Toward the Design of an Audiovisual Room for the Cultural Tourism in México

Ricardo Tejeida-Padilla[1], Julia L. Navarro-Barrientos[2], Miguel Patiño-Ortiz[3], Julian Patiño-Ortiz[4]

[1]Instituto Politécnico Nacional, México, rtejeidap@ipn.mx

[2]Instituto Politécnico Nacional, México, juller_ipn@yahoo.com

[3]Instituto Politécnico Nacional, México, mpatino2002@ipn.mx

[4]Instituto Politécnico Nacional, México, jpatinoo@ipn.mx

Abstract

The Mexican leisure sector needs demonstration, promotion, commercialization and development tools that places it in any market segment. This can be achieved through more flexible audiovisual media such as multimedia and virtual reality.

During the last years, improvements in Information and communication Technologies have brought substantial changes in the way of making business, as well as in the teaching-learning process and in the offered services, always looking for quality improvements.

This article, as part of an investigation in process, proposes the design, with the help of systemic methodologies, of an audiovisual room model with new information and communication technologies. The challenge is to promote part of the prehispanic History of Mexico, in an attractive way, both for the national and the foreigner tourists, having the purpose of fulfilling the demands of the cultural tourism and increasing the competitiveness of the main prehispanic touristic attractiveness of Mexico.

Keywords: tourism, systemic methodologies, IT, competitiveness.

Introduction

Tourism, as other economic sectors, cannot remain unaware to the revolution that the development of Information and Communication Technologies (TIC's) is causing. The advantages that these technologies offer regarding the increment of the competitiveness and functionality, are unquestionable in the tourist sector.

IMPACT OF THE NEW INFORMATION AND COMMUNICATION TECHNOLOGIES IN TOURISM	
* They significantly intensify the competitive margin	79%
* They perfect the information	77%
* They improve the external communications	65%
* They improve the expectations of administration computers	63%
* They perfect the process of decisions making	61%

Chart 1. I Impact of the New Information and Communication Technologies on Tourism
Source: WTO, 1998.

The first organization in developing the technology and tourism topic was the World Tourism Organization (WTO), in 1988, with the book titled "Guidelines for the transfer of new technologies in the tourism sector, which is about the tourist development and the new technologies; their effects in the countries in development and the politics and strategic options for the correct acquisition of new technologies in the field of the tourism.

But it was not up to 1999 when thanks to the TURITEC´99 congress, the topic begins to proliferate , such congress took place at the Málaga's University School of Tourism headquarters, treating topics like:

" Tourism and the information and the communications technologies,

" The importance of the application of the new technologies tourism,

" The growing peak of Internet in the sector and the latest advances in the field of scientific and technological research applied to the tourism.

With the quick advances of the TIC´s, a great variety of tourism tendencies in digital market have been developed. Some of them are: portals, guides, thematic channels and on-line services, among others.

The use of the technology in the Mexican tourist sector has not been the exception. The TIC's are primarily focused according to the competitive capacity they provide, such it is the case of the Globalizing Systems, for instance: Internet, the TV service and video conference among others, in which the audiovisual ones could be included, as a new technological option for tourism.

Development

Mexico, in the leisure sector, has the necessity to have demonstration, promotion, commercialization and development tools, in order to address to any segmentation type, this can bed achieve through media based on virtual and audiovisual images that provide more flexible outlines and attractiveness.

This article, as a part of an research in process, intends to design a model of audiovisual room with new technologies, with the objective to diffuse part of the history and attractiveness that wraps the prehispanic Mexican culture, among the national tourist as much as among the foreigner, in such a way that the result of the business strategy not only represents competitive advantage at national level but also at international level.

Model Designing

We are in search of designing a model of tourist multimedia room, and for such a purpose the systems approach will be used, since this is basically a design methodology (Van Gigch, 1998, 24-26), and as such, it questions the system's nature itself (multimedia room model) and its role in the context of a larger system (cultural tourism).

Problem Definition

At the present time, in Mexico there isn't a multimedia room considered as tourist attractiveness, therefore, the design of a multimedia room model with high technology is considered as business strategy directed to the cultural tourism in Mexico.

Next, each one of the vital elements for the problem definition is explained and, the design of the model itself.

1. - The Means, according to Van Gigch (1998, 39), is defined as something that includes all the systems on which somebody that makes decisions doesn't exercise control. In the case of the design, the means is identified as the cultural tourism.

2. - This design will be applicable to any multiple-use room so much of public institutions as for private, as long as the are of cultural or educational nature and/or Mexican territory located, using the new multimedia technologies, being this way a competitive advantage to be an interesting tourist attractiveness.

3. - The tourists are the receivers or clients to whom the multimedia rooms located primarily in tourist institutions of cultural character, such as CONACULTA (National Council for the Culture and the Arts) are addressed.

The multimedia rooms are not devoted to an specific segment of tourists, but rather they embrace all the segments, as long as they are moved for cultural interests, not mattering if they already have the tourist information or not.

4. - Mexico has the necessity to count on demonstration, promotion, commercialization and development tools, in order to address to any segmentation type, this can bed achieve through media based on virtual images.

5.- All those involved, or that can influence or to be influenced by the model are considered as agents. A specific reference to the interests of each one of them should be shown.

Understanding of the clients and planner's Cosmo visions.

The current tourist is characterized to be more and more demanding, and with the purpose of covering his /her necessities and expectations, the planner is based on different inquiry systems.

In the following chart, the positive and negative internationally known aspects that characterize the different projection rooms, are shown in a general way, they are: 1) In France: the Futuroscopio Park and Paris Story; 2) In Spain: The Naturavisión; 3) In Mexico: the Megapantalla Imax, The Digital Dome and The Ixtli room.

AUDIOVISUAL ROOM	POSITIVE ASPECTS	NEGATIVE ASPECTS
PARIS STORY	• Multilanguage translation to 12 languages. • It is a historical documentary, presented in didactic form.	• The images are digital, not virtual. • The presentation is the same, reason why it stops being attractive
NATURAVISIÓN	• It is a space designed to show to the tourist, by means of documental, the importance of nature.	• The movie is permanent, • The documental is not very attractive for all the tourist. • It is not three-dimensional.
MEGAPANTALLA IMAX	• Because of having specific characteristics to present movies in 2D and 3D, they provide eyeglasses with special lenses.	• It doesn't facilitate the understanding of the presentation for all those non Spanish-speakers tourists.
DOMO DIGITAL	• The projections are digital • "Spherical screen that provides bigger vision. • The seats are comfortable	• The duration of the documentary is smaller than 30min. • A simultaneous multilanguage program is necessary
IXTLI	• It does not only facilitates the presentation of 3D movies, but also the video conferences with touch screen.	• The access is restricted, not tourist.
FUTUROSCOPIO	• The applied technology is as much virtual immersive reality as non immersive, offering different sensations.	• The movies are programmed annually. • Not all the rooms have the multilanguage program.

Chart 2.The Tourists' Cosmovisions
Source: Own elaboration

Cosmo vision of the planners

Based on the tourist cosmo vision, The improvement of the users and the services provider's expectations are searched, proposing the design of a multimedia room adaptive to any multi-purpose room (located in the different museums), with the purpose of using such space, turning it into an extra attractiveness of the museum. The main reason is because the cultural tourism concentrates on these entities, considering that every person that visits a museum, is moved by a cultural interest.

According to the International Council of Museums (ICOM), the museum is defined as: "A museum is a permanent institution, without lucrative purpose, to the service of the society and of its development, opened to the public that acquires, conserves, investigates, communicates and exhibits, with study purposes, of education and delight, the humanity's material evidences and its environment."

It is important to point out that, the museums are permanent entities that depending on their specialty, expose a group of goods of varied topics but of cultural interest, with exhibition, conservation, investigation, diffusion, study, teaching and leisure purposes.

Reason why the planners cosmo vision is focused on the different strategic techniques that the proprietors of the previously mentioned places of tourist interest have used, where the main attractiveness is the international audiovisuals.

AUDIOVISUAL ROOM	ESTRATEGIES
PARIS STORY	• It keeps an exhibition that shows the most relevant notes of Paris in the step of the years. • Simultaneous translation in 12 languages. • It presents a historical documentary, in didactic form. • Addresses to any segment of tourists. • The location and distribution of the spaces, in the case of the access as well as in the reception, the exhibition and the audiovisual room.
NATURAVISIÓN	• Room built with a modern architecture, giving a hothouse atmosphere, with the purpose of attracting the tourists and to generate in them a conscience of conservation of the most important green areas of the planet.
MEGAPANTALLA IMAX	• The publicity, has been its best strategy. • Presenting movies in 2D and 3D in a screen out of the ordinary. • Being located inside the Papalote Museum, the main client is the child and obviously the parents, which although presenting a movie that represents a big economic expense, the capital recovery is considerable, offering significant utilities.
DOMO DIGITAL	• In the precise instant when the tourist enters the room, his/her look is centered on the immense spherical screen and when sitting down, he/she experiences a different sensation, since the seats are designed to look at the roof without the need of hurting the neck, offering comfort.
IXTLI	• Room exclusively designed for video conferences with a touch screen that facilitates the exhibitor the presentation.
FUTUROSCOPIO	• It is a group of rooms built with a futurist idea, where the main attractiveness are the audiovisual that show the immersive virtual reality as well as the non immersive, offering different sensations to the visitor.

Chart 3. Cosmovisions of the planners
Source: Own elaboration

With foundation in the previously exposed, we can mention the advantages that the design of an audiovisual room for the cultural tourism in Mexico, would represent:

1. The best use in the facilities of multi-purpose rooms, since they are used sporadically for conferences or concerts.

2. The remodeling and/or restoration of the rooms, since some are antiquated and uncomfortable for the visitor.

3. In the museums didactic workshops are usually carried out, therefore, attending a multimedia room can generate a new experience and a confirmation of knowledge, incentivating the discovery and the investigation.

4. The projections would depend on the topic of the museum.

5. To offer an attractive service to deaf-mutes, as well as an interactive experience.

Search and generation of technological alternatives for the room.

Based in the cosmo visions, it is important to know how to distinguish the technological elements that can be applicable to a room, which can be adapted as much for the tourism as for conferences.

The possible technological alternatives are described next:

Audio: The better known high technology sound system is Dolby Surround 5.1 that through horns and a sub-woofer, wraps the public with three-dimensional sound.

Projections: depending on the applied technology the resolution of the projectors varies considerably. There are digital projectors that produce part of the image exist and use geometry correction and mixture of images equipments, to produce a single image, with excellent resolution covering the entirety of the screen.

Screens: The screens can be plane, cylindrical or semi-cylindrical. Of the previous ones, the cylindrical ones cover great part of the spectator's vision field, reason why it helps feeling, in certain form, inside the virtual atmosphere. There are other acquaintances as Touch screen, where it is possible that touching up to eight windows open at the same time.

Virtual reality: it is a representation of things through electronic means that give the sensation of being in a real situation in which one can interact with what surrounds the person in the moment. In few words "what is, but it is not". The virtual reality is classified in two types: the immersive and the non immersive.

The immersive virtual reality is characterized by the use of three-dimensional atmospheres created by computer, this effect is generally carried out with stereoscopically images, calculated in real time and manipulated by helmets, gloves or other devices that capture the position and rotation of different parts of the human body. While the non immersive virtual reality uses the interaction in real time with different people in spaces and atmospheres that in fact don't exist, and with no need of additional devices.

The non immersive approach, clearly shows certain advantages over the immersive approach like: the low cost and the easy and quick acceptance of the users. The immersive devices are of high cost and therefore with wider access difficulty; however, several disciplines of scientific areas have use this technology, for example: in Medicine, the doctors use these systems to manipulate organs and to observe their operation, with the purpose of teaching or carrying out surgery techniques; it is necessary to point out that the application of the immersive virtual reality is also important for the social areas, humanities and artistic; speaking in tourist terms, in the city of Bordeaux, France, a special interest for the rescue of old buildings has arisen by means of virtual journeys.

Stereoscopically images: The sensations of depth (immersion) are is generated when producing different images for the right and left eye; these are projected in such a way that they are able to deceive to the brain and make it believe that it sees a single image, this can depend on different factors like: the alternation of the projections, the synchrony of the images and even the speed. The projectable images can be analogue or by pixels.

Interaction: it is a system of ultrasonic movement capture, that is to say, by means of sensors, either wireless gloves or movement of the seats like simulators.

Sensors: they are systems of movement tracking that accurately detect the position and orientation of the parts of the body, in connection with the visualized model. Those more common are: helmet, wireless gloves, three-dimensional mouse or wanda.

Increased reality: This technology constitutes a new paradigm in the way that the multimedia systems can help people, it consists on adding virtual graphics, in real time, to the field of a person's vision. It differs of the virtual reality in while this pretends to replace to the real world, the Increased Reality completes it.

The technological alternatives will be analyzed and integrated to the model based on the opposing necessities by means of the used methodology, with the purpose of offering relevancy and flexibility to the model.

Preliminary Conclusions

Because of being a research in process, final conclusions can't be given yet, however, the advance of the research allows to mention the following:

The advances in the information and communication technologies have revolutionized the way of offering services. The advantages that the TIC's bring are regarding the increment of the competitiveness and functionality which are not unaware to tourism.

The leisure sector in Mexico, has the necessity to have technological tools that allow to address to any segmentation type of tourist with the purpose of diffusing, promote and market the tourist attractiveness that it counts on.

In Mexico a multimedia room focused to the cultural tourism that allows the national and foreigner tourist to know part of the history and attractiveness that the Mexican prehispanic culture wraps, doesn't exist.

The design of a flexible and applicable model to any room in public and private institutions with cultural and/or educational character, will offer a competitive advantage in the diffusion and promotion of the tourist Mexican cultural attractiveness. For such a purpose the systems approach has been of great utility since it has allowed to take into account all the involved elements from the tourist and planners, even the alternatives in information and communication technologies.

References

Escuela Universitaria de Turismo de Málaga (2005). Congreso TuriTec'99: Turismo y Tecnologías de la Información y las Comunicaciones. URL: www.turismo.uma.es/turitec/turitec99/resumen.html

Gigch, John P. van (1998). Teoría General de Sistemas. Editorial Trillas. México, D.F.

Organización Mundial de Turismo. (1988) "Líneas directrices para la transferencia de nuevas tecnologías en el sector turístico". 60pp. OMT, España

THE INTERNATIONAL COUNCIL OF MUSEUMS http://icom.museum/mission.html 17-ene-06