Smart Culture Challenges in Developing Countries
Exploring UNESCO Creative Fields from a Citizen Perspective in Mexico

Introduction

The term Smart City began to be used at the end of the 20th century, proposing to review the benefits that cities could obtain with the implementation of new technologies. Although the term tends to be related to futuristic cities, the accent of this concept also covers the possibility of having cities that can function as more habitable, friendly, and sustainable ecosystems. This is especially relevant if we consider that cities are responsible for more than 70% of global carbon emissions and between 60% and 80% of energy consumption. Likewise, the accelerated process of urbanization has generated a worsening of social inequality and problems such as vehicular congestion and water contamination, among others, not to mention the health problems associated with these problems. In this context, the outlook for the future seems bleak as the United Nations has predicted that the world's urban population will grow by 75% by 2050, which will exacerbate the problems already experienced in large and medium cities.

A Smart City considers the use of technology to improve the quality of life of the people who inhabit it. Among the key elements that define a Smart City are the implementation of technology, innovation and the intelligent use of resources to achieve the following: a) Provide an urban infrastructure that connects its inhabitants with the environment, b) Make urban services more efficient, c) Promote the use of renewable energies to achieve sustainability, d) Seek satisfaction in the economic, social, environmental and cultural spheres of citizens by promoting creativity and applied research.

Regarding the cultural field, it has been identified that the use of technology and digital transformation have influenced the way in which the inhabitants of a city experience culture, directly impacting cultural consumption behaviors. Although culture in a city is consumed mainly by those who inhabit it, there is also cultural tourism, an element of great relevance for the development of cities. The role of culture is inextricably linked to the life and dynamics of a city. Herein, digital transformations and innovations have opened new opportunities to improve the well-being, cultural access, and inclusion of citizens (Fanea-Ivanovici & Pana, 2020). Related to this trend, the Vienna University of Technology developed a model in 2015: *The smart cities model 4.0*. This disruptive model covers six "smart" fields of urban development: 1) Smart Economy, 2) Smart Mobility, 3) Smart Environment, 4) Smart People, 5) Smart Living and 6) Smart Governance. Considering this model, we posit that including technologies into cultural consumptions (*i.e.,* smart culture) participates to people development (Smart People, the fourth field of urban development), and to the improvement of the quality of live (Smart Living, the fifth field of urban development).

In this context of positive impacts of smart culture and facing the relevance of promoting a smart culture in cities, the problem that arises is to understand how this smart culture should and could be implemented, and more specifically in the context of a developing country like Mexico. Previous research has suggested that accessibility is the core component of a smart culture (Fanea-Ivanovici & Pană, 2020) and that accessibility appears as a crucial positive impact of smart culture in developed country (Petr, Ertus & Cacho-Elizondo, 2022). The objective of this exploratory research is to identify the elements of culture, based on the citizens 'perspective, that should be a priority to be more accessible and the best way to implement them in the context of two Mexican cities. Although to develop a Smart City it is necessary to implement an intelligent governance system that considers all the elements, it is

also vital to have a participatory society, considering actors such as civil organizations, universities, companies and other organizations.

Due to the above, this research carried out an approach with the inhabitants of two major cities in Mexico, to identify their perception of the local culture, as well as successful practices and expectations of the use of technology in culture. This paper proposes some theoretical directions to understand differences observed between policy makers and their beneficiaries as well as managerial implications and recommendations, both for destination management officers, smart cities projects managers and local communities representants.

Theoretical Framework

This framework starts by understanding the concept of smartness and presenting trends, principles and outcomes generally expected from such smart strategies applied to territories. After that, we describe the UNESCO creative cities network project. This allows us to introduce what is the specific sub-subject of a smart culture.

The concept of "Smartness"
When the word "smart" is used, it is generally associated with devices that are becoming increasingly efficient and useful to humans due to the use of processors, sensors, software, and connectivity. What comes to the reader's mind are smartphones, smart TV, smart watch, smart vehicles, just to give a few examples. Smart Connected Products or Smart Connected Things (SCoT), which promise greater utility and efficiency for their users, are implemented by organizations. Without a doubt, these digital tools and services have brought benefits to end users, but they can also represent challenges for the managers who implement and manage them. (N'Goala, 2016; N'Goala, Pez-Pérard and Prim-Allaz, 2019; Porter and Heppelmann, 2014).

Smartness Principles applied to Cities and Territories
Based on the promise of increased usefulness, the ambition of smart projects for territories has been to spread the smartness principle (better performance and efficiency) provided by connected tools and services. Thus, smart city projects have tried to make more informed decisions, with operational efficiencies and a continuous improvement of the well-being of its inhabitants. In the literature on smart cities, it appears that the term "smart" has been a keyword used every time actors were using technological equipment (Boes, Buhalis and Inversini, 2016) and services like digital competences and appliances (Gil-Garcia, Pardo and Nam, 2016), to serve collective interests in the territories concerned by these projects.

Smart City Projects
There are many initiatives to redesign cities with the goal to make them smarter and more sustainable in the long term. Social innovation and digitization have been approaches used to improve life in cities and strengthen relationships between key actors (Bernardino & Santos, 2017). To illustrate, Caré et al. (2018) explored the civic crowdfunding phenomenon in six smart city projects.: *Ecolab* (promoting the sustainable management of common gardens and private-public partnerships), *So Lunch* (developed through a digital community to help unemployed people), *CN Smart L´Hub* (multifunctional labs for professional and educational training, with an online platform, and training courses), *Attiviamoci* (promote and develop programs for children and families facing social inclusion), *Nex Taranto* (*Fablab* for creative innovators) and *Rebuild the City of Science* (to reconstruct the City of Science at Naples). It should be noted that in most of these smart city projects, culture has not been positioned as a strategic axis. Other initiatives, such as *Smart Aarhus* (Snow et al, 2016), have included Culture among the main challenges to be solved in cities at the same level of emphasis as the problems of traffic, health, education, energy, mobility, technology, innovation, regulations,

and sustainability. Therefore, culture appears as a key area of opportunity for smart city projects around the world, as it can also contribute to fostering growth and social impact.

UNESCO Creative Cities Network

The Creative Cities Network (CCN) is a UNESCO project that aims to celebrate and preserve cultural diversity by promoting cultural industries for economic and tourism benefits toward locals. To this end, member cities share their experiences in preserving local cultural heritage and discuss plans for dealing with globalization (Network UCC, 2004).

As Nahm (2021) observes, although the initial objectives of the UNESCO network were the promotion of cultural industries, the growth of local employment and the development of tourism, based on industrial growth; these objectives have evolved into the desire to fulfill the quest for sustainable development, responding to the European Program SDG11 (Sustainable Development Goals). This also represents an opportunity to use connectivity and digital technology to improve the experience of tourists visiting these smart cities (Buhalis & Amaranggana, 2013). The UNESCO project aims to make cities and human settlements more inclusive, safe, resilient, and sustainable. Following the global Agenda for Sustainable Development (2030), priority has been given to benefits and impacts that favor local citizens (Vaidya and Chatterji, 2020).

Creative Fields for City Development

The CCN network initiative, gathering about 246 cities in 70 countries worldwide, is centered around seven creative fields which are considered crucial for improving urban developments (Nahm, 2021). Among all cultural and creative fields (sectors whose activities are based on cultural values or other individual or collective creative artistic expressions), UNESCO selected seven priority creative fields. Acting as leverages to sustain benefits for the local communities (Sutriadi, 2018), these creatives fields are (presented in alphabetical order):

Craft and Folk Art: A network of traditions in the cultural creation of peoples and nations. Popular arts and crafts combine a wide variety of raw materials, technical processes and symbolic elements that materialize the knowledge of their creators.

Design: A creative activity exploring the borders between the beautiful and the functional concentrating multiple facets and horizons in the processes of thought. The word "design" is also used as a metaphor for strategies to generate public policies and interventions to transform existing situations into desired circumstances (Simon, 1969).

Film: An effective medium in conveying drama and evoking emotions. The art of motion pictures is complex and integrates contributions from nearly all the other arts as well as countless technical skills (ex. sound recording, photography, and optics). Emerging at the end of the 19th century, this new art form became one of the most popular and influential media of the 20th century and beyond.

Literature: A form of human expression. However, it is important to clarify that not everything expressed in word, even when it is organized and written down, could be counted as literature. In society, the literature functions more broadly as a means of both criticizing and affirming cultural values. It may be classified according to a variety of systems, including language, national origin, historical period, genre, and subject matter (www.britannica.com/art/literature).

Gastronomy: Set of knowledge and activities that are related to the ingredients, recipes, and culinary techniques as well as their historical evolution.

Media Arts: It embraces traditional and contemporary arts, but its acceptance as also including new forms of technology is supported by the National Art Education Association and its participation in the development of the National Core Arts Standards for Media Arts (www.arteducation.org). Indeed, the 2014 revision of the National Core Arts Standards for Media Arts (1994 standards) considers media arts as a fifth arts discipline along with dance, music, theatre, and visual arts.

Music: An art of sound in time that expresses ideas and emotions in significant forms through the elements of rhythm, melody, harmony, and color (www.dictionary.com)

Methodology

A qualitative approach using online focus groups with consumers belonging to two pilot cities in the Mexican territory. The criteria to choose these cities was, that even if they both are very important cities, there was a huge difference in the dynamics about sustaining culture and in the level of cultural offers. The underlying assumption of this selection is that local cultural policy could have an influence on their perceptions about smart culture. As some citizens suffer from the lack of local cultural dynamics, these citizens may evaluate digital displays and digital solutions as more relevant tools to find access to culture that they do not have in physical places in their city.

The first city studied, Mérida (City A), is in the northwest of the state of Yucatan, in the southeastern region of the country, an area in which it is the main social, cultural, educational, and financial center. Merida is considered one of the cities with the best quality of life in the country (around 995,129 inhabitants). Its historical heritage is the product of the mixture of Mayan, Spanish and African cultures during the colonial era, later influenced by French and Lebanese cultures with some contributions from the Dutch, Korean and Italian. Thanks to its rich cultural heritage, it was the first city to be named the American Capital of Culture and the first to receive this title twice. It is also part of the UNESCO Creative Cities Network in the gastronomy category. This city has a more classical approach to support culture.

The second city studied, Guadalajara (City B), is the third largest city in Mexico (1'385,629 inhabitants in 2021). It is in the west of the country, in the geographical area known as Valle de Atemajac. Guadalajara is considered one of the most important political, economic, social, cultural and tourist centers in Mexico. Guadalajara is also known as "*La Perla Tapati*a", "*La Perla de Occidente*" and "*La Ciudad de las Rosas*". This city has been named the American Capital of Culture in 2005, the World Capital of Sport in 2020 and the World Book Capital by UNESCO in 2022. Within the "Digital Creative City (DCC)" project of the city of Guadalajara (Mexico), IDOM[1] has developed the diagnostic study of the current situation of the Project to define an action plan that guarantees its implementation. To do this, IDOM has made a set of recommendations for the proposed solutions for smart applications and to transform DCC into a smart city (www.idom.com/en/project/digital-creative-city-project/). This city shows a more dynamic approach to support culture.

The focus groups were carried out based on a flexible topic guide. Each of them was composed of 6 people and 8 people. See Table 1 for the description of the two samples of interviewees and on the size of the corpus analyzed. All participants filled a consent form authorizing data collection, recordings, and research intentions.

The guidelines of the focus groups were similar and dealt with the following issues:

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1 IDOM is an independent firm providing Consulting, Engineering and Architecture professional services (www.idom.com/en/about/).

1) **Identification of essential culture contents.**
   A first appraisal without references to the UNESCO creative fields. Collective exchange to guarantee a consensual classification. Second appraisal with references to the UNESCO creative fields. Requests for definition of what are the type of cultural offers that refers to the seven fields, asked by alphabetical order (Craft and folk art, Design, Film, Literature, Gastronomy, Media Arts, and Music). Then, questions about which ones are priority ones for them.

2) **Understanding of citizens' major requests and suggestions about how to use digital to promote these creative fields, and for what purposes.**
   Choice of the cultural fields they consider relevant. Then, considering one-by-one each creative field, a collective discussion was proposed to focus successively on potentials of improving accessibility, daily inclusivity, transmission, and creativity support thanks to incorporating smartness.
   a. *Do they want it to be more accessible?* (*i.e.,* have information about schedules, prices, itineraries, logistic details etc.)
   b. *Do they want it to be more anchored in their daily life?* (*i.e.,* descriptions to understand how their local history is embedded in their current customs and traditions?)
   c. *Do they want it to be explicated to foreigners?* (*i.e.,* have printed and online appliances about daily customs)
   d. *Do they want it to be increased and promoted thanks to today creativity acts?* (*i.e.,* have technical and social support to develop new styles and art genres)

Main Learnings

Elements such as the traditions and customs inherited from a certain community or region, including behaviors, attitudes, representations and even the way of speaking, are a constant in the concept of culture that the participants in this study expressed. In addition, expressions such as gastronomy, crafts, dance, language, and typical clothing were spontaneously mentioned as part of the cultural identity of a country or region. For the participants, the culture of the country was defined as that which gives identity.

As for the creative fields considered by UNESCO, there were differences between the two cities studied, for example, in the city of Mérida greater importance was given to gastronomy and heritage, while in Guadalajara, music, art crafts and heritage appeared as more meaningful for participants to describe their proper culture. Although both cities have a wide cultural offer, in the case of Guadalajara, more international events were identified, such as the International Book Fair, the International Film Festival, it was even mentioned that Guadalajara had been named World Book Capital, in addition to having cultural forums considered relevant by the participants such as the Cineteca, the Hospicio Cabañas and neighboring municipalities that stand out for the elaboration of handicrafts such as Tlaquepaque and Tonalá. In the case of Mérida, a wider range of cultural activities was identified at the municipal and state levels, for example "*Mérida in Sunday*", which are carried out in public venues such as: *La Plaza Grande, El Paseo Montejo, La Casa de las Artesanias,* as well as in libraries and museums.

Regarding the digital aspect, in both cities the term digital was associated with the use of technology and electronic media in different fields, making direct reference to the internet and the use of QR codes.

For the participants, both, from the city of Mérida and from Guadalajara, there was a relationship between culture and digital, since they identify that the digitalization of culture is increasingly frequent. It was mentioned, for example, that museums use digital technology more frequently, offering, for example, immersive experiences. In Mérida it was mentioned that they have *El Palacio de la Música* (The Palace of Music), which is an interactive museum that has several virtual pavilions in which it presents the history of music from all over the country and *The Meteorite Museum* which has several rooms in which virtual and augmented reality technology is used so that visitors live a sensorial experience.

Digitization was considered to have clearly broken into culture and various artistic expressions because of the pandemic. Likewise, they believe that digital media has made Culture more interactive, making it more attractive to the youngest, as they are a more digital generation.   It was also recognized that the digital represents a way of safeguarding and preserving cultural aspects, something that makes its intervention in culture highly valuable. It was even expressed by participants from Mérida that digital was one of the best allies of culture since there are cultures that were dying and traditions that were being forgotten, alluding to the Mayan culture of the region.

However, the main connection identified between culture and the digital was the accessibility that technology provides to culture, that is, digital tools make it easier for people to approach culture and give them the possibility of having a greater scope, as is the case, for example, with virtual tours of emblematic places or exhibitions in museums. It was even mentioned that the accessibility that digitization allowed was also in economic terms. Another relevant aspect related to accessibility was the dissemination of cultural events, since the use of social networks is specifically referred to as a showcase for culture, in which people can find out about exhibitions, gastronomic fairs and bazaars, among other activities.

Regarding how culture could be made more accessible and present in everyday life, using digital technology, the participants identified various paths, where they made the least proposals in the fields of music and design. The main suggestions and recommendations for the use of digital technology to improve the experience of tourists and citizens with the seven creative subfields can be encompassed in the use of three main tools:

1. **Access to QR codes in key points of the cities**, in which by scanning them direct information can be obtained on the cultural relevance of those places for the city, including descriptions of venues, relevant events, even information on events can be offered related or other places to visit, making available to the visitor a directory of cultural and business places such as craft shops, galleries and traditional food restaurants.
2. **Mobile applications**, which are like a guide for tourists, where reference is made to representative places of the city and its cultural offer, including maps for their location and routes of how to get there. It is identified that the youngest participants value the fact that a mobile application is used because they define the cell phone as an extension of the person and a tool that allows them to have access to information and s used to get to places.
3. **Web pages**. In the case of the Guadalajara group, they made reference to the Antiturista website (www,antiturista.com) from which guides can be downloaded to learn about the cultural offer of the city: This type of proposal also has a presence on social networks, basically Instagram, on these networks information is shared about : weekly agendas of activities, lodging, restaurants, cafes, snacks, etc. Videos of the spaces referred to are also frequently shared.

To synthesize, few ideas were detected as to how digital could allow for more creative activities and being more creative in general. This topic was more complicated for adults, some young people mentioned the possibility of having access to online courses that would allow them to acquire knowledge and tools to be more creative. The existence of applications that are useful tools for music design and creation was also mentioned. These apps are perceived as intuitive and boost the creativity of their users. It was also mentioned that through the internet there is access to books, images and ideas that are inspiration for creation.

Conclusion and Discussion

The managerial implications and the theoretical contributions of the research will be discussed during the presentation.

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Exhibit 1- Sample Description

	City A: Mérida (Yucatán)	**City B: Guadalajara** (Jalisco)
Number of participants	7 participants 4 men and 3 women	8 participants 4 men and 4 women
Age	Between 18 and 55 years	Between 18 and 55 years
Socio-economic level	NSE C-, C, C+	NSE C-, C, C+
Special remarks	One of the participants was a cultural promoter	One of the participants was an employee from the University of Guadalajara

City A: Mérida					
Participant	**Gender**	**Age**	**Marital Status**	**Socioeconomic Status (SES)**	**Occupation**
1	W	25	Single	C+	Editor
2	W	43	Married	C	Cosmetologist
3	W	29	Married		Cultural Agent
4	M	44	Single	C+	City Hall Academy Teacher
5	M	27	Single	C	Engineer in the automotive sector
6	M	31	Married	C	Restaurant Manager
7	M	35	Single	C	eCommerce
City B: Guadalajara					
Participant	**Gender**	**Age**	**Marital Status**	**Socioeconomic Status (SES)**	**Occupation**
1	W	42	Single	C	Producer of Cultural events in the University of Guadalajara
2	W	44	Married	C-	Housewife
3	W	19	Single	C	Industrial Design Student
4	W	31	Single	C+	Administrative Employee
5	M	48	Married	C+	Sales Agent
6	M	21	Single	C-	Accounting student
7	M	51	Married	C-	Sales consultant
8	M	22	Single	C	Animation Student