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The Impact of Mobile Applications in Enhancing the Tourist's Experience (A Case Study in Egypt)

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ملخص البحث:

لقد تطورت التكنولوجيا إلى درجة أنها أصبحت متكاملة تمامًا في جميع جوانب حياتنا اليومية. بدأت وجهات السفر مؤخرًا في تغيير أدوارها ونماذج أعمالها بسبب الحوسبة والرقمنة التي يفرضها النمو السريع للتكنولوجيا على جميع الثقافات. تعد تقنيات الهاتف المحمول فريدة من نوعها من حيث قدرتها على التكيف والتخصيص والانتشار، مما يجعلها أداة قيمة لكل من الشركات التي تقدم وتستهلك السياحة، بما في ذلك الزوار كموردين نشطين ومباردين لتجاربههم الخاصة وينظرون إلى التكنولوجيا الجديدة كأدوات حاسمة لتحديد الإنجازات السياحية.

توفر التقنيات الجديدة للشركات السياحية فرصًا أكبر للتفاعل مع الزوار وجذبهم والتواصل معهم وتحسينهم. لاحظت الصناعة تغييرات في سلوكيات السفر، واتخاذ القرارات، والبحث عن المعلومات بسبب الاستخدام المتزايد للتكنولوجيا، نظرًا لأن صناعة السياحة هي من بين أولى الشركات التي تتبنى أي ابتكارات طورتهها صناعات تكنولوجيا الهاتف المحمول، فقد كانت متطلبات العملاء دائمًا هي العامل الرئيسي. العامل الحاسم في تحديد مدى تكرار تحديث الخدمات السياحية المقدمة. وفقًا لتاريخ صناعة السياحة، الذي يوضح التقدم المطرد الذي حققته المنظمات السياحية، انتقل قطاع السياحة من البيئة التقليدية غير المتصلة بالإنترنت إلى البيئة الرقمية من حيث السياحة الإلكترونية ثم في السياحة المتنقلة. كان للإنترنت تأثير كبير على صناعة السياحة، مما أدى إلى ظهور اتجاهات جديدة في السعي وراء السياحة الإلكترونية.

تعد السياحة أحد أهم مصادر الدخل لمصر وتمثل حوالي 12% من الناتج المحلي الإجمالي. وهي صناعة عالية الإنتاجية، وهي مصدر مهم للموارد البشرية ورأس المال. هناك علاقة مهمة بين السياحة وآفاق الأعمال الاقتصادية المحلية الأخرى بالنسبة للناس، خاصة في المدن القريبة من مناطق الجذب السياحي، والتي سيكون لها في النهاية تأثير إيجابي على الأنشطة السياحية. علاوة على ذلك، قد يوفر الاقتصاد المحلي فرصًا إضافية لشركات السياحة المحلية ويستفيد من طلب الزوار على المنتجات والخدمات من أجل توفير أفضل المرافق السياحية. تتيح السياحة للناس التعرف على ثقافة البلد وحضارته ومعتقداته الدينية؛ فهو تصدير غير مكتشف ينتج عملات أجنبية كبيرة دون التأثير على خسارة كبيرة أو فعالية للموارد المحلية. السياحة هي الطريقة الوحيدة للأفراد من خلفيات اجتماعية وثقافية ودينية متنوعة للالتقاء ومعرفة المزيد عن بعضهم البعض.

لتحقيق المعدل العالي المطلوب من السياحة في بلد ما، يجب توفير وسائل الراحة المصممة لتزويد الزوار

بتجربة شخصية وبسيطة وعفوية. ولهذا السبب، في هذا العصر التكنولوجي، يتيح لنا التقدم التكنولوجي تقديم هذه التجربة للزوار، وهو ما يتم من خلال تطبيقات الهاتف المحمول التي توفر كل ما يحتاجون لمعرفته حول الوجهة التي يسافرون إليها وما يمكن توقعه. مصر مليئة بالمناظر والأصوات الرائعة، ومن السهل أن تنغمس في مباحج البلاد، ولكن يمكنك أن تجعل رحلتك أسهل وأكثر سلاسة مع تطبيقات الهواتف الذكية المناسبة. تتطلب السياحة بشكل متزايد تجارب متكاملة وذات قيمة مضافة عبر الإنترنت تتسم بالديناميكية والتفاعلية والترفيهية للغاية.

منذ ظهور أول متجر تطبيقات في يوليو 2008، أصبح الأشخاص يستخدمون بشكل متزايد تطبيقات الهاتف المحمول على هواتفهم الذكية وأجهزتهم اللوحية للوصول إلى أحدث الأخبار والألعاب والترفيه المباشر والطقس وغيرها من المعلومات. إن قدرة الزوار على مشاركة تجاربهم في الوقت الفعلي مع العائلة والأصدقاء وزملاء العمل توسع تعريف صناعة السياحة. بالإضافة إلى ذلك، وبسبب التجربة المشتركة، يمكن أن يؤدي ذلك إلى إنشاء إعدادات حيث يتمكن مستخدمو التطبيق من اكتساب أفكار جديدة من مستخدمي آخرين. والأهم من ذلك، أنه نتيجة لهذه التطبيقات، ظهرت قناة تسويقية جديدة تُعرف باسم التسويق عبر الهاتف المحمول والتي يمكن استخدامها أيضًا لأغراض تجارية. يخدم التسويق عبر الهاتف المحمول عدة وظائف، مما يجعله منتجًا أكثر من كونه أداة اتصال في السنوات الأخيرة. وهذا يضيف قيمة إلى الخدمات المقدمة.

تتناول هذه الورقة استخدام تطبيقات الهاتف المحمول لتلبية احتياجات السياحة في مصر. ويصف تطور التكنولوجيا من التطبيقات التجريبية إلى تطبيقات الهاتف المحمول التجارية. نحن نتعامل مع الجوانب الفنية لتطوير تطبيقات الهاتف المحمول، مع التركيز على التقنيات التي تجعل تقديم المحتوى ممكنًا ومتفوقًا من الناحية التجريبية. نحن نحرص أحدث ما توصلت إليه التكنولوجيا، ونقدم تحليلًا لتطور كل تطبيق وأهدافه. تقترح هذه الورقة أيضًا نموذج دراسة حالة لتطوير تطبيقات الهاتف المحمول لقطاع السياحة، بهدف استغلال الإمكانيات الكاملة للمجال.

الكلمات المفتاحية:

تطبيقات الواقع المعزز للهواتف المحمولة (AR)، صناعة السياحة، التفاعلات بين الإنسان والحاسوب، التفاعل بين الإنسان والآلة، الحوسبة المتنقلة، واجهة المستخدم وتجربة المستخدم لتطبيقات الهاتف المحمول

Abstract

Technology has advanced to the point that it's completely integrated into all aspects of our everyday lives. Travel destinations have recently started to change their roles and business models due to the computerization and digitization that technology's rapid growth is forcing on all cultures. Mobile technologies are unique for their adaptability, personalization, and diffusion, making them a valuable tool for both businesses offering and consuming tourism, including visitors as active suppliers and initiators of their own experiences and viewing new technology as critical tools for determining tourism achievements.

New technologies provide tourism businesses greater opportunities to interact with, draw in, connect with, and improve visitors. The industry has observed changes in travel behaviors, decision-making, and information searches due to the growing use of technology. Because the tourism industry is among the first businesses to adopt any innovations developed by mobile technology industries, customer requirements have always been the major determinant in deciding how frequently tourist services that are offered to be updated. According to the history of the tourism industry, which outlines the steady advancement achieved by touristic organizations, the tourism sector transitioned from the conventional offline environment to the digital environment in terms of e-tourism and then in mobile-tourism. The Internet has had a significant impact on the tourist industry, resulting in the rise of new trends in the pursuit of e-tourism.

Tourism is one of the most important sources of income for Egypt and accounts for around 12% of GDP (Gross domestic product). It is a highly productive industry, and it is an important source of human resources and capital. There is a significant relationship between tourism and other local economic business prospects for people, particularly in towns near tourist attractions, which will eventually have a favorable impact on tourism activities. Furthermore, the local economy might provide additional chances for local tourism businesses and benefit from visitor demand for products and services in order to provide the best tourism amenities. Tourism allows people to learn about a country's culture, civilization, and religious beliefs; it is an undetected export

that produces large foreign exchange without inflicting a major or actual loss of local resources. Tourism is the only way for individuals from diverse social, cultural, and religious backgrounds to meet and learn more about one another.

To attain the desired high rate of tourism in a country, amenities designed to provide visitors with a personal, simple, and spontaneous experience are required to be available. That is why, in this technological era, technological advances allows us to deliver this experience to visitors, which is done through mobile applications that provide all they need to know about the destination they are traveling to and what to expect. Egypt is full of wonderful sights and sounds, and it's easy to get overwhelmed in the country's delights, but you can make your journey easier and smoother with the appropriate smartphone applications. Tourism increasingly requires integrated, value-added online experiences that are extremely dynamic, interactive, and entertaining.

Since the debut of the first app store in July 2008, People are increasingly using mobile applications on their smartphones and tablets to access the latest news, games, live entertainment, weather, and other information. The ability for visitors to share their experiences in real time with family, friends, and coworkers broadens the definition of the tourism industry. Additionally, because of the shared experience, this can create a setting where application users are able to acquire up new ideas from other users. More importantly, as a result of these applications, a new marketing channel known as mobile marketing emerged that may also be used for business purposes. Mobile marketing serves several functions, making it more of a product than a communication tool in recent years. This adds value to the services provided.

This paper discusses the use of mobile applications for tourism needs in Egypt. It describes the evolution of the technology from pilot applications to commercial mobile applications. We tackle the technical aspects of mobile app development, focusing on technologies that make content delivery possible and experientially superior. We examine the state of the art, providing analysis of each application's development and goals. This paper also proposes a case study model for

developing mobile applications for the tourism sector, aiming to exploit the full potential of the domain.

Keywords:

Mobile augmented reality apps (AR), Tourism industry, Human-computer interactions, Human machine interaction, Mobile computing, UI and UX for mobile applications

Introduction

Mobile applications have had a significant impact on enhancing the tourist experience in Egypt. The tourism sector has been quick to adopt new technologies, including mobile applications, to meet the changing needs of customers. The use of mobile technology has transformed the way tourists consume information and access services in the tourism industry. One of the main advantages of mobile applications in tourism is the convenience they offer to tourists. With mobile apps, tourists can easily access information about tourist sites, book flights, arrange accommodations, find restaurants, and plan their itineraries ¹ That is one of the primary reasons why tourists like to use mobile applications before traveling as a way to quickly enhance their stay. Mobile technology gives proactive, contextual, and personalized tools to tourists, affecting their behavior and improving their experiences.

Tourists assume that smartphones have brought changes in the activities and emotions experienced, especially in the use of social apps. They allow users to maintain contact with their friends and families and increase levels of security. Another reason that leads tourists to use smartphones and directly affects their travel experience is the use of information services, such as Google Maps and Yelp, where mobile platforms are perceived as equivalent or even better performing than their website counterparts.

Research problem:

Since mobile apps have the potential to grow the tourist sector, the volume and quality of virtual

E-tourism, which is important to the Egyptian economy, provide a study challenge. Mobile applications may increase tourism and boost the local economy by making information and services easily accessible.

Therefore, the study's challenge is to comprehend the gaps in the virtual E-tourism offered by the available mobile applications and how they make use of their platform to draw in and satisfy tourists.

Research objectives

1-Identify the current situation of the availability of virtual e-tourism mobile applications in Egypt.

- Identifying and assessing the available aspects and features of the virtual e-tourism mobile applications that help tourists with a better experience.
- Determining the level of tourist's satisfaction with available mobile applications.
- Assessing the availability of marketing tools to attract tourists to mobile applications.
- Setup recommendations and indicators that would help with reaching tourist satisfaction with available mobile applications.²

Literature review:

Tourism in Egypt

Tourism industry is one of the main sources of the national income in Egypt and that is why the state is keen to promote and develop this important industry. Hence, the government has taken several measures for the benefit of this sector and other sectors as well.(Mohamed, K. S. M. (2018) ³

According to a number of researchers, the lack of e-tourism adoption among Egyptian tourism companies could be attributed to several factors, including:

- (1) A lack of awareness of the importance of investing in the e-tourism business and adopting information technology;
- (2) A lack of experience in e marketing and e-commerce in general;
- (3) A lack of senior management support; and
- (4) A lack of policies and laws that regulate the e-tourism business in Egypt.

As (Mohamed, E. A. A., & Hussein, S. (2018) ⁴ stated earlier, the most crucial component of any mobile application is its simplicity of use. It has been discovered that the majority of the current tourist applications do not include this functionality after looking through user reviews. However, because of the variety, depth, and breadth of historical data, none of the existing tourism apps mentioned Egypt as a travel destination in general. For instance, the «Egypt Guide» program has images for a number of popular tourist destinations. The «Egypt tourist map» application includes a map of Egypt's tourist attractions. «Visit Egypt» is an application that helps with vacation planning, although it does not include all tourist destinations and does not recommend destinations based on user favorites. However, for travel organizations including travel suppliers and intermediaries, establishing, and maintaining such communities offer both special opportunities and challenges. On the one hand such some community erases boundaries created by time and distance and makes it dramatically easier for people to obtain information, maintain connections, deepen relationships, and meet like-minded people that they would otherwise never have met.

Establishing and sustaining such communities, however, presents unique potential as well as difficulties for travel businesses, including travel providers and intermediaries. On the other hand, a community like this dissolves temporal and geographical barriers, greatly facilitating people's ability to learn new things, stay in touch, build stronger bonds with one another, and connect with like-minded individuals they may not have otherwise encountered.

Conversely, a virtual community's ability to function successfully hinges primarily on these organizations' comprehension of what constitutes a virtual community and how well they understand their members' identities and basic needs within it.

Any organization running a virtual community must have a fundamental grasp of what a virtual community is all about in order to be clear about its mission, purpose, and the best course of action to follow in order to reach its objective.

According to predictions of Fitch Solutions a 11.6% annual rise in incoming tourists, with numbers reaching 13.1 million in 2023 compared to 11.7 million in 2022. This growth will positively impact the nation's tourism revenue, which is projected to climb to approximately \$14.4 billion

from \$13 billion within the same period. (state information service, 2023) ⁵

Egyptian E-Tourism via mobile applications

Since the first app store appeared in July 2008, the creation of mobile applications has increased over the course of more than five years. In the travel and tourism sector, mobile devices are becoming increasingly popular, and most travelers are increasingly opting for full-service online travel. Additionally, it expands the definition of the tourist industry by giving customers the ability to, for instance, instantly share what they have experienced.(Mohamed, E. A. A., & Hussein, S. (2018)) ⁶ as e-tourism Web sites develop their own mobile application to make it easier for tourists to access their content such as TripAdvisor. These on-line platforms also contain a social component allowing users to review and rate the system suggestions. Moreover, the Mobile travel applications will be useful for tourism marketing because it makes tourism product search easier and as the smartphone is quickly becoming the major navigational device. According to data, mobile travel reservations are also on the increase in the tourist companies. This is especially true when making last-minute or spontaneously reservations. (El Nile, A., & Sobhy, M. (2022)) ⁷ Travelers no longer need to rely on tour operators to arrange their Egypt trip packages. Because of the accessibility of digital tools, several travelers now choose to design their own travel packages utilizing portable and user-friendly smartphone applications. Travelers can use the mobile app as a platform for online ticketing, hotel booking, destination information, finding local food and attraction locations, learning about new destinations in Egypt, reading reviews about a place they intend to visit, sharing trip photos, and offering feedback on a hotel, airline, destination, or event. With the help of fascinating apps like Wikitude, users may get current information on the sites and landmarks they're seeing (El Nile, A., & Sobhy, M. (2022)) ⁸

AR is the technique that uses layers of computer-generated pictures over actual photographs to imitate virtual things on real-world scenarios, improving the real world surroundings. Similar to virtual reality, augmented reality technologies have found applications mostly in destination marketing to improve the experience of travelers. (Wei, 2019) ⁹

The Value and importance of Mobile Applications in the Tourism Sector

According to (Romanillos, G.(2023))¹⁰ Tourism is being transformed at an accelerated pace, and conventional data sources Additionally, we can highlight online accommodation companies and apps, such as Tripadvisor or Booking, or new peer-to-peer accommodation online services these sources claim that internet lodging services like Airbnb can be helpful for more than merely predicting traveler demand., but also for providing extra information from consumers. Multiple regression analysis reveals that the factors influencing location differ between hotels and Airbnb. Continuing that, it was attainable to identify the areas of the city that have had the biggest rise in tourist traffic as a result of Airbnb's recent expansion attributed by (Gutiérrez, J 2017)¹¹

Not failing to mention that (Anand, K 2023)¹² predicts demand for AR-based apps to rapidly increase as visitors' perspectives on AR-based apps in tourism is influenced by three kinds of quality determinants, such as information quality, system quality, and service quality that triggers visitors to reuse AR-based mobile apps.

Furthermore, significant advancements in AI and ML have been made possible by the availability of data, advancements in device and software computing power, and advancements in algorithmic software. With the use of AI technology, raw data (text, picture, video, speech, etc.) may be analyzed and interpreted. It can also make predictions or make judgments based on algorithms that were first created by people. (Haenlein, M., & Kaplan, A. (2019)¹³

Egypt's Tourism Types

Egypt, the civilization's place of origin, is a well-known tourist destination in Africa and across the world. Archeological or cultural tourism is the oldest sort of tourism in Egypt, since Egypt is best renowned for its remarkable ancient civilizations, which can be seen via incredible monuments and achievements dating back to the dawn of history. Since Egypt contains more than one-third of the world's remarkable monuments, this sort of tourism remains unique and non-competitive with any other country. Aside from cultural tourism, many other types of tourism have emerged, such as leisure. tourism, religious tourism, sports tourism, desert tourism, eco-tourism, therapeutic tourism, maritime tourism, festival tourism, diving center tourism, and exhibitions

tourism. Here are Egypt's four primary forms of tourism:

1. Cultural Tourism
2. Leisure Tourism
3. Religious Tourism
4. Medical Tourism

Egypt has several different types of tourism, each of which provides visitors with a once-in-a-life-time experience. According to (Derbali, A. (2020))¹⁴ There are 8 types of tourism destination in Egypt which are Recreational tourism, Cultural tourism, Medical Tourism, Eco-tourism, Sports tourism, Festival tourism, Conference tourism and Religious tourism.

Most important Tourism app features styles

- (1) Fundamental information: It's probable that mobile users are in a transactional mode and are searching for rapid information to act upon, such as a phone number, website, location, or, better yet, a means to find their way about. Thus, content planning is crucial for this type of mobile app.
- (2) Location-based information and augmented reality: Smartphones come equipped with location-aware sensors that let the travel app on your phone provide customized information based on your exact location. These types of Applications provide helpful features based on our location in addition to providing precise location information. These applications aim to explore destinations using augmented reality, play games, and use location-based discovery tools and smart search.
- (3) Offline content: Many visitors who take vacations outside of their own country do not have access to the Internet. These types could work offline, as users want to use the app offline and have a great vacation.
- (4) Multilingualism: Facilitate communication with customers traveling abroad and support interaction with overseas markets.¹⁵
- (5) Calendar: The calendar applications gives information about events, including the link to road traffic. A schedule also invites customers to current events.
- (6) Geo-location: After arriving at a particular destination, the first thing tourists want to do is visit a hotel, cafe, or nearby tourist attraction. With a GPS lock, your travel app must track his

location and provide results immediately. Such information helps the user prepare for the upcoming adventure and plan his day accordingly.

(7)Map's: Sites, services, and directions are all found on maps. They can use the app anywhere (even without an internet connection) if downloaded the content and map before you arrive.

(8)Local cuisine: This feature must be attempted for developing a travel app. By and large, voyagers lean toward a genuine encounter as opposed to eating in a standard café. They should be able to find a list of restaurants in the tourism app where they can eat traditional food and, for instance, listen to local music.

Methodology

Research Approach

This paper discusses the use of mobile applications for tourism needs in Egypt, to examine the validity of using mobile apps to enhance Egyptian domestic tourism from tourists' perspectives.

The study was conducted with a content analysis and quantitative approach.

First: The application analysis part passed on two main criteria: (1) user interface, (2) user experience.

User Interface	User experience
<ul style="list-style-type: none"> oMulti-language compatibility oWell used iconography oClean easy to read design (lacks clutter) oUnified font and style oClear brand identity oAccessibility features (Dark mode, brightness, etc.) oClean, distinct, organized tabs oHelp/informative option for potation struggle with app 	<ul style="list-style-type: none"> oAbility to search different tourism types and destinations oAbility for direct contact with apps potential partnered travel agency and plan a trip oThe availability of potential tour guides oAwareness and notification of certain facilities (hotels, gas station, commercial centers, medical centers) oGuide and dates of events and festivals in Egypt oUser feedback/reviews

Applications analyses sampling includes 5 types that present the four main categories: Cultural Tourism, Leisure Tourism, Religious Tourism, and Medical Tourism .

Applications analysis

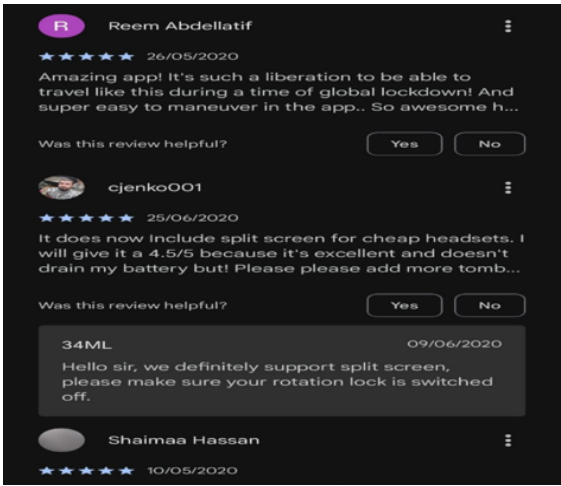
Around Egypt	
Description	
<p>VR/AR Mobile application that allows the user to experience many places across Egypt by ٣٦٠ photos and virtual tours</p> <p>From about section</p> <p>With Around Egypt app, you can now explore the top sightseeing spots in Egypt in ٣٦٠ Tours. Or even better, if you own a VR Oculus Headset or any Cardboard, you can immerse yourself into a total Virtual Reality experience. From Museums, Temples to the Pyramids, from Cairo, Alexandria to Luxor and Aswan, we got you covered.</p>	

Table 1: Around Egypt application

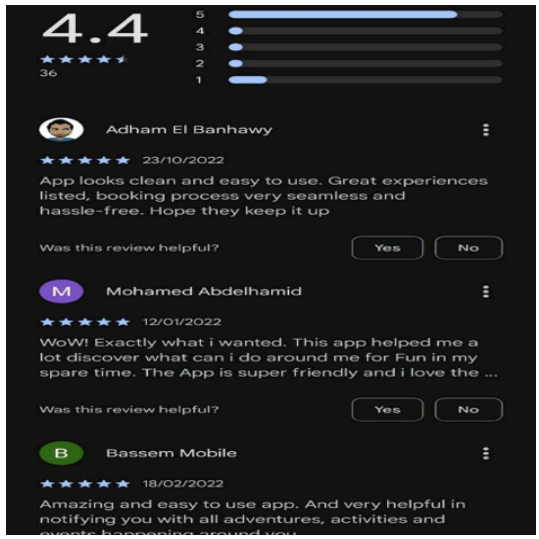
Fosha	
Description	
<p>Mobile application uses to book and plan trips to local events and tourist destinations in Egypt</p> <p>From about section</p> <p>Fosha فسحة is your go-to app for fun & exciting things to do in Egypt!</p> <p>Discover & book activities, events & hidden gems, all in one app.</p> <p>DISCOVER</p> <p>Discover everything that's happening around you including:</p> <ul style="list-style-type: none"> * Local tours, wellness, art, cultural & musical events * Outdoor & indoor activities * Museums, art galleries, historical sites & parks * Upcoming local trips in Egypt 	

Table 2: Fosha application

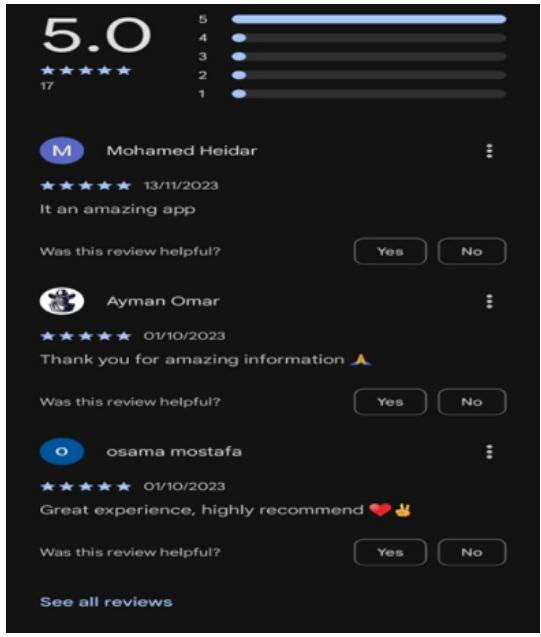
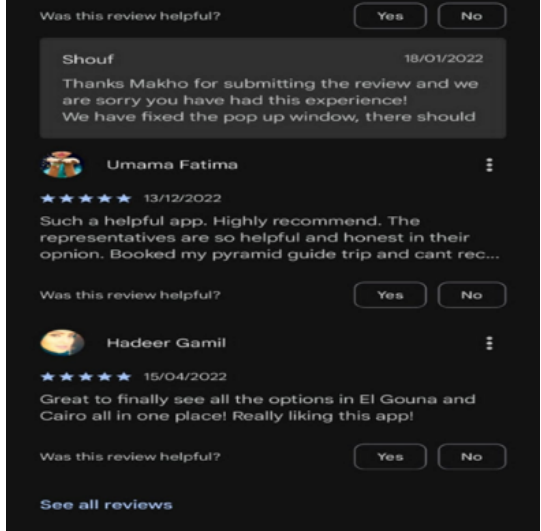
Sharm gate	
Description	
<p>Informative mobile application that assists the user on activities and facilities in the Sharm El Sheikh region of Egypt</p> <p><u>From about section</u></p> <p>Sharm Gate is the Best Way to Get All Information About Sharm El Sheikh, Activists, Rental, Attractions, Beaches, Restaurants, Coffees and Shopping</p>	
Shouf	
Description	
<p>A Tour booking application that allows one to find an book tours around the Middle East</p> <p><u>From about section</u></p> <p>Shouf helps you discover and book unique tours and experiences hosted by passionate locals. Shouf offers +٣٠٠ experiences to choose from in +٣٠ cities across Egypt, Qatar, Turkey and United Arab of Emirates!</p>	

Table 3: Sharm gate & Shouf application

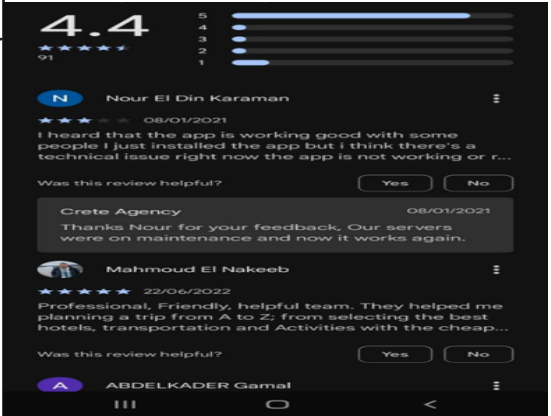
Viajero	
Description	
Trip planning app that highlights the transportation available in Egypt	
<p><u>From about section</u></p> <p>1st Transportation and Organized Trips Platform in Egypt</p> <p>We provide the first search engine for transportation and reservation of most popular travel agencies trips</p>	

Table 4: Viajero application

Second: A questionnaire was designed to gather the vital information that assistance in responding to the review questions and characterizing how Egyptian domestic travelers acknowledge the utilization of mobile applications to upgrade their homegrown travel. Additionally, the review implemented the online perception to characterize and investigate the ongoing use of versatile applications that are utilized by Egyptian tourists

Populations and Sampling Technique

The sampling frame for the questionnaire included Egyptian tourists who every now and again went inside Egypt. A web-based survey was intended to examine the examination factors and was coordinated to Egyptian vacationers who are different in orientation, age, insight, and schooling. The study was led during September, October and November 2023. The example size arrives at 100.

Additionally, a web-based perception was directed through Google play and Application store to characterize and break down the ongoing utilization of the selected applications that were utilized by the review's respondents.

The questionnaire was directed to Egyptian domestic Tourists who have frequently traveled in Egypt, and it was designed to investigate the research objectives with six main sections, as follow: (1) Illustrated the demographic information of respondents. (2) Showed the Travel-Based information. (3) Revealed Information about using mobile apps before, during, and after the trip. (4) Discussed reasons to encourage using mobile apps to organize the trip. (5) Demonstrated reasons that will negatively affect the usage of mobile apps to organize the trip. (6) Detected the preferred features of the Egyptian domestic tourism mobile apps.

Sections from 3 to 6 adopted a five-point scale; to define the agreement level of respondents on each statement (1 = 'strongly Agree'; 5= 'Strongly Disagree').

Results and Discussion

Survey Results

Figure 1 illustrates the gender of the tourists. The sample included 100 respondents, female respondents represent 69% and male respondents represent 31%.

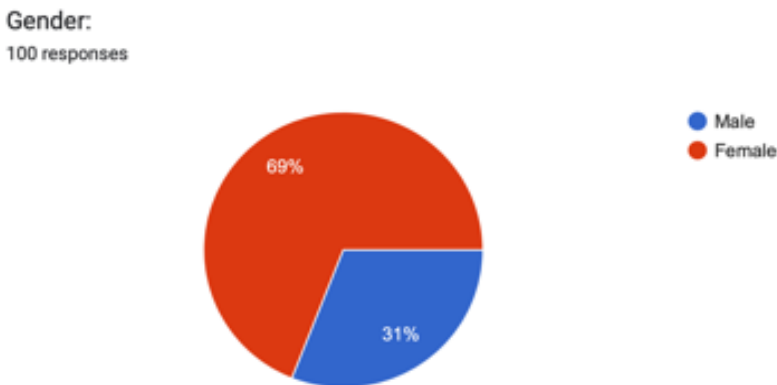


Figure 1. Gender

Figure 2 shows the groups of respondents according to their age. Out of 100 respondents, the largest category is in the age group that ranges between 18 to 25 years old with 39%. The second

largest group with 19% was the age group that ranges between 26 and 32 years old. The third group was between 33 to 39 years old accounts for 17% of the participants followed by the last group of participants who are from 40 to 45 years old at 16%.

Age:

100 responses

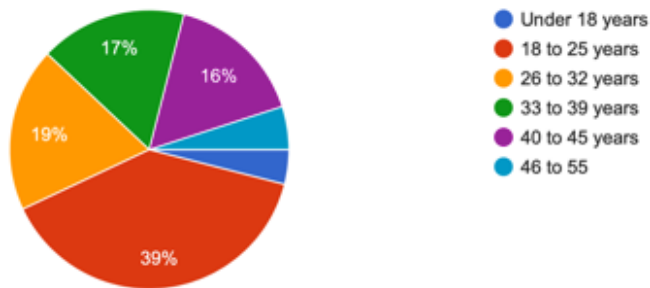


Figure 2. Age

It is figured out in figure 3 that 55% of the total respondents were bachelor's degree holders, followed by Master's degree holders with 19%. Lastly 15% of the respondents were PhD or higher holders.

Educational Level:

99 responses

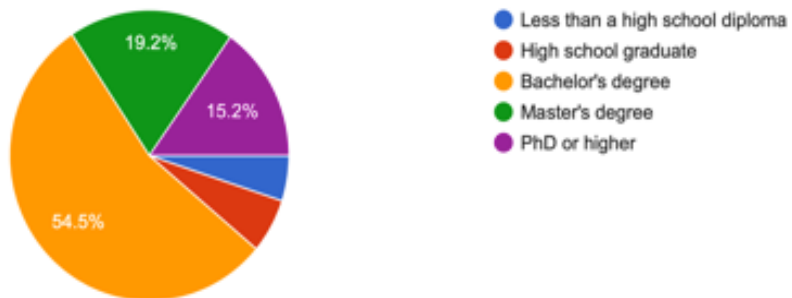


Figure 3. Education level

Figure 4, 5 illustrate that 61% of the respondents were single while the other 36% are married. Lastly 3% of the respondents were divorced. While figure 5 shows that 50% respondents were full-time employees, 22% were students.

What is your marital status?

99 responses

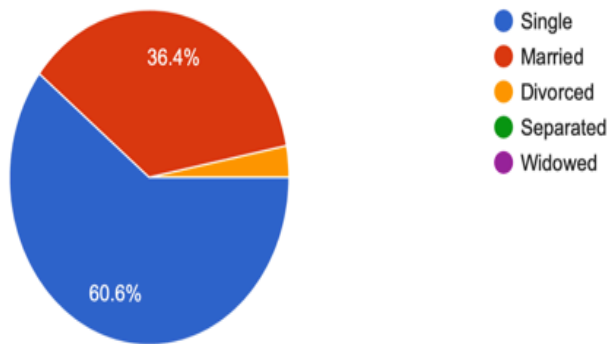


Figure 4. Marital status

What is your current employment status?

100 responses

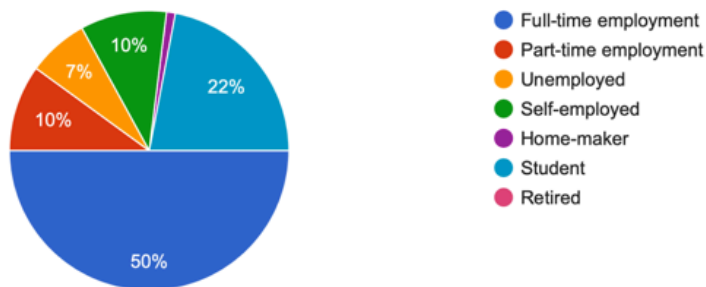


Figure 5. Employment status

Figure 6 illustrates exactly where the domestic tourists currently live. The highest percentage with 94% live in Cairo, followed by 3% in Sharm El Sheikh, 2% in Hurghada and only 1% in 6th of October.

Where do you currently live (city, country)?

100 responses

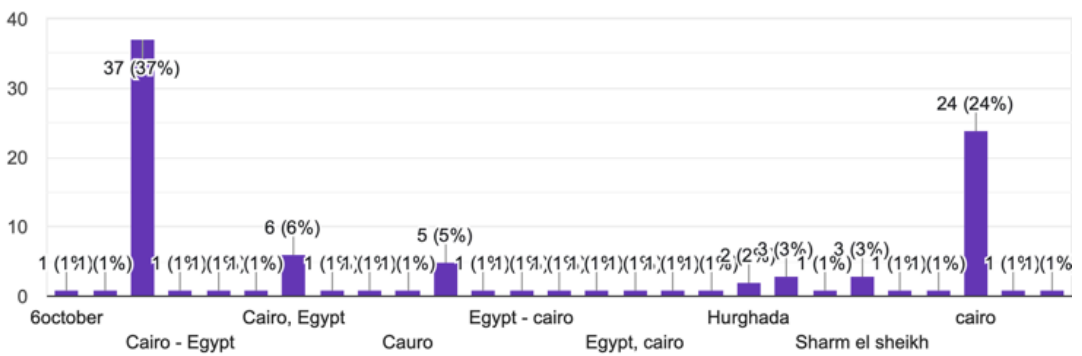


Figure 6.

Figure 7 shows that 37% of domestic tourists travel more than three times a year, followed by 31% of respondents travel twice a year inside of Egypt. 17% of respondents travel once a year while 15% travel three times a year.

How often do you travel inside of Egypt?

100 responses

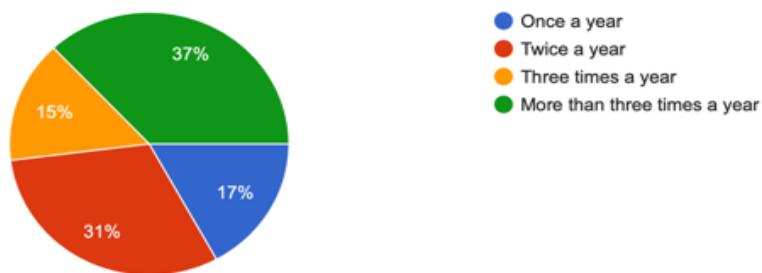


Figure 7. How often do you travel inside of Egypt?

Figure 8 shows the most challenging problems that face the respondents when they choose a destination. Overall, the statistics shows that 62% of participants voted for the quality of services. Followed by 55% who see the prices as a challenging problem. 43% of the respondents have a difficulty in booking and the other 41% have difficulty in transportation.

What are the most challenging problems that you face when choosing a destination inside of Egypt?

100 responses

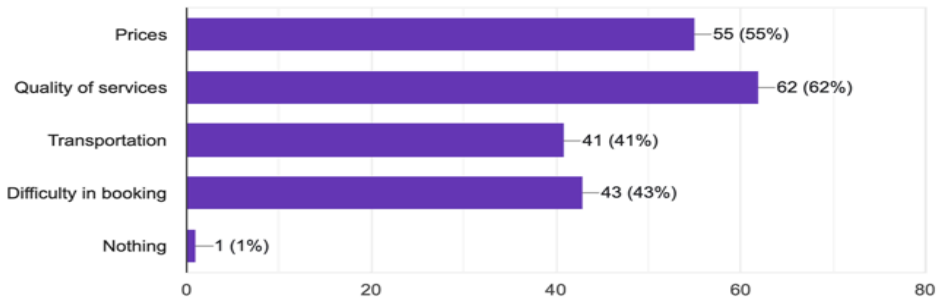


Figure 8. What are the most challenging problems that you face when choosing a destination inside of Egypt?

Figure 9 shows how the domestic tourist would like to do his tour with a tour guide or tour individually. The majority of respondents with 67% chose to tour independently, while On the other hand, approximately 33% of respondents preferred to tour with a tour guide. Therefore, the proposed mobile app will take these results into consideration when developing the app which could help tourists to plan their own trips by themselves or facilitate the way for them to communicate with a private tour guide.

Do you prefer to use tourist guide services or tour independently?

98 responses



Figure 9. Do you prefer to use tourist guide services or tour independently?

Figure 10 illustrates the destination that tourists were interested in. The survey results show that all types of tourism were relatively close, which could indicate that all types of tourism were of interest for the tourists, therefore those should be taken into consideration when developing the app. The survey indicated 8 types of tourism in Egypt namely; Relaxation 76%, Nature 60%, Food and drinks 50%, Adventure 42%, Festivals and concerts 34%, Culture 30%, Religion 10% and finally Health with 9%.

What is your favorite type of tourism when selecting a tourist destination inside of Egypt?
100 responses

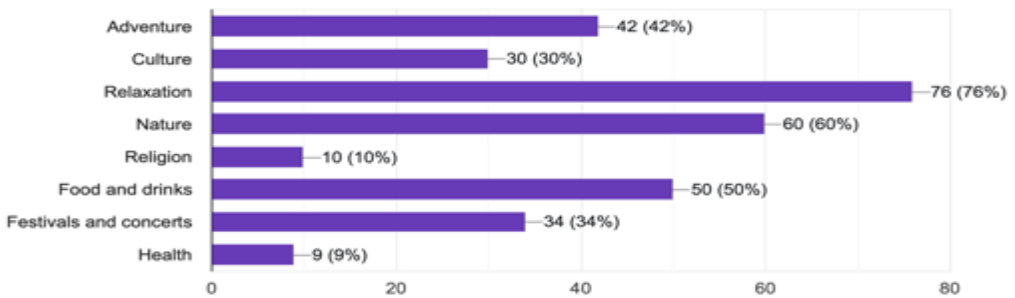


Figure 10. What is your favorite type of tourism when selecting a tourist destination inside of Egypt?

Figure 11 shows some of the main types of information the tourists might be seeking for from the travel apps. The results show that 76% of the respondents use travel apps to search for information about restaurants or hotels, etc. 44% use travel apps to book only, while 43% use travel apps to navigate during the trips.

Why do you use travel apps?
100 responses

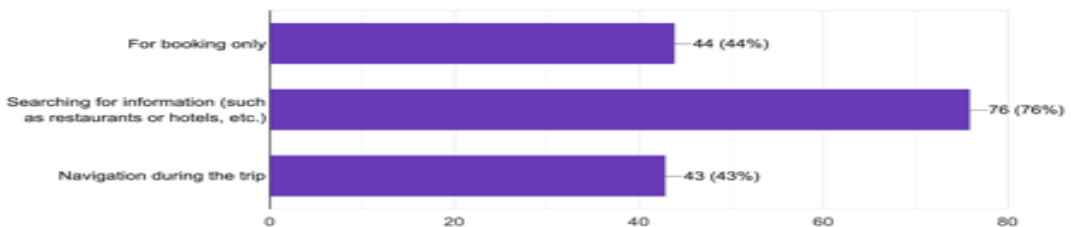


Figure 11. Why do you use travel apps?

Figure 12 shows the most used apps used to facilitate the tourists' experience during traveling. These answers help us to know what is the most app that is seen beneficial from the tourist's point of view. The results show that 45% chose "Around Egypt", 16% chose "Sharm Gate", 6% chose "Shouf" and also 6% chose "Booking". Participants wrote the apps they use in the other option given, which is so important to mention them here also. The participants chose "Trip Advisor and Booking", "Trivago", "AirBnb", "Stamps", "Cairo 360", "Ticketsmarche", and "Sky Scanner."

What travel app do you use for traveling inside of Egypt?

100 responses

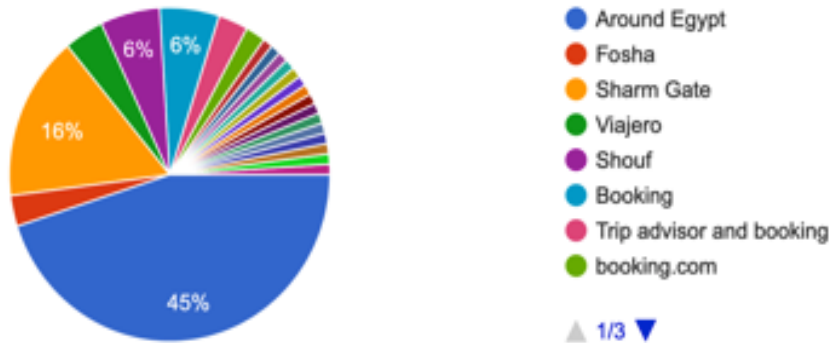


Figure 12. What travel app do you use for traveling inside of Egypt?

Figure 13 shows some of the main types of functions the tourists might look for during their trips/ tours. The survey included almost all-possible type of information such as; transportation, knowing the weather, knowing restaurants and shops nearby, for booking, for planning trips. The results show that 60 respondents chose to know restaurants and shops nearby, 59 respondents chose for booking, 40 respondents chose for transportation and 48 respondents chose to plan for their trips

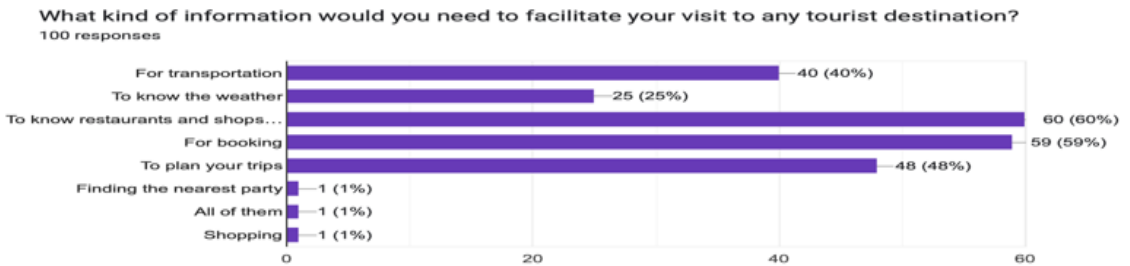


Figure 13. What kind of information would you need to facilitate your visit to any tourist destination?

The next 5 figures represent the analysis of the usability of travel apps which participants filled.

The tables below show differences between participants in terms of background and technological experience with the use of mobile travel apps.

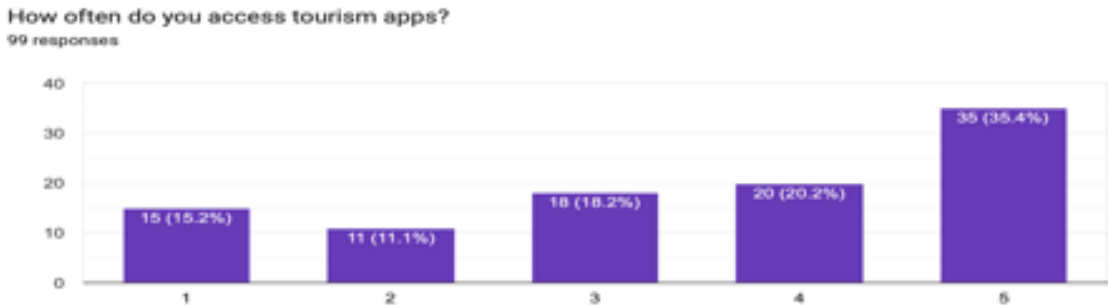


Figure 14. Access

Question	Low	Medium	Expert
How often do your access tourism apps?	26	18	55

How often do you use apps to search for information about tourist sites in Egypt?

98 responses

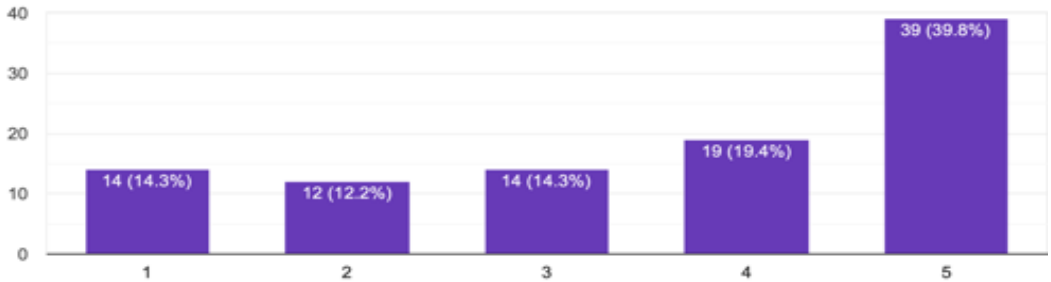


Figure 15. Usage to gain information about tourist sites in Egypt

Question	Low	Medium	Expert
How often do you use apps to search for information about tourist sites in Egypt?	26	14	58

How often do you use apps to search for restaurants/ shops near tourism site in Egypt?

98 responses

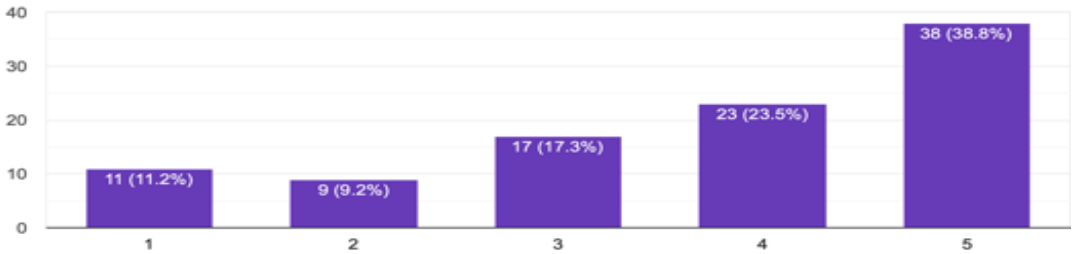


Figure 16. Usage to gain information about restaurants/ shops near tourism sites in Egypt

Question	Low	Medium	Expert
How often do you use apps to search for restaurants/ shops near tourism site in Egypt?	20	17	61

How often do you make hotel reservations by accessing tourism applications?
98 responses

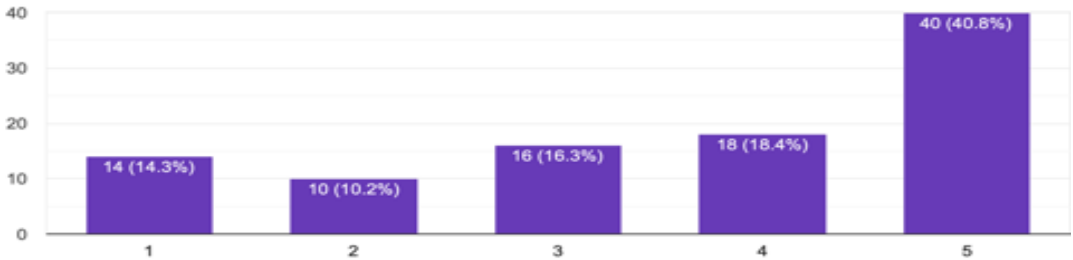


Figure 17. Usage to make hotel reservations

Question	Low	Medium	Expert
How often do you make hotel reservations by accessing tourism applications?	24	16	58

How often do you plan your own trip inside of Egypt by using tourism apps?
98 responses

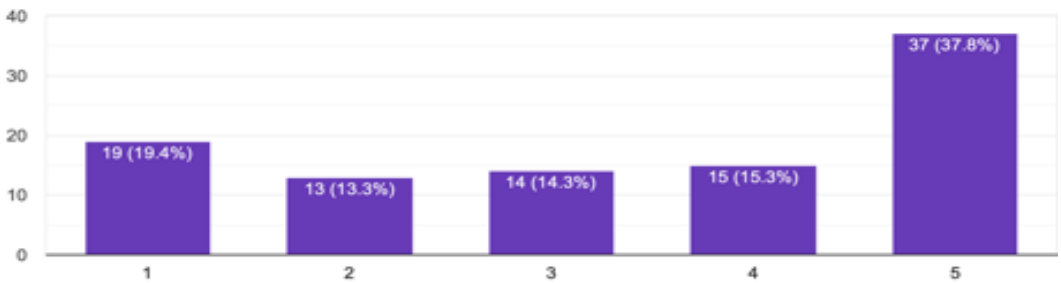


Figure 18. Usage to plan your trip

Question	Low	Medium	Expert
How often do you plan your own trip inside of Egypt by using tourism apps?	32	14	52

Discussion

Mobile apps play an increasingly important role in making decisions and influencing tourist behavior during tour visits as well as at all stages of tourism use. Below are some of the advantages and disadvantages of using mobile apps that were highlighted in the chosen sampling.

- (1) One of the main advantages of using mobile applications is that they are easy, fast and regardless of distance and time in a tour trip management. The switch from a computer to a hand-held phone further improves the overall experience of a tourist.
- (2) Developed applications must be interactive and have the capability to open two-way interactions if there is a query or inquiry that needs advice or support. Mobile applications are developed based on automation technologies that do not directly involve a human.
- (3) Mobile applications have made it possible to make online reservations for any kind of lodging, e-banking, navigation, transportation, including airline tickets, and admission to any type of tourist or leisure site.
- (4) Transportation bookings around travel destinations can also be booked via mobile applications, destination information is also accessible, and food can also be booked online without having to visit the restaurants.
- (5) Since mobile applications are readily available, every accommodation Travel-related mobile app weakens the security, dependability, and legitimacy of the service provided by this digital mobile applications system have frequently drawn criticism. (6) One of the drawbacks of using mobile applications in tourism is that not all visitors are proficient with digital tools and the Internet, particularly middle-aged individuals who frequently take tours and fall into this category. Considering that every application is created using knowledge gained from using or exploring the Internet.

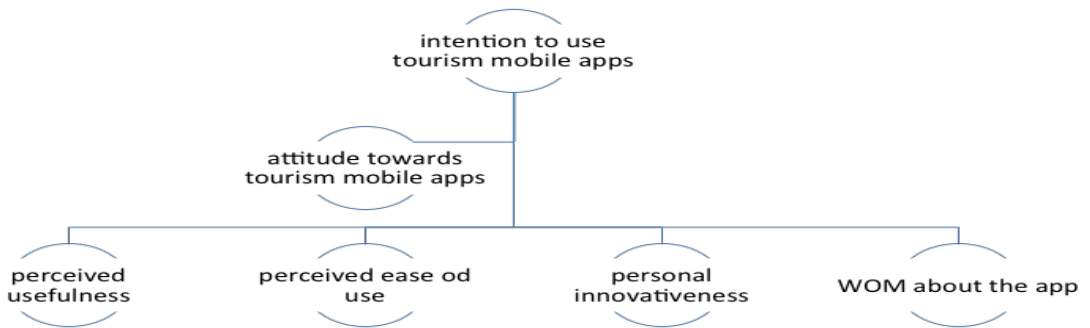


Figure 19. The research model that explain the main aspects and features of the virtual e-tourism mobile applications

Conclusion:

As we found, there are numerous advantages for users of mobile tourism apps. Now that we have an idea of how important mobile apps are for your travel and tourism company. Mobile applications provide all help that tourists will need. they can get all the assistance through mobile apps. Also Travel and tourism mobile apps have an excellent CMS for keeping track of the client’s history by managing the web application’s content and keeping track of all the records of the client’s interest.

One of the most effective ways to grow your business and visibility these days is through mobile marketing and promotion. Hence, producing high-quality content about travel ideas should be your first priority as it fosters client loyalty. Applications need to work with reservation services, restaurants, and transportation companies.

Consider this an opportunity to strengthen business ties that support the development of a marketing plan. A significant sum of money is needed for travel brochures, invoices, tickers, and hotel booking documents! We can have all of that on a single screen with a mobile app! Mobile apps also save resource costs. An app can be crucial in keeping the lines of communication open, promoting advocacy, and eventually leading to follow-up visits even after the person has left.

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