

## CULTURAL TOURISM IMPACT ON SUSTAINABLE DEVELOPMENT IN TUNISIA

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### **Abstract**

In a gloomy context dominated by economic, political and social crises, tourism in Tunisia badly requires restructuring or even reform. Given the precariousness of seaside tourism, this sector has to draw its resources from other more attractive and diversified factors. This problematic context urged our attempts to apprehend cultural tourism from a Probit model that implements a few variables in direct and indirect relation with an alternative tourism based on heritage, cultural experience, nationality and number of overnight stays.

Using individual data from a sample of 1500 customers who visited Tunisia during the summer holidays of 2015, we tried to interpret the seemingly very suggestive results. These findings show that culture, heritage, cultural experience, nationality and number of overnight stays during a previous experience may form a full system that could promote cultural tourism as well as support sustainable development in Tunisia.

**Key words:** Cultural tourism, cultural experience, heritage, sustainable development, economic crisis, Probit model.

**Classification JEL** : C13, E03.

### **IMPACT DU TOURISME CULTUREL SUR LE DÉVELOPPEMENT DURABLE EN TUNISIE**

#### **Resumé**

Dans un contexte morose dominé par des crises économiques, politiques et sociales, le tourisme en Tunisie a grandement besoin de restructurations voire de réformes. Compte tenu de la précarité du tourisme balnéaire, ce secteur doit puiser ses ressources dans d'autres facteurs plus attractifs et diversifiés. Ce contexte problématique a poussé nos tentatives d'appréhender le tourisme culturel à partir d'un modèle Probit qui met en œuvre quelques variables en relation directe et indirecte avec un tourisme alternatif basé sur le patrimoine, l'expérience culturelle, la nationalité et le nombre de nuitées.

En utilisant les données individuelles d'un échantillon de 1500 clients qui ont visité la Tunisie pendant les vacances d'été de 2015, nous avons essayé d'interpréter les résultats apparemment très évocateurs. Ces résultats montrent que la culture, le patrimoine, l'expérience culturelle, la nationalité et le nombre de nuitées lors d'une expérience précédente peuvent former un système complet qui pourrait promouvoir le tourisme culturel ainsi que soutenir le développement durable en Tunisie.

**Mots clés:** Tourisme culturel, expérience culturelle, patrimoine, développement durable, crise économique, modèle Probit.

**Classification JEL:** C13. E03.

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## 1. Introduction

Despite its instability and fragility, tourism is considered as one of the fundamental drivers of economic and social development in Tunisia. This sector contributes with 7% of the GDP, generates 380,000 direct and indirect jobs and covers 56% of the country's trade deficit, according to the Tourism Real Estate Agency (TREA) 2018.

However, the Tunisian tourism sector is known to be intrinsically seaside as it relies mainly on conventional products: Sun, Sea and Beach. Such predilection continues to emphasize the precariousness of this sector which is urged now more than ever to vary its tourist and cultural products. Despite its undeniable potential for the promotion and diversification of tourist products, cultural tourism suffers from some kind marginalization in terms of adopted policies as well as scientific research.

In addition to its sectoral importance, this type of tourism is a decisive factor that could play the role of a springboard for sustainable development. Actually, Hughes (1998) highlighted the advent of a cultural tourism closely linked to the notion of sustainable development. Culture, therefore, can be of strategic importance in the promotion of the tourism sector.

Although cultural heritage has always been closely tied to social, economic and political influences, it represents a fundamental element in ensuring an alternative tourism development. Bourdieu (1986), a fervent supporter of this trend, highlights that the development of a tourism activity is an excellent vector for discovering and promoting culture and heritage. It is undeniable that the cultural experience should be conceived as a tool for cultural development as customers are tempted to live exotic experiences in culturally different spatial settings from those of their countries of origin.

Economically speaking, it should be noted that cultural customers may contribute to an added value within the Tunisian tourism sector. Faist (2013) argues that cultural

clients are more willing to spend because they generally come from average or higher-income social groups<sup>1</sup>. In addition, the increase in the number of nights spent by this category of customers can only promote cultural tourism both quantitatively and qualitatively.

As already mentioned, Tunisia is a tourist destination famous for its coastline and beaches. However, these resources, subject of various strategies over time, continue to face increasing competition with other more attractive seaside destinations like Egypt and Morocco among others. This already delicate situation has grown serious after the economic crisis, political uncertainty and security during the post revolution period. This worsening was exacerbated by the degradation of equipment and infrastructure making it crucial, now, to re-examine Tunisia's products and target markets. This research study was, therefore, motivated by such a problematic situation and tried to examine the factors that may enable the authorities to overcome the shortcomings of this sector and develop a cultural type of tourism in order to surmount the country's difficult economic situation.

Our study focused on the key factors of cultural tourism while highlighting its undeniable impact on sustainable development. Indeed, promoting an alternative tourism is to encourage original new creativity modes that have become unavoidable in the sustainable development strategies of several countries. It should be emphasized that the creation of cultural and exotic experiences as well as the exploitation of the country's specific heritage springs from the public authorities desire to develop productive resources in the targeted regions.

Thus, this study would check the hypothesis whether culture, heritage, cultural experience, nationality and number of nights could form a complete system to promote cultural tourism and support sustainable development. It is worth reminding

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<sup>1</sup> Tunisian tourism is going through a delicate situation because of the seaside tourism crisis and the difficult emergence of an alternative tourism that targets more the cultural tourist.

that we were inspired by Butler's (1999) study which investigated the impact of cultural strategies on cultural tourism and sustainable development using a life cycle model that traces the hypothetical evolution of a destination through time. In fact, such strategies as resistance, withdrawal, border maintenance and adoption have a remarkable impact on cultural tourism. As for our approach, it consists in examining the impact of culture, heritage, nationality and number of nights spent on cultural tourism while implementing a Probit model that was first introduced by Bliss (1934).

In order to study this relationship between cultural tourism and sustainable development, the remaining of this paper was structured as follows: The second section was devoted to the review of the literature and the definition of the basic concepts that were implemented. The third section, however, highlighted the empirical analysis while presenting the adopted model as well as the cultural tourism indicators (culture, heritage, nationality and number of night spent). The final section of this work was dedicated to the conclusions that can be drawn reflecting on the intrinsic relationship between cultural tourism and sustainable development.

## **2. Literature Review and definition of basic concepts**

Before focusing on the different mutations of tourist products and the different theories of tourist motivation in relation to destination, we have to remind the reader of the undeniable importance of tourism in terms of economic growth. Indeed, the recognition of tourism as a potential tool for economic growth has been formalized on the international stage by the United Nations Declaration on the Millennium Development Goals in 2000, as well as by holding of the World Summit on Development (Johannesburg, 2002). This role has become an integral part of the development strategies implementation program.

In this perspective, MacCannell (1984) points out that tourism reached an important place as an economic growth generator at the end of the twentieth century. In addition, Gössling et al., (2008) state that tourism, thanks to its transversal nature and structuring capacity of territories tourism is one of the sectors that best allows the

implementation of the economic growth approach in coherence with other spatial planning policies, infrastructure or social responsibility while ensuring its long-term development. It is for these reasons that Richards (2011) postulates that tourism contributes to growth from a different and more global approach. Indeed, it is not an isolated segment; it must be conceived as a mechanism for economic growth applicable to all types of tourist activities, acting on the behavior of consumers and producers in the sector, and assuming their evolution, motivated by a culture of change.

During the 1990s, tourism became a highly specialized sector. Following the various socio-economic changes that have affected the world in general and the way of life in particular, we are witnessing the use of various more specialized tourist products such as ecotourism, cultural tourism, sports tourism, health tourism and adventure tourism. Despite these changes, the tourism relative industry and the derived services have not adequately followed the diversity of tourism demand. Also, most research has shown that customers are increasingly diverse in tourism behaviors, needs, wants and expectations.

As suggested in the literature, nothing is arbitrary in tourism since it focused on promoting the destination, requires well thought out strategies and fairly lucid and pragmatic choices. From now on, the new tourist approaches have to be linked to the existing lifestyle and to the different specificities (demographic, psychological, cultural ...) of the various customers targeted by the attraction and marketing strategies of the demographic destinations. From this viewpoint, tourism poles can also serve as vehicles through which holidaymakers seek to satisfy their lifestyle needs (See Mavragani and Lymperpouos, 2013).

That tourism offers individuals the opportunity to meet a variety of psychological needs is not new. Since the 1970s, researchers began to gather a body of knowledge that unveils the link between tourist behavior and the psychological needs of potential customers. For instance, Barbieri and Sotomayor (2013) proved that vacations offer

individuals the opportunity to meet their needs. Similarly, Brochado et al. (2018) stated that customers are motivated by such characteristics as sport, sex, education and income.

Olson and Dover (1979) defined the customers' behaviour as an evaluation of a specific product or service. This means that a positive or negative evaluation would depend on the customers' notion of satisfaction.

This primacy of the evaluation of the destination has grown tremendously with the development of new communication technologies and social networks. These have enabled the world to notice different types of evaluation - which are mostly pejorative as they depend on the customers satisfaction - spread fast through the social media

Within this trend of thoughts, Lee et al. (2017) report that various analytical methods confirmed that online tourism information are related to offline visits, revealing some photo-sharing behavior after the tour. Thus, promotional strategies must take into account the customers' different reactions, displayed on networks and online pages after their journeys in order to determine their appreciations, their behavior and their psychology deep structures. This would give a clear idea about their motivations.

Motivations are critically important for service quality and customer satisfaction, according to Boulding's (1993) work on dissatisfaction. Indeed, this author proposed that customers form a normative motivation for future events regarding what is appropriate or deserved (see Greg and Ark, 2013). Motivation provides a tool to measure the customer's satisfaction. According to Mill and Morrison (1985), motivation arises whenever an individual wishes to satisfy a need.

From the tourist perception, the fact that it is defined as a pressure concept, the motivation factor is important (See Neuhofer et al., 2014). As for Eduardo and Tadeo (2018), they state that Public Diplomacy (PD) aims to attract a foreign audience through art, transmission of knowledge, media, language and foreign aid.

Several researchers noted that customers have various motivations and that people can have different reasons for choosing either national or international holidays. Fadda and Sorensen's (2017), for instance, state that each destination offers a variety of products and services to attract visitors in such a way that each tourist has the opportunity to choose among a set of various destinations.

Since motivation is a dynamic concept, it can vary from one person to another, from a market segment to another, and from one place to another as a decision-making process for the next visit (See Richards, 2011). It is not surprising, therefore, that the concept of motivation is considered as a tourist market segmentation element in many empirical surveys, as mentioned by Crompton (1990). Thus, Dimelli (2017) postulates that economic, social and environmental changes are directly or indirectly related to the rapid growth of tourism and to the country long-run sustainability.

Different factors such as age, income, personality, cost, distance, risk and motivation, may influence the choice of a destination. The literature on Tourism highlights the importance of the push or pull factors when developing the tourists' motivations and choosing the holiday destinations (See Crompton, 1990). The 'push' factors refer to the traveller's intangible and intrinsic desires like escapism, rest and relaxation, adventure, health or prestige.

Fadda (2017) focuses sports in order to assess their ability to attract tourists to seaside destinations and strengthen economic development and tourism potential. He deduced that the customer motivation is determined by "push" and "pull" motives.

A push model is a socio-psychological pattern that has always been implemented. From this point of view, one can elicit that consumers are "pushed" by their emotional needs to use a certain service or product during their visits. Thus, the emotional needs are relevant when it comes to seeking pleasure and choosing behaviour (See Goossens, 2000). The literature on the consumer's behaviour underlines that motivations might be interrelated as stated by Goodall (1988). People may travel to meet their physiological needs. For example Felice (2018) postulates that one of the most

successful elements of the Japanese government is the soft power of food (washoku, traditional Japanese cuisine), climate and health or psychological (adventures and relaxation).

The "pull" factors, however, are essentially related to the attractiveness and tangible features of a given destination such as beaches, accommodation, recreational facilities and cultural and historical resources (Uysal et al., 1990). Mavragani (2015) argues that heritage has a significant effect on economic and cultural development.

Consequently, the evaluations of the corresponding tourist attributes as well as their usefulness could become crucial criteria in the final choice and ranking of a major destination. Towner and Milne (2017) insist on the fact that several attempts have been made to classify the major elements of a destination. Among these elements, we can cite the climate, ecology, culture, architecture, hospitality, transportation and recreation among others. The basic attributes of a destination are numerous and differ from one place to another (See Mura and Tovakali, 2015). Privileged sets and destination attributes can be adapted to specific customers' psychological profiles. As an illustration, we can take Hakonsson's et al. (1993) example citing a resting-exhaust group that prefers destinations offering a night life, entertainment, water sports, golf, tennis, fishing, shopping, and sports games. Similarly, there are destinations that offer varied multi-products. Customers could visit a destination during the summer just to relax, but others visit the same destination in the winter to seek adventure (See Wolfram and Burnill-Mair, 2012).

For the research on Tunisia, there are some studies that have investigated tourism by applying economic, sociological and management approaches. Zaiane (2004), for example, states that tourism and recreation have become a mass phenomenon, accessible to all, in varying degrees. The studies of Kassah (2008), Bourgou (2005) and Mzabi (1993) focused on the growth of seaside resorts. To illustrate our point, we can cite the case of Bizerte port, north-east of Tunisia, which offers a relevant example of a coast which has been the subject of major urban and port development



works since the end of the 19th century. The improvements on the site have resulted in a noticeable change in the coastal dynamics (See Bourgou, 2005). Mzabi (1993) also reviews some aspects of regional and local developments in Tunisia. In addition, according to Kassah (2008), the development of the Djerba tourist resort has had a remarkable influence on demographic plans and urban and social structures. This destination (Djerba) has become a symbolic setting conducive to dreams as suggested by the famous paraphrase of the "Isle of Dreams".

After this review of the literature on destination and motivation, it seems essential to focus on the notion of culture that is at the heart of our problem and hypothesis.

Culture is a multipurpose concept which involves the values, morals, symbols, physical manifestations and behaviors governed by a particular worldview. In this context, Gullestrup (2006) considered culture in a clear process of values and worldviews that govern any society. This process includes observable habits and rituals determining social hierarchies, physical manifestations including items such as art, architecture, and craft. According to Bourdieu (1986), customers need to perceive the cultural aspects of a community in order to understand why these events create the cultural phenomenon.

Consequently, according to many critics from De Kadt (1979) to Urry (1987), cultural tourism is part of the anthropological tourism. Reisinger (2011) suggests that it should be noted that a genuine cultural tourist should recognize the culture own differences and acts as an anthropologist who establishes a network of meanings not restricted to the eccentric differences which purpose is just a superficial entertainment.

In our empirical study, we opted for the Probit model, applied to individual data, which makes it possible to concretize the forecast. The use of surveys with a large number of items, as representatives of a number of variables (hypotheses), requires the reduction (factorization) in a small number of factors retrieving the maximum amount of information from these variables. The most used factorization method in this type of data is the Principal Component Analysis (PCA).

Among the most well-known studies, we can mention those of Berkson (1951) who referred mainly to the simple dichotomous Probit model. Further, the first applications were mainly conducted in the field of biology, sociology and psychology. It was not until the 1970s that this model was used to study economic data, especially relating to the tourism sector, after the publications of MacFadden (1974) and Heckman (1976). It was found that the application of econometric techniques specific to qualitative variables on economic issues has largely contributed to improving the interpretation of simple models.

This theoretical background focused on the different basic concepts that fall within the field of investigation devoted to cultural tourism. The different definitions are essentially based on the literature related to this issue. First of all, it is worth reminding that cultural tourism, which currently represents one of the most important markets in the world, is experiencing remarkable growth. The related cultural and creative sectors are increasingly being boosted to promote destinations and increase their competitiveness and attractiveness.

## **2.1. Culture**

Culture is a versatile notion that encompasses values, morals, symbols, physical manifestations, and collective behavior governed by a particular worldview. In this context, Richards (2001) transcribes culture in a manifest process of values and worldview that governs any society. The process includes observable habits and rituals determining social hierarchies, physical manifestations including objects such as art, architecture, and crafts. Ritzer (1999) believes that culture has become an essential element of a tourist system or what is known as "cultural tourism". This type is frequently cited as one of the largest segments of the world's fastest-growing tourism types according to the World Trade Organization (2004). The image of a city or region is based on both physical assets and a series of experiences built around these assets that typically extend to the "culture of life" and the atmosphere of places, Wilson (2005). Culture is seen as a product of individual or group activities to which

certain meanings are fixed. In general, both meanings of culture are closely intertwined. Needless to say that, just like in any other consumption area, tourism involves a constant search for new experiences and stimulation sources that distinguish particular social groups.

## **2.2. The cultural experience**

Cultural tourism can offer authentic emotional and spiritual experiences as forwarded by McIntosh and Prentice (1999). From the consumer's point of view, however, "experiential cultural tourism offers consumers firsthand experience to access secondary information and supply chains conceived to meet the immediate needs of life" Hughes (1998). Generally speaking, experiential tourism is non-participatory, involving observing and imagining any place. Neither is it necessarily exotic: it can also be offered to a domestic market. Authenticity often implies an anti-urban attitude, which means that cities have to find other ways through which they can express it.

## **2.3. Heritage**

Heritage is closely tied if not dependent on social, economic and political influences. Valière (2005) for example who, in his study of finely chosen sites, shows that heritage results from a construct, integrating in particular the weight of the past and the environment. It is therefore important to look for any form of insight or spirituality in this heritage. This inevitably leads us to Witcomb's (1997) discourse on heritage. He argues that this discourse has to question the "why" as much as the "how". As for Bourdieu (1986), heritage is considered as a possible option only for "leisure activities". Indeed, this discourse today integrates the debates on "the possible uses and the usable possibilities", as Bourdieu himself stated. The change in the role of heritage has to continue in a new millennium characterized by a harsh competition that has emerged over the last twenty years and which currently faces a rather precarious situation.

## **2.4. Cultural tourism**

Culture and heritage, the cornerstones of cultural tourism, have been conveyed to promote positive images (Richards, 2011). However, even the majority of local citizens can diverge from the desired image to represent a national identity and consolidate an inner meaning. Reisinger (1999), for instance, emphasized that the use of history has been central to most studies on cultural tourism. Heritage has often been seen as beneficial since it can, for example, support, "a heritage for future generations", McIntosh and Prentice (1999). Palmer (1999) considers cultural tourism an essential pillar of the economy and tourism itself. It is the motivation for a large and growing scientific output, Hughes (1998). Cultural products can be formally constructed by tourism providers (eg festivals, heritage centers, guided walks) or they may be implicit in other places (eg markets, cafés and pubs). Thus, the experience can be both immediate (walking around a market) or through a mediation (through a tour guide). Reisinger (1994), for instance, points out that a true cultural tourist recognizes his own differences and behaves as an anthropologist who is able to fancy a network of meanings without being confined to eccentric, superficially entertaining differences. He implicitly supports a deeper and more complex interest in culture. Cultural tourism is based on cultural events without excluding the natural and economic resources of the population. Culture refers to habits, behavior, rituals and customs. Taking into account the promotion of a cultural tourism, for whatever reason, the evident starting point is to have cultural resources that are potentially attractive to customers. We can cite the examples of Hughes (1998) who found out that market fragmentation is generally attributed to factors such as increased income and leisure and the change in the needs to be satisfied. Another advantage is that the culture - tourism relationship is widely regarded as mutually beneficial. For example, 'cultural customers' have themselves been considered a distinguished category.

In the same context, Reisinger (1994) states that cultural customers are often qualified in terms that suggest superiority over other types. According to McIntosh and Prentice (1999), people have prevented themselves from various cumulative forms of

"authentic" experiences that have prevailed in the past and are increasingly dependent on individualized experiences for sustainable development in the past life.

The recognition of cultural tourism as a potential tool for sustainable development has been formalized on the international stage by the United Nations Declaration on the Millennium Development Goals in 2000 and the Johannesburg World Summit on Sustainable Development (2002). This role has become an integral part of the implementation program.

MacCannell (1984) points out that cultural tourism plays a vital role in sustainable development at the end of the 20th century. In fact, because of both of its transversal nature and structuring abilities for territories, Gössling et al. (2008) believe that this type of tourism is one of the sectors that best allows the implementation of a sustainable development approach in coherence with other spatial planning policies, infrastructure or social responsibility while ensuring its long-term development, as well. It is for these reasons that Richards (2011) forwards that this tourism contributes to development from a different and more global perspective. It is not an isolated segment; it must be rather conceived as a sustainable development mechanism applicable to all types of tourist activities, acting on the behavior of consumers and producers in the sector and assuming their evolution, motivated by a culture of change.

In our empirical study, we opted for the Probit model, generally applied to individual data, which should enable us to validate our empirical findings. Among the most well-known works, we can cite those of Berkson (1951) who referred mainly to the simple dichotomous model Probit. The first applications were mainly conducted in the fields of biology, sociology and psychology. It was not until the 1970s that this model was used to study economic data, especially relating to the tourism sector, as illustrated by the works of Mac Fadden (1974) and Heckman (1976). Consequently, the application of econometric techniques specific to qualitative variables on economic issues has largely contributed to improve the interpretation of simple models.

### **3. Empirical analysis**

The main objective of this empirical section was to highlight the role of culture and heritage in promoting cultural tourism and, consequently, in sustainable development. It also took into account the customers' nationalities and the number of corresponding overnight stays. To this end, we relied on a three-step process. The first was to briefly present the chosen model, the variables and the estimation methods. The second step consisted in exposing and interpreting the different factorization results. In the final step, we attempted to empirically test the factors that influenced cultural tourism.

### 3.1. Data and variables

The data analyzed in this study were based on information provided by a survey that used 6 variables (1 endogenous and 5 exogenous) and involved 1500 customers during the 2015 summer holidays, which allowed us to get a sample of individual data.

It is worth noting that the variable to explain in our model is 'cultural tourism' (Y). It is a Boolean variable that takes the value "1" if the customer is interested in cultural tourism and "0" otherwise.

In addition, we chose 5 explanatory variables defined as follows:

Culture ( $X_1$ ): It includes all the social practices, arts and intellectual activities. We have tried to know the influence degree of this variable on the probability for a customer to be interested in cultural tourism.  $X_1$  is a Boolean variable, too, which is assigned the value 1 if the customer is interested in culture and 0 otherwise.

The cultural experience ( $X_2$ ): Some customers choose to extend their stay in Tunisia because they are motivated by many cultural experiences. We have, then, chosen four items representing the cultural experience to know whether these indicators affect the probability of an interested client in cultural tourism. These four items are as follows:

- Gastronomy ( $X_{21}$ ): It was chosen as one of the cultural heritage factors mainly because many customers are interested in the Tunisian cuisine considered as one of the finest in North Africa.

- The Sahara ( $X_{22}$ ): This variable stands for the feeling of escape, of being alone and calm at the foot of sand dunes which is a true desert experience for a customer.
- Relaxation ( $X_{23}$ ): A feeling of calm and conviviality frees the customers from stress.
- Festivals ( $X_{24}$ ): it represents a feeling of harmony among strangers in a festival.

Heritage ( $X_3$ ): It is the cornerstone of local, regional and national identity (monuments, historical sites ...). Many customers choose to spend their holidays in a certain city if they really would like to take advantage of the existing heritage. So, we tried to know if this variable affects the probability of a customer to be interested in cultural tourism.  $X_3$  is a Boolean variable assigned 1 if the customer is interested in heritage and 0 otherwise.

Nationality ( $X_4$ ): Through this variable, we tried to discover if customers from Arab countries are the least interested by the cultural tourism in Tunisia compared to Europeans.  $X_4$  is a Boolean variable equal to 0 if the customer is Arab and 1 otherwise.

The number of overnight stays ( $X_5$ ): We tried to find out whether the number of nights remains a major factor for cultural tourism and the degree of influence of this variable on the probability of a customer to be interested in cultural tourism.  $X_5$  is the percentage of overnight stays of each nationality in relation to the total number of nights during the summer holidays of 2015.

Methodologically, in order to study the effects and interactions between the different explanatory variables ( $X_j$ ,  $j=1, \dots, 5$ ) and cultural tourism ( $Y$ ), we opted for the quadratic estimation model founded by Carl Friedrich Gauss (1801) and developed by Cayley and Sylvester (1859). This model is written in the following form:

$$Y_i = \beta_0 + \sum_{j=1}^5 \beta_j \cdot X_{ji} + \sum_{j=1}^5 \sum_{k=1}^5 \delta_{jk} \cdot X_{ji} \cdot X_{ki} + u_i$$

(1)

where  $u_i$  is an error term verifying the different properties of a white noise:  $u_i \rightarrow N(0; \sigma_u^2)$  and  $i$  an indicator of the individual. This form verifies the hypothesis of the coefficients symmetry, namely:

$$\delta_{jk} = \delta_{kj} \quad (2)$$

Equation (1) form allows identifying the marginal effects of the different explanatory variables on the "cultural tourism" variable by differentiating Y with respect to each variable  $X_j$  as follows:

$$\frac{\partial Y_i}{\partial X_j} = \beta_j + 2 \cdot \sum_{k=1}^5 \delta_{jk} \cdot X_{ki} \quad (3)$$

Generally, the use of surveys with a large number of items (hypotheses) requires reducing the number of variables through factorization retrieving the maximum of information from these variables. The most widely used factorization method in this type of data is the Principal Component Analysis (PCA). In addition, the Probit modeling admits the event occurrence probability conditioned by the exogenous variables for the explained variable. It consists in seeking the most adequate among the found factors that can better explain cultural tourism in Tunisia. In addition, the Probit estimates enable us to deduce the marginal effects of each variable. These marginal effects assign proportions to each explanatory variable representing its influence on whether a customer is interested in cultural tourism.

### 3.2. Factorization results and interpretations

Factor analysis deals essentially with the concept of cultural experience ( $X_2$ ). In fact, this variable consists of four sub-variables (Gastronomy, Sahara, Relaxation, Festivals). The principal component analysis (PCA) was applied to factorize the above four variables using the VARIMAX rotation. It is important to check the reliability and validity of these items using Cronbach's alpha to measure the internal consistency



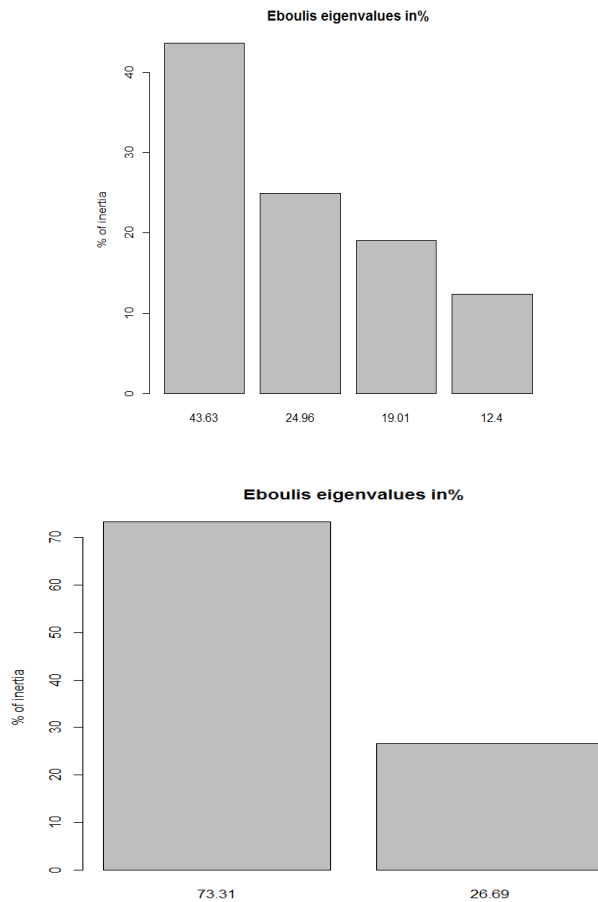
of each factor on the variables and the Kaiser-Meyer-Olkin (KMO) index to test the relevance of the CPA. The different factorization results are displayed in Table 1.

**Table 1. The matrix components after rotation**

Désignations	Première Factorisation			Deuxième Factorisation
	F11	F12	F13	F21
X <sub>21</sub> = Gastronomie	0.025	0.046	0.997	-
X <sub>22</sub> = Sahara	0.747	0.387	0.102	0.856
X <sub>23</sub> = Relaxe	0.156	0.965	0.042	-
X <sub>24</sub> = Festivals	0.915	0.006	-0.035	0.856
Alpha de Cronbach	<b>0.541</b>			<b>0.833</b>
Mesure de précision de KMO	<b>0.598</b>			0.756
% de la variance	<b>43.632</b>	<b>24.964</b>	<b>19.008</b>	<b>73.313</b>

From the above table, we can first identify a strong independence between the four chosen sub-variables. Indeed, the first factorization generated three totally independent factors and resulted in an average reliability coefficient of the order of **0.541** and a low validity evaluated at KMO = **0.598**.

The first factor **F11**, which represents **43.63%** of the global information, enjoys a strong contribution from both of the Sahara and Festivals variables, while the second factor **F12**, which accounts for **24.96%** of the information, presents the contribution of the Relaxation variable. The third factor **F13** is conditioned by the variable gastronomy and represents only **19%** of the global information.

**Figure 1. First and second factorization proper values evolution**

These results show the near unidimensionality of the chosen variables. Therefore, we performed a second factorization on **the Sahara** and **Festivals** variables. This factorization generated a high reliability coefficient of the order of **0.83** and a good validity evaluated at **0.73**. This factorization made it possible to extract a common factor, denoted **pc1r**, which represents **73.31%** of the total information. These results suggested to perform five different simulations for the different representatives of the cultural experience (**X<sub>21</sub>**, **X<sub>22</sub>**, **X<sub>23</sub>**, **X<sub>24</sub>**, **pc1r**).

### 3.3. Empirical test of the factors affecting cultural tourism

Having factorized the second variable, we studied, in this subsection, the impact of the five cultural experience predefined variables on cultural tourism. Since 'cultural

tourism' is a binary variable, we applied the Probit estimate while taking into account the problem of individual heteroskedasticity using a robust control using Stata 15.0. Table 2 displays the achieved results.

Thus, we have chosen the approach of interpreting the main coefficients of the five equations of cultural experience ( $X_{21}$ ,  $X_{22}$ ,  $X_{23}$ ,  $X_{24}$ ,  $pc_1r$ ) estimated by the Probit model. Several findings and interpretations can be drawn from Table 2. The main results are presented as follows:

Firstly, for the five predefined estimates, the Wald statistic is largely significant and superior to the 95% quintile of the 16-degree chi-square law (i.e., 26.30). From this test, we can deduce that there is a global causality presumption at the 5% threshold. In addition, the p-value (0.000) is less than 0.05, which proves that the model is globally significant. Similarly, the LR statistic used to compare a global model to a constant-only model is largely significant at a 5% risk.

Let's consider, now, the first variable measuring the cultural experience  $X_{21}$  (Gastronomy), which estimation results make it possible to draw the following conclusions:

Table 2. PROBIT model estimation results

Variables	X <sub>21</sub> (Gastronomy)		X <sub>22</sub> (Sahara)		X <sub>23</sub> (Relaxation)		X <sub>24</sub> (Festivals)		pc1r (Sahara & Festivals)	
	Coefficient	dy/dx	Coefficient	dy/dx	Coefficient	dy/dx	Coefficient	dy/dx	Coefficient	dy/dx
X <sub>1</sub>	0.97***	<b>0.85</b> ***	0.03***	0.68***	0.82***	0.83***	0.51***	0.79***	0.55***	0.78***
X <sub>21</sub> /X <sub>22</sub> /X <sub>23</sub> /X <sub>24</sub> /pc1r	0.38***	<b>0.48</b> ***	0.95***	<b>0.85</b> ***	0.04***	<b>0.86</b> ***	0.60**	<b>0.17</b> **	0.23**	0.05**
X <sub>3</sub>	0.34	0.09	-0.04	0.01	0.73**	<b>0.13</b> **	-0.85***	0.23***	-0.34***	0.19***
X <sub>4</sub>	-0.01	0.01	-0.04**	<b>0.09</b> **	-0.06***	0.01***	-0.01	0.01	-0.01	0.01
X <sub>5</sub>	0.15	0.03	-0.07	0.01	-0.16	0.03	0.16	0.03	0.10	0.02
X <sub>4</sub> X <sub>2</sub>	0.01*	0.02*	0.01***	0.03***	0.01**	0.02**	0.09***	0.02***	0.09	0.02
X <sub>1</sub> .(X <sub>21</sub> /X <sub>22</sub> /X <sub>23</sub> /X <sub>24</sub> /pc1r)	-0.95***	0.24***	-0.57***	0.14***	-0.76***	0.18***	0.09	0.02	-0.03	0.01
X <sub>1</sub> .X <sub>3</sub>	-0.09	0.02	-0.09	0.02	-0.19	0.04	-0.01	0.02	-0.01	0.01
X <sub>1</sub> .X <sub>4</sub>	-0.01	0.01	0.09***	<b>0.02</b> ***	-0.01	0.01	0.30**	0.31**	0.51***	0.12***
X <sub>1</sub> .X <sub>5</sub>	-0.26*	0.06*	-0.05	0.01	-0.30*	0.07*	-0.34*	0.08*	-0.34*	0.08*
X <sub>3</sub> .(X <sub>21</sub> /X <sub>22</sub> /X <sub>23</sub> /X <sub>24</sub> /pc1r)	-0.21	0.05	-0.43**	0.10**	0.05	0.01	0.30***	0.31***	0.51***	0.12***
X <sub>3</sub> .X <sub>4</sub>	-0.01	0.03	0.02	0.02	0.01	0.02	0.06	0.02	0.06	0.01
X <sub>3</sub> .X <sub>5</sub>	-0.07	0.01	0.09	0.09	0.01	0.03	0.03***	0.05***	0.03**	0.05**

$X_4.(X_{21}/X_{22}/X_{23}/X_{24}/pc1r)$	0.08	0.0 2	-0.01	0.0 2	- 0.04***	- 0.0 1***	0.09**	0.0 2**	0.05*	0.0 1*
$X_4.X_5$	-0.09*	- 0.0 2*	-0.08	0.0 2	-0.01	0.0 2	-0.16	- 0.0 1	0.07***	0.0 1***
$X_5.(X_{21}/X_{22}/X_{23}/X_{24}/pc1r)$	- 0.24***	- 0.0 6*	- 0.45***	- 0.4 2***	- 0.58***	- 0.1 4***	-0.16	- 0.0 3	- 0.06***	- 0.0 1***
Constant	-1.28*	-	- 1.14***	-	- 1.39***	-	- 1.28***	-	- 1.16***	-
Wald Chi2(16)	307.2* **	-	393.28 ***	-	393.28 ***	-	311.84 ***	-	301.04 ***	-
Observation number'	1500	-	1500	-	1500	-	1500	-	1500	-
Probability	0.000	-	0.000	-	0.000	-	0.000	-	0.000	-
Pseudo R2	0.246	-	0.333	-	0.333	-	0.307	-	0.305	-
LR(2)	371.74 ***	-	503.70 ***	-	500.08 ***	-	461.54 ***	-	460.23 ***	-

Source: author's estimation based on the STATA 15.0 software econometric results. Note : \*, \*\* and \*\*\* are significance at 10%, 5% and 1%, respectively.

According to the first equation, we can see that the coefficient of the variable X1 (Culture) is highly significant. This variable marginal effect on cultural tourism is about 0.85. The economic impact of culture is quite considerable and the potential of cultural tourism in Tunisia associated with this variable is of great importance for the government. It also implies the need for a means to formalize the strategic projects of each of the cultural institutions and specific training to help set up these projects in order to specify their development choices and restructure their actions. In this context, Reisinger (1994) implicitly supports a deeper and more complex interest in culture in cultural tourism strategies. To achieve a sustainable development, the promotion of culture may rely on the field of crafts, which allows creating job opportunities and reducing the unemployment rate.

It may also be noted that the variable  $X_{21}$  (Gastronomy) coefficient is highly significant. From its marginal effect, this variable is noted to increase cultural tourism by 0.48. This proves that gastronomy plays a growing and essential role in the

promotion of cultural tourism in Tunisia. Nevertheless, such an important feature could be further developed through increasing micro-financing for small and medium-sized enterprises involved in food production. Bourdieu (1986) stresses the importance of safeguarding the culinary heritage as a cultural tourism strategy. In a development strategy for the promotion of gastronomy, it seems fruitful to encourage active agents in the culinary field. This development should not be restricted to hotels, but extend to other settings such as restaurants in the region and picnics in nature with traditional meals for tourists etc.

Variable  $X_{22}$  (Sahara), the second estimate in Table 2, also reveals a highly significant coefficient. In fact, from its marginal effect, we observe an increase in cultural tourism by 0.85. The Tunisian Sahara has a surprising potential to play the role of a real locomotive of cultural tourism in the country. This implies the need to rehabilitate this natural component through an active participation of the various stakeholders in the tourism sector. McIntosh and Prentice (1999) see that the Sahara is among the attractions that are explicitly developed to provide emotional cultural experiences. We should remind that the Tunisian Sahara is located in interior areas, marginal to economic growth and sustainable development. Thus, tourism centered on the desert landscape would highlight these disadvantaged regions deprived of real industrial areas.

The variable  $X_4$  (nationality) coefficient associated is significantly different from zero and its impact on cultural tourism is about 0.09. Clearly, Europeans can offer added value to cultural tourism in Tunisia in terms of knowledge of the field and interlocutors of the cultural sector. Therefore, suitable innovative strategies aiming to design, manage and market cultural and tourism activities have to be launched. Such tourists are tempted by a permanent quest for exoticism and change of scenery. This quest could be concretized by the Sahara. In fact, Reisinger (1994) insists on a new market based on cultural customers as a cultural tourism strategy since it is becoming more and more fascinating.

Similarly, the coefficient relating to the interaction between culture and nationality ( $X_1.X_4$ ) is noted to be significant and to have a strong and positive influence on the probability of a customer to be interested in cultural tourism. The obtained positive sign is in line with our expectations as we calculate the marginal effect. Admittedly, this marginal effect of  $X_1X_4$  would increase cultural tourism by 0.1. Culture seems to exert a considerable attraction on Europeans. Therefore, innovation-based fostering strategies backed by an exchange of experiences are required to stimulate the sustainable development of cultural tourism and expand opportunities.

According to Goulding (1999), cultural tourism exists only through customers who generally favor culture and enjoy experiences in places that are culturally different from their home countries.

A quick glance at the impact of the variable  $X_{23}$  (Relaxe) reveals that the coefficient of this variable is highly significant and positive since it causes an increase of about 0.86 in cultural tourism. In fact, the calm atmosphere that accompanies relaxation allows destinations to offer visitors a unique and profound experience. This is what justifies the need for creative strategies based on the desire to discover real life rather than just visiting a given destination arbitrarily. We should also bear in mind that tourists who find favorable conditions for their comfort may become potential investors in the region. This may explain the urgent need to review the relationship between tourism and investment with new perspectives to provide the disadvantaged regions with sustainable development. According to Richards (2011), cultural tourism is a new market for sustainable development that reflects modified needs such as relaxation and different tastes.

For variable  $X_3$  (heritage), its effect is found to be highly significant and positive on cultural tourism. This effect is estimated to be around 0.13 reflecting that the heritage - cultural tourism pair is therefore an extremely powerful economic engine. Actually, heritage is an economic and social development vector. Consequently, heritage has to be integrated into sustainable development strategies and the promotion of a cultural

tourism in Tunisia. This tourists' category seeks to discover the cultural heritage of a region and, therefore, the country's native people's way of life. According to Richards (2011), the notion of cultural tourism is applied to a wide range of activities, implicitly covering heritage.

As far as the coefficient of interaction between nationality and relaxation ( $X_4.X_{23}$ ) is concerned, it has a strong and negative influence on the probability of a customer to be interested in cultural tourism. This interaction between nationality and relaxation is observed to unfortunately hinder cultural tourism by 0.01. In fact, the citizens from Arab and European countries are always looking for relaxation which enjoys a more important status than the classical cultural institutions. Strategically, this also implies areas that are based on quality and innovation, two essential values for relaxation. This is in line with Lourdes et al. (1997) who argue that cultural tourism can be simply hedonism or the search for sensual beauty and a consumed atmosphere as a means of relaxation.

The impact of the Festivals variable ( $X_{24}$ ) is represented by the fourth equation of Table 2. The effect of this variable on cultural tourism is highly significant and positive. This is obvious from its marginal effect boosts cultural tourism by 0.17. We, thereby, notice that festivals are long-lasting benefits and support the local economy to develop a cultural tourism with new modes of creativity. It goes without saying that the significant participation of tourism stakeholders in the financing of festivals is necessary by upgrading these festivals in terms of equipment. According to Bourdieu (1986), festivals are distinguished by a certain authenticity in terms of destinations and inhabitants characterization. The promotion of festivals as attractive means for the destination would make it possible to reconsider the infrastructure of a certain destination and improve its services (telecommunication, mass media, transport ...). This highlights, once again, the close relationship between cultural tourism and sustainable development.



The coefficient standing for the interaction variable between nationality and festivals ( $X_4.X_{24}$ ) is significantly different from zero. This is all the more true from the calculation of the marginal effect where we find that the  $X_4.X_{24}$  variable increases cultural tourism by 0.02. Europeans are very interested in festivals. The festivals' appearance and development has responded to real expectations generated by profound social changes. Indeed, the impact of festivals is twofold: On the one hand, festivals have an impact on a city attractiveness, by intervening in the choice of a tourist destination of holidaymakers. On the other hand, they contribute to the tourist animation of the place and can even play a valorization role of heritage. Festivals are an essential part of modern cultural and social life. This is why it is necessary to implement strategies to develop this cultural product using new marketing and advertising technologies to target and sensitize potential tourists.

Finally, if the factorized variable between Sahara and Festivals noted  $pc1r$  was chosen to explain cultural tourism, the fifth estimate of Table 2 would show that the coefficient of interaction between nationality and the number of overnight stays ( $X_4.X_5$ ) strongly and positively influences the probability of a customer to be interested in cultural tourism by about 0.01. An important number of overnight stays means that the Arab and European customers are more and more likely to be interested in cultural tourism and to visit several regions of the country. The large number of customers reveals that the motivation to travel is strong. Thus, customers are more and more able to deprive themselves of holidays to indulge in travelling half of the planet to discover a new aspect of their passion. This increase is an enhancing factor of cultural tourism and sustainable development that require sharing tasks and responsibilities, coordination mechanisms, rules and procedures for tourist establishments. In this framework, Richards (2011) insists that the increase in the number of overnight stays of customers, especially cultural tourists, has been used to promote positive images.

### **3.4. The consequences on sustainable development**

Diversifying the tourism sector can save other sectors so that tourism becomes a real springboard for growth and development. As a major innovation, cultural tourism, relying on the enhancement of the different suggested features such as heritage and cultural experience among others would not be enough to achieve economic viability and profitable growth. These initiatives have to be combined with other aspects summarized in the following points:

- ❖ Development of new facilities;
- ❖ Upgrading facilities and tourism businesses;
- ❖ Improvement of the infrastructures;
- ❖ Protection and enhancement of natural and cultural resources;
- ❖ Consolidation of traditional markets (Crafts);
- ❖ Development of high quality complementary services (eg, tennis, golf, health and fitness facilities);
- ❖ The development of the cultural capital and heritage of the resorts;
- ❖ Accommodation and hotels renewal;
- ❖ The development of niche markets such as sports and conferences;
- ❖ Investments in infrastructure and station facilities;
- ❖ Introduction of housing inspection standards;
- ❖ Investment in new products.

It should be noted that our results depend on the used data. They analyze the factors that may form a complete system for cultural tourism in Tunisia, on the one hand, and the attractiveness and competitiveness of tourist destinations, on the other. To this end, the cultural experience (Sahara, Gastronomy, Festivals and the Relaxation) increases the general attractiveness by the desire to live these first hand experiences and

discover the real life. Heritage, then, contributes to maximizing the attractiveness of destinations as places of visit, residence or investment.

Culture, heritage, cultural experience, nationality and number of overnight stays were presented to enhance the attractiveness of Tunisian tourist destinations by improving their image, social cohesion, supporting the cultural activity, and promoting innovation and creativity.

These factors have played a key role in recent years because of their impact on sustainable development and job creation, especially in regions undergoing economic restructuring. According to this study, the main elements that would enhance economic growth are the encouragement to preserve the country's heritage, the revitalization of culture, the consolidation and / or diversification of tourist experiences, and sensitization to the importance of cultural heritage.

Culture is a ferment of authenticity and distinction in the global tourism market. "Tourism experiences" that connect individuals and visitors to local cultures are therefore very important. In addition, the increase in the number of overnight stays promotes cultural destinations. The most successful regions would be those that successfully and creatively market and commercialize a wide range of cultural resources with a tourist vocation. Such resources are conceived in such a way that they enforce the regional identity instead of dumping it; they rather aim to underline cultural authenticity than achieve a fake one.

For Tunisia, the several creative gatherings, organized every year, are based on cultural animation. Among these, we can mention "the Sahara international festival of Douz", "the ksour festival in Tataouine", "the international festival of oases in Tozeur", "the festival of colors in Tozeur". These are all great cultural and artistic events, rich in music, traditions and colors.

The role of the state and public authorities is to devise suitable strategies and measures to make these cultural attractions fruitful and integrate them into the process of sustainable development of these remote regions. Thus, the different Tunisian regions

would have to be more and more innovative for their development, management and marketing. It is about harnessing this potential to benefit visitors not only in terms of tourism, but also of investment and job creation opportunities for the locals.

#### **4. Conclusion**

Aware of the Tunisian tourism stakes and problems, we have tried, through this study, to propose solutions to improve the economic, cultural and social conditions of the targeted destinations. The main areas of intervention are the infrastructure improvement, heritage preservation and economic development, highlighting the identity and image of the region so as to exploit the tourist potential and achieve a qualitative tourist diversification and improvement. We have also proven the capacity of a cultural tourism to differentiate tourist offers and support culture. In effect, culture, heritage, cultural experience, nationality and number of overnight stays are the main driving forces to set up a cultural tourism in Tunisia. These resources help develop cultural tourism and promote new and innovative products. To attract investment and improve the cultural and tourist offers, it might be essential to involve the private sector. In addition, it is increasingly important to convince the general public of the benefits of tourism development because they are at the heart of the creative cultural tourism experience.

We also believe it is wise to change strategies and adapt to this new context through objective and realistic research studies that would enable the involved people to diagnose existing shortcomings and propose more adequate solutions.

Undoubtedly, sustainable development requires deep structural changes. The effective achievement of its objectives can be successful only if all the actors - private companies, general public, associations, unions and citizens – unite their efforts and work for the same objectives.

However, this study can never be assumed to be limitation free. We can never pretend that the proposed solutions throughout this study will radically solve the obstacles that the tourism sector faces. Objectively, this study, together with the other works in the

literature about the topic, has tried to shed some light on a few factors that are thought relevant. It has also outlined some recommendations for the enhancement of a sustainable development. Ultimately, it might be considered as a preliminary step for a more in-depth study that will enable us to solve the problem of cultural tourism development in the light of the identified factors.

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