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"The use of ICT in post-covid vacation experiences: travelink case"

"El uso de las TIC en las experiencias de vacaciones poscovid: caso travelink"

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ABSTRACT
With the application until March 15, 2021, of sanitary measures to prevent and contain the arrival of people to Colombia infected with COVID-19, a bleak outlook began for the country's tourism sector; When in December 2019 it was expected that 2020 would be one of the best years in decades for this country's service sector, since Colombia was chosen as the best destination for tourism in 2020 along with Egypt and Croatia by the North American Association of Tour Operators (Valora, 2019).

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This situation has led to rethinking the way people travel and enjoy their vacations, raising the question of:
How can ICTs be used by consumers to improve their tourism experiences in a post-pandemic scenario?
In this context and thinking from the point of view of the demand (tourist), the proposal of TraveLink arises, as the first Mobile Application of self-guided tourist tours in Colombia.
Keywords: ICT, Tourism, Mobile, Application, Self-guided.

RESUMEN
Con la aplicación hasta el 15 de Marzo de 2021, de medidas sanitarias para prevenir y contener la llegada de personas a Colombia contagiadas con Covid 19, inicio para el sector turístico del país un panorama desolador; cuando en Diciembre de 2019 se tenía la expectativa que el 2020 sería uno de los mejores años en décadas, para este sector de servicios del país, ya que Colombia, fue elegida como mejor destino para el turismo en 2020 junto a Egipto y Croacia por la Asociación Norteamericana de Tour Operadores (Valora, 2019). Esta situación ha llevado a replantear la forma como las personas viajan y disfrutan de sus vacaciones, planteando la interrogante de: ¿Cómo las TIC pueden ser usadas por los consumidores para mejorar sus experiencias turísticas en un escenario pos pandemia? En este contexto y pensando desde el punto de vista de la demanda (turista) surge la propuesta de TraveLink, como la primera Aplicación Móvil de recorridos turísticos auto guiados en Colombia.
Palabras Claves: TIC, Turismo, Aplicación, Móvil, Autoguiado.

Introduction

During 2020, it was common to find a scenario in the entire tourism value chain, lodging, tourist guide and gastronomy with closures of up to ten (10) months, leading many entrepreneurs to bankruptcy. For those entrepreneurs who were able to keep up with the expectation of opening thanks to their savings or access to credits, 2021 is a difficult scenario since the virus has not yet been controlled, which has led the national government to carry out intermittent closures and quarantines.
It should also be added that even when it is possible to travel, people are concerned about their health and therefore feel worried and fearful about group travel. Some tour operators and guides offer private versions of their group tours, in response to this concern of current customers and also because of regulations, since they must implement biosecurity protocols that require the reduction of the capacity of groups of travelers (La Agencia de Viajes de Colombia, s. f.).

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This brings a higher cost that may limit the potential demand of travelers and excessively increases the costs of these tours, which, having traditionally had the tour guide as a companion, the reduced capacity to date does not help to compensate the payment of the fees of this professional and the same cost of "production" of the tour.

The way of traveling nowadays has been reinvented in the world and "a trend that is gaining ground is self-guided or independent travel, especially for nature and activity trips such as hiking or biking" (Travindy Turismo Responsable al Día, 2020). The era of "Self-Guided Travel" has arrived.

A self-guided trip is one in which "you go on your own and at your own pace, but with the comfort that everything is organized in advance by a travel agency or tour operator. "In a self-guided trip, the itinerary is predefined and the logistics are taken care of: accommodation, transfers, bicycle rental or the necessary equipment for the chosen adventure" (Travindy Turismo Responsable al Día, 2020, p. 2).

In this order of ideas, *Smart Phones* as one of the great technological advances today and with their ability to integrate various technologies, become the perfect tool to support the tourist in being able to execute their self-guided tourism experience and a new distribution channel (not only marketing and promotion) of tourism services (Liu and Liu, 2016).

Arival® one of the leading international outlets for information, knowledge sharing and networking in the international tourism sector, has set out in its 2021 report on the post-pandemic self-guided tour landscape, moving from a small niche in the pre-pandemic era to a major emerging category that offers opportunities for all tour and attraction operators (Arival Report: Mobile Self-Guided Tours Report, 2020).

1. Theoretical Framework and Development of the Research Topic

The consensus definition of smart tourism does not exist either in the IT industry or in tourism academia. Smart tourism is based on Internet of Things (IoT), cloud computing, mobile devices communication, artificial intelligence technology, elements that help in the management of information, by incorporating sensors in each type of tourism resource, so that various elements involved in tourism are linked, the physical resources and information resources deeply activated and integrated the entire chain of the tourism industry (López de Avila Muñoz and García, 2015).

Smart tourism and smart city are closely related (Femenia-Serra, 2017). Smart tourism arises from the concept of smart city, relies on its infrastructure and, in turn, strengthens the links of all subsystems of a smart city and the links of smart cities to improve them. Smart tourism can be considered as smart city application in the field of tourism, with objects extending from city residents to tourists (Wise & Heidari, 2019).

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It is in this sense, that smart phones or "Smart phones" as that extension of IOT, allows the implementation of that strategy of "smart tourism" and/or "smart tourist destinations" in the innovation of tourist services for visitors (Nitti, Pilloni, Giusto and Popescu, 2017).

Currently, in the world and specifically in China's major cities are trying to provide all services and business to the tourist through Smartphone. Some examples are the smartphone applications "Nanjing Tourism Assistant "," E Lungcheng "," I Xiangshan Travels "," Le Youyou "and" Smart Lushan. The reason is that smartphones firmly occupy the top positions on Internet access in China (Liu & Liu, 2016).

The cell phone today, brings great convenience to users/tourists by combining transportation status information to and from the destination; the use of camera, navigator, audio, GPS, easy shopping, all at your fingertips.

A smartphone application ultimately refers to a software application that uses smartphones, tablets and other mobile devices as an operating platform. In recent years, since 2008, a large number of smartphone apps have been designed to facilitate travelers, and the apps are available through app distribution platforms such as Apple App Store, Google Play, Windows Phone Store and BlackBerry App World (Dan, Park and Fesenmaier, 2012).

This collection of smartphone applications offers a wide range of possibilities to assist travelers in using information and communications at home and away from home. Currently available smartphone applications provide a variety of information services, such as destination tour guide, online travel agencies, flight managers, language assistant, theme park and resort guide, food finder, currency converter, local transportation, etc (Dan, Park and Fesenmaier, 2012).

Smartphone applications have widely extended Internet-enabled services to the mobile platform and are changing the tourism experience by leveraging a number of mobile technology innovations to deliver innovative services such as location-based services, context-sensitive recommendations, and impromptu selections and decisions (Dan, Park, & Fesenmaier, 2012).

Efforts to develop commercial applications for tourists, including location-aware mobile information systems or location-aware electronic travel guides, have been underway since the late 1990s (Shoval and Isaacson, 2009). However, the implementation of the tracking capabilities of GPS receivers, cell phones and recently smartphones for tourism research started in the second half of the first decade of the 2000s and publications on the topic began to appear in 2007 (Kontogianni and Alepis, 2020).

The acquisition of tourist movements in time and space has the potential to provide arrival and departure times, attractions visited, sequence of attractions visited, as well as walking speed and orientation. The spatio-temporal characteristics of tourist

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movements are recorded on GPS devices to capture parameters such as sites visited, time of day (when), duration (how long), and sequence (what order) (Virtual and Augmented Reality, Big Data and Mobile Devices: Applications in Tourism, 2019).
Changes in these characteristics indicate changes in tourism positioning that in turn reflect the tourism behavior exhibited. Therefore, the scheduling of recreational activities that a tourist plans to undertake at a destination is inseparably rooted within the constraints of space and time.
Tourism generates a large amount of information whose source are tourists, companies providing services related to leisure and recreation, as well as institutions that directly or indirectly are responsible for managing and evaluating the activity itself. Therefore, the use of ICTs is a necessity for the collection and management of this large amount of information and to be able to give it value for decision making from the public, private and resident community. Because of the importance of information management, ICT management is a means for the generation of new services and the optimization of existing ones (Baidal, Solsona, David and Sanchez, 2016).
However, also in Colombia, an architecture has been proposed for a web and/or mobile ICT project to provide tourists with information of interest around Colombia's festivals and fairs, being this need identified by the national government through the Ministry of Information and Communication Technologies (MinTIC) of Colombia (Ortega and Enrique, 2014).
In this order of ideas, this article deals with the way in which an ICT project is proposed to improve the experience for tourists in the post-pandemic era, under the idea of "TraveLink", an APP that will use the benefits of GPS to provide self-guided touristic experiences for users.

Methodology

A review of the State of the Art in the use of ICTs applied to the tourism experience is carried out, exploring the concepts of "Intelligent Tourism", "Smart Tourism" and "e-tourism" with the purpose of having a vision and the scope that ICTs have in adding value to the offer of existing tourism services.
As part of the results of the review of the State of the Art in the field, it was possible to identify relevant technologies, which are ultimately inputs to generate the ICT project proposal, such as Wifi, geo-location, APP, Internet of Things (IOT); audio, video, QR technology and payment gateways.
For the project proposal, it was deemed necessary to establish a market study on those users who were more prone to a high interaction with their Smart phones, where a segment of single travelers, couples and families with children was identified based on the new post-covid customer profile developed by the Colombia + Competitiva

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program, of the Economic Cooperation and Development - SECO, facilitated by Swisscontact (Turismo Nueva Realidad, n.d.).

Within the process of ideation of the APP prototype, the existence of the identified technologies was investigated, finding that it is offered by the main mobile telephone operators in the country at the hardware and software level.

Results

The results of this research led to the consolidation of an idea for a self-guided tourist tour app called "TraveLink", which combines the English words "Travel" and "Link".

The idea was presented to SENA's TECNOPARQUE call for proposals in the department of Tolima. TECNOPARQUE is a network that:

Seeks to support the development of innovative technology-based projects to generate products and services that contribute to the economic growth and competitiveness of the country and the regions, leveraged in world-class sectors. This is done by generating conditions of articulation between government, business and academia for the development of joint actions focused on innovation; promoting scenarios for the Colombian population with technology-based projects and high innovative potential to materialize them through functional prototypes and technological products; and creating spaces to ensure the appropriation, dissemination, adaptation and technology transfer from and to the productive sector. (Organization of American States, n.d., p. 1).

During the application process, we highlighted the advantages of this ICT project for tourists, among which we can mention:

- It allows tourists to have self-guided tours through a mobile App in a professional manner, as they were designed by local professional tour guides.
- It introduces the modality of self-guided tours, contributing to social distancing for health reasons and to the control of the carrying capacity of natural areas and cultural heritages, in order to avoid crowds that generate deterioration.
- Generates Applied Technological Research: Allows the management of information generated by tourists, tour guides and other tourism providers, so that this information can be used by those responsible for the public management of tourism in municipalities and departments.
- It expands the market for tour guides to the virtual format, as they design a self-guided tour in the app for the user only once, but this is sold many times and does not depend on their physical presence.
- For the tour guide, this implies a reduction in logistics costs by migrating their on-site tour guide to the online self-guided tour format for the user. This cost reduction is reflected in the final price paid by the client.
- The self-guided tours respond to the regulations related to social distancing and capacity reduction due to the sanitary emergency.

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For the design of the self-guided tours to be found in the PPP, the following flow chart was formulated:

Figure 1. Flow chart for the design of a self-guided tourist route. Source: Own elaboration.

Similarly, in this process a concept prototype of the App was proposed through the Marvel web platform, which serves for rapid prototyping, testing and transfer for modern design teams (Marvel, n.d.). This was key in order to convey in the best way, the idea of how the user experience is desired in the interaction with the App, reaching the following concepts:

Figure 2. TRAVELINK App user interface concept. Source: Own elaboration.

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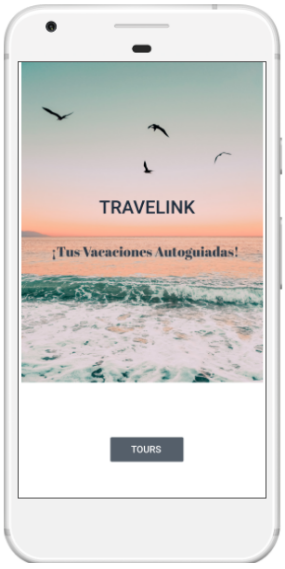

An image of the app's welcome page is shown, where the user will start interacting and using the app.

Figure 3. TRAVELINK App user interface concept - Source: Own elaboration.

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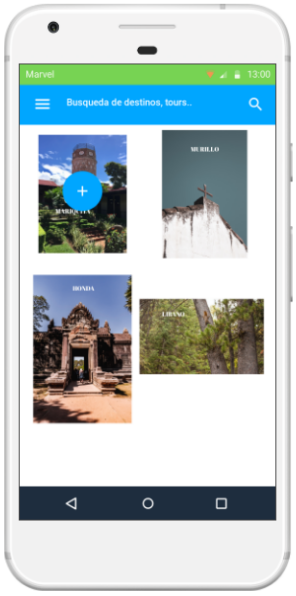
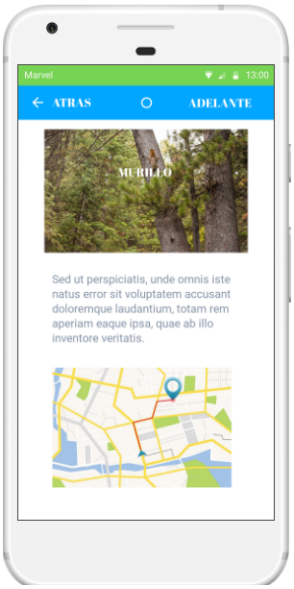


In a second interaction with the prototype, the user can now visualize the destinations that offer self-guided tours.

Figure 4. TRAVELINK App user interface concept. Source: Own elaboration.



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By choosing a destination, the self-guided tour can be started by default, where there is already an image and welcome text for the user, as well as the use of GPS, so that the user can be geographically located at the starting point of the route.

Figure 5. TRAVELINK App user interface concept. Source: Own elaboration.

In this concept image of the app, there is already an example of the use of audio, where, for example, information of interest of some point of the route is narrated.

Figure 6. TRAVELINK App user interface concept. Source: Own elaboration.

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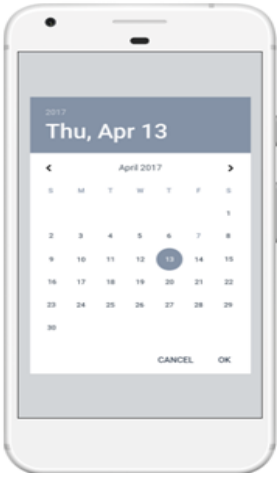
Another example of a possible use of QR technology, where the user can use the code to redeem the consumption of a drink in an establishment that is part of the self-guided tourist route.

Figure 7. TRAVELINK App user interface concept. Source: Own elaboration.



Here in this image of the concept, an example of interface use is given in order to schedule in a calendar, the day in which the self-guided tour can be performed by the user.

Figure 8. TRAVELINK App user interface concept. Source: Own elaboration

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Although a self-guided tour is proposed, it does not mean that some kind of personalized and real assistance cannot be provided to the user; therefore, in this image of the prototype, as an example, the chat function is incorporated in order to meet this need.
Likewise, as part of the development of the ICT project, an App logo was developed with TECNOPARQUE's technical team for image and promotion purposes:
Figure 9. TRAVELINK App logo. Source: SENA Technopark "La Granja".

Conclusions

How can ICTs be used by consumers to improve their tourism experiences in a post-pandemic scenario? This was the question posed in the summary of this article and is the basis of how ICTs truly represent that tool for Digital Transformation, proposed by the World Economic Forum since 2015 (World Economic Forum, 2018), which should be implemented in the productive sectors, both from the supply side of goods and services, such as the tourism sector (Aviation & Travel Industry, n.d.), and from the point of view of consumers (Consumer, n. d.).
During the research, it has been possible to review the State of the Art regarding the relationship between ICT and Tourism, for a possible conceptualization of the so-called "Smart Tourism" (Boes, Buhalis and Inversini, 2015) which is the basis for the construction of an ICT project, as a value proposition for the sector... and what could be that ICT value proposition for the tourism sector in this post-pandemic scenario? Well, that people can enjoy leisure and recreation with the limitations of social contact that exist to date.

In this order of ideas, recognizing this current need, the proposal of the concept of a mobile app for self-guided tourist tours is arrived at, all within the framework of the concept of "Smart Tourism" (Boes, Buhalis and Inversini, 2015), to recognize the best technological practices and arrive at the prototype of the app "TraveLink".

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