information, seamless communication, and feedback systems, these applications can significantly enhance the user experience. A well-designed mobile application not only benefits users by simplifying the health tourism journey but also contributes to the growth of the industry by fostering trust, increasing user engagement, and promoting positive word-of-mouth referrals. As the demand for health tourism continues to rise, investing in UX design for mobile applications becomes imperative to ensure a seamless and satisfying experience for users seeking medical treatments and healthcare services abroad.

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