GREEN FACTORS FOR SUCCESS OF THE CULTURAL EVENTS IN BULGARIA

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Abstract:
Event industry implies to define a coordinated programme of activities, including the promotion and marketing phase. The event has important economic spill over in the regional economy as the tourism sectors and, as consequence it aggregates and concentrates a number of people in a given place generating significant environmental and social issues. This means that the management of an event, such as the running of a business activity, has large-scale environmental impacts on the environment.
The aim of the paper is to demonstrate that cultural operators and users of cultural products from Varna recognize the implementation of green policies and have environmental awareness for the cultural events. For this purpose, have been conducted a study during the period December 2013 - December 2014. The information secured is based on a survey in the format "face to face". The survey includes 30 questions designed specifically for the purpose of study. The main method of the present study is the nonparametric correlation analysis. For the purposes of our research we focus the non-parametric correlation analysis on the following statements: (1) cultural events stimulate the economic growth of the city / region; (2) green cultural events increase the economic development of the city / region; (3) implementation of ecological certification for the cultural events is necessary; (4) Municipality authority should accept green cultural policy. In addition we use Logit regression analysis to trace the probability of occurrence of interest in green cultural events in Varna, in response to the benefit of environmental certification.

Keywords: green cultural events, event management, environment, ecological certification

1. INTRODUCTION

The economic, social and environmental aspects of the event industry (cultural events, business events, the meeting industry, festivals, sports events, etc) are particularly interesting. The term event industry implies the definition of a coordinated programme of activities, including the promotion and marketing phase. The event has an important economic spill over in areas of the regional economy such as the tourism sector and, as a consequence it aggregates and concentrates a number of people in a given place generating significant environmental and social issues. This means that the management of an event, such as the running of a business activity, has large-scale environmental impacts on the environment. This makes it necessary to manage the so-called 'indirect' environmental aspects, related to the event and its pressure in the area.

Annually, millions of people attend conferences or participate shows, exhibitions and festivals, and the particular features and typology of events means it is difficult to aggregate data to give precise information about this sector worldwide. However, it appears evident that economic measurement alone is not enough to estimate the intangible and real impacts of an event. This means that a focus on direct expenditure benefits alone will produce an incomplete picture while, incorporating environmental and social indicators, it would be possible to have a more complete background. In literature various approaches concerning the social (Hall and Hodges, 1996; Delamere et al, 2001; Wood, 2006; Dickson , 2010; Deery et al 2012;) and economic (Crompton et al, 1994; Dwyer, et al 2000; McHone, 2000; Jones, 2001; Daniels et al, 2003; Lee and Taylor, 2005; Misener et al, 2006; Lee, 2006) impacts of events have been carried out, whereas discussion of environmental impacts has only started in the last few years (Dolles et al, 2010, Whitfield, 2011; Ponsford, 2011). In order to measure the environmental aspects of the event industry, the literature describes various approaches such as Ecological Footprint, which is a measurement method to assess the use of resources, for instance the land and water needed for a specific activity or destination expressed in terms of global hectares (gha), or the Environmental *Input/output* model for the quantitative impact assessment of selected environmental externalities (Andersson and Lundberg, 2013). It is significant to underline that these environmental studies applied to events have been adapted and developed from the Tourism sector.

The sustainability of the event industry is in its growth phase, however the associations or organisations that have started this study in Europe, are achieving significant significant results). In Italy, for example, 30% of companies have organised events that are considered "green", while in the countries of Northern Europe, Great Britain and Canada this figure is around 80%. This positive trend is indicated by the fact that in 2006 only 7% of events were planned according to the "green" logic while, in 2009, they reached 43% (Andriola et al, 2010). According to Andriola et al, 2012, a medium-sized event with the participation of about 500 people for three days produces 0.75 tons of waste and less than 1,600 kWh of electricity consumption. Considering events such as the Olympic Games, the Football World Cup, concerts etc, the above data become very significant. In a few hours the event produces a different typology of wastes concentrated in a small area, creating problems to residents and to local waste management

The tendency to focus on environmental impacts appears to be an extension of research into the impact of events. The transport mobility of the participants coming to the event and related negative externalities (land occupation, infrastructure building, gaseous emissions etc.), the energy consumption for heating and / or cooling of the location, the materials provided to participants (brochures and gadgets), and catering services, represent only some of the issues related to the environmental impact of the event. In recent years organizers and promoters of events as well as suppliers and service organizations started thinking of how to organize an event undertaking actions to manage the entire life cycle in a sustainable manner. This is mainly imputable to the growing interest of citizens and stakeholders in the concept of sustainable development. Thinking of a "green event" should imply minimizing environmental impacts and favouring a positive dialogue and a constructive feedback with the hosting community. The challenge has been to integrate environmental issues into existing managerial practices in order to set criteria and instructions that aim at driving sustainability performance encompassing the typical TBL (triple bottom line) approach; economic, social and environmental issues. The TBL approach comes from the business sector for creating reporting documents, which combine social and environmental issues with traditional financial issues. It has also been applied and developed for tourism and more specifically for events and festivals (Fredline et al., 2005).

The environmental tools used in other sectors such as ISO 9001 (Quality Assurance) and ISO 14001 or EMAS (Environmental Management System) methodologies based on the Deming cycle, PDCA system (plan-do –check –act) have been inadequate for application to events. For this reason, in the last few years, various frameworks have been developed for designing a green event with the goal of obtaining a certification or association of the event with a "green brand". The standard BS 8901 (British Standard for sustainable events managements), issued in November 2007 by the British Standards Institute (BSI), which was founded in 1901 and is the world's first national standards body, provided a framework for sustainable event management among the event organizers and their suppliers. The BS 8901 is a protocol, which covers all aspects of sustainability (environmental, social and economic). Although the BS 8901 standard is well recognized, the International Organization for Standardization (ISO) carried out the framework of events based on BSI 8901 also incorporating some characteristics of ISO 26000. In July 2012 the ISO 20121 standard (Event sustainability management system) was issued. This standard provides guidance to enable businesses to interact in a sustainable way with their employees, suppliers and customers, local authorities and beneficiaries of the event. In 2012, the Olympic Committee employed the standard for the first time for the Olympic Games in London Another interesting initiative is the "Greener Festival Award". This award supports festival organizations in adopting green strategies by providing a set of guidelines (53 questions divided in 8 sections) concerning how to limit the impact of festivals on the environment.

The GRI (Global Reporting Initiative) with Event Organizers Sector Supplement (EOSS) has developed guidelines for sustainability reporting. The GRI Report provides details on Strategy, Profile Disclosures, and Performance Indicators of event. The final sustainability report can be considered a very fruitful tool of communication regarding the degree of transparency of each event. All the above-cited frameworks are voluntary initiatives and can be easily integrated with the environmental aspects.

Furthermore, to properly manage the environmental aspects of an event, environmental criteria addressed to contractors and suppliers' behaviour should also be adopted, in order to ensure the minimization of environmental impacts of by the products used in their life cycles (Iraldo, 2008). An important example is EXPO 2015 in Milan (Italy). EXPO 2015 is the Universal Exhibition that Milan will host from May 1 to October 31, 2015. Over this six-month period, Milan will become a global showcase where more than 140 participating countries will exhibit the best of their technology that offers a concrete answer to guarantee healthy, safe and sufficient food for everyone, while respecting the planet and its equilibrium. EXP0 2015 is the first world exposition to issue both guidelines for sustainable solutions, and to begin the process of ISO 20121 certification. Considering this pioneering approach and the novelty of the research, references on this topic are still limited. There are a number of reports and case studies, which highlight the application of environmental criteria to an event illustrating environmental and economic benefits. The existing examples focused on best practices and case studies offer practitioners and policy makers very useful evidence and suggestions for implementing effective green practices in events, even if they have not provided sufficient indications to generalize their findings.

2. AIM OF THE PAPER

The project funded by the NGO Programme for Bulgaria under the EEA Financial Mechanism 2009 – 2014 entitled "Cultural cooperative network for sharing resources" has provoked interest in the study of green cultural events.

A part of the project foresees the implementation of green policies within the managerial aspects of the event. The main purpose of our publication has been to individuate which factors influence the uptake of green practices in managing events which should be adopted by municipal and regional administrations, cultural departments and players in the cultural sector who are in a position to take responsibility for strengthening the cultural aspects of their city's or region's development.

3. SURVEY METHODOLOGY

In our study we employed statistical analysis to estimate the factors that influence the inclusion of green criteria in realizing a green event. In order to perform our empirical investigation, we used qualitative data collected by a standard questionnaire.

The study was conducted during the period December 2013 – January 2015 in the city of Varna (Bulgaria). Fundamental for the analysis of the data is the presentation of the social, demographic and educational status of the respondents. For this reason, we collected information about age, level of education, monthly income, number of household members, including students and employed people. We were also interested in the proportion of total household expenses dedicated to culture and the approximate number of visits to traditional city cultural events by each respondent. The survey included persons aged 18 and over who usually live in the city of Varna in addition to visitors temporarily present in the city for various reasons (organization and holding of cultural events, training, tourism and others). 50.88% of the population surveyed were aged 30 to 60 years. Young people, aged 18-29, were 28% and those over 60 years 20%. The analysis of income structure showed that 43.50% of households have a monthly income (per person in household) of 350 to 700 BGL (equal to 178-357 €). 38% of respondents have a Master's Degree (MA), approximately 22% is the proportion of individuals who have a Bachelor's (BA) and secondary education. 1

People who most often attend cultural events are from households with a monthly income (per person in household) of 350 to 700 BGL (equal to 178-357 €). Young people aged 18-29 and those over 60 years visited cultural events most frequently. The least interest in visiting cultural events was among those aged 30-39 and those with incomes above 1400 BGL (€716) / month. In the course of the study, it was concluded that in all age groups the availability of 50 BGL (€26)/ month is sufficient for visiting interesting cultural events (average 24% of observations for each group).

For the purpose of the study random sampling without repetition was used set at a margin of error of 2.5% and 95% of confidence level. The sample size was set at 784 people. Some people refused to participate, which reduced the sample to 680 persons aged 18 years and older without a substantial impact on the intended accuracy of the result: the sample is therefore reduced with unchanged guaranteed probability (2.68% of confidence level).

The information security is based on a survey in the format "face to face". The survey includes 30 questions designed specifically for the purpose of this study. The questions are divided into five sections: the first section targets data on the social and demographic statuses of respondents, respectively, the need to visit cultural events and the proportion of funds allocated to culture. The second section examines the general motivation to attend cultural events and in particular green cultural events. The third section observes the impact of cultural/green cultural events on the economic development of the city / region. The fourth section aims to assess the effects of environmental policy implemented by cultural operators and municipalities (and in particular in Varna city) when cultural events are conducted. The last section estimates effects of the organisation of green cultural events.

To describe the estimations of the opinions, we used the Likert scale, which includes five divisions of opinions: Strongly agree, Agree, Neither, Disagree, Strongly disagree. We used interval scales for signs such as age [years], monthly income [BGL], visiting cultural events [number] and dichotomous scales for questions whose answers are simple alternatives e.g. one answer disregards the other. All the measuring instruments are selected according to the purpose of the study and allow for a complete picture of the interest to events in the municipality of Varna.

The main method of the study is nonparametric correlation analysis. This is suitable to present the correlations between variables, which are represented by weak scales, for analysing the frequencies of occurrence of the different types of each categorical attribute. Our task was to determine whether there is a link between the categorical variables studied and to analyse objectively the strength of the relationship using the χ2 - method.

The χ2 method has a significant advantage in the analysis of relationships - it is not based on the values of the stochastic distribution of the population surveyed. The practical use of the χ2 - method is the hypothesis testing on a statistically significant relationship between the variables.

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[1] At the time of writing, one EUR is equal to 1.95583 BNL or Bulgarian Leva, according to the exchange rate of the Bulgarian National Bank

When using the χ2 - methods screening criteria are employed:

$$\chi^2 = \sum_{i=1}^{k}\sum_{j=1}^{m}\frac{\left(f_{ij} - \hat{f}_{ij}\right)^2}{\hat{f}_{ij}} \quad \text{(1)}$$

,where

f_{ij} is the observed frequency count at level j of variables

$\hat{f}_{ij}$ is the expected frequency count at level j of variables

It is possible to check how the interest in green events at the level of the demographic and social status of responders and their level of education and income influence the attendance of cultural events. In reality, we define (null hypothesis) as a suggestion for a non-existent link between the evidence cited. If any links (in terms of results and effects) between them have been found, it is purely accidental. Alternative hypothesis - the opposite assumption - there is a link between the signs and interest in cultural events organized by the municipality (also determined by the social, demographic and cultural values of the population living permanently in Varna). All checks are carried out at a significant level of α=0.05.

For the purposes of our research we focused the non-parametric correlation analysis on the following statements:
- cultural events stimulate the economic growth of the city / region;
- green cultural events increase the economic development of the city / region;
- implementation of ecological certification for the cultural events is necessary;
- the municipal authority should accept green cultural policy. Various relationships that we tested show us how strategic the presence of green cultural events in Varna is for those interviewed;
- what is the significance of green cultural events in enhancing the quality of life in the city.

The results are correlated with the studied literature and similar studies of analyzed indicators.
In addition we used Logit regression analysis (LRA) to trace the probability of occurrence of interest in green cultural events in Varna. Logistic regression models are a specific type of non-linear model of an exponential type. This exponential version has the following interpretation:

$$\pi = \frac{e^{(\beta_0 + \beta_1 X_1 + ... + \beta_p X_p)}}{1 + e^{(\beta_0 + \beta_1 X_1 + ... + \beta_p X_p)}} \quad \text{(2)}$$

With the help of mathematical operations, the logistic regression models are transformed into linear models. The purpose of these transformations is to linearize the relationship between the dependent variable and the factors in the model in order to evaluate the parameters β_j. So, the logistic regression model can be represented in terms of two different dependent variables, representing transformations of π likelihood for the occurrence of the result Y. According to the linearization, one of the transformation results of the logistic model is as follows:

$$\ln\left(\frac{\pi}{1-\pi}\right) = \beta_0 + \beta_1 X_1 + ... + \beta_p X \quad \text{(3)}$$

The dependent variable in this model $\ln\left(\frac{\pi}{1-\pi}\right)$ constitutes a specific logarithmic transformation of the probability of occurrence of π as result of the occurrence of Y, called the logit (π). Therefore, these Logit models can often be presented in the following way:

logit(π) = β_0 + $\beta_1 X_1$ + $\beta_2 X_2$ +...+ $\beta_p X_p$. **(4)**, which is analogous to equation **(3).**

Variable $\left(\dfrac{\pi}{1-\pi}\right)$ expresses the ratio between the probability of success (occurrence of event) and of its failure (no occurrence of event) of Y. This variable measure is the chance of the event being true against the chance of not occurring. Therefore, this value is often called the chance of the result Y. Because of the interpretation of this variable, it can also be a dependent variable in logistic regression models. In this case, the model of Y will have the following version:

$$\left(\frac{\pi}{1-\pi}\right) = e^{\beta 0 + \beta 1 X1 + \beta 2 X2 + \ldots + \beta p Xp} \qquad \textbf{(5)}$$

Each of the three versions of logistic regression models has its own role in our analysis.

The model in the version **(4)** *(logit(π)* = $\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_p X_p$. can be presented as model **(2)**

$$\pi = \frac{e^{(\beta_0 + \beta_1 X_1 + \ldots + \beta_p X_p)}}{1 + e^{(\beta_0 + \beta_1 X_1 + \ldots + \beta_p X_p)}}$$

After an evaluation of its parameters, it can be used for estimating the expected probability of $\widehat{\pi}$ to make true the result Y according to different values of the variables.

The most important role in the interpretation of the results has the presentation of a logistic regression model **(5)**

$$\left(\frac{\pi}{1-\pi}\right) = e^{\beta 0 + \beta 1 X1 + \beta 2 X2 + \ldots + \beta p Xp}$$

Here, the exponential values of model parameters exp (β_j) measure relative change of the dependent variable in the regression model under the influence of each relevant factor. In other words $e^{\beta j}$ values indicate how many times the change of chance $\left(\dfrac{\pi}{1-\pi}\right)$ will make true the result Y per unit modification of j- factor in the model (with unchanged levels of the other factors). Respectively, the variables ($e\beta j$ – 1).100% show by which percentage the chance of occurrence of Y per unit modification of j- factor will change. This version of presentation of the logistic regression model was also used to calculate the chance of occurrence of Y at various combinations of values between the factors in the model.

Because of the absence of all necessary conditions for the application of the method of least squares, the parameters of the logistic regression model were estimated using the method of maximum likelihood. Goodness of fit with respect to the specification of the models was carried out using the maximum likelihood method, by χ2 –method. Each coefficient was evaluated using a Wald test (really just a Z-test) Log-likelihood.

4. RESULTS AND DISCUSSION

Our study is based on 30 questions/statements. On the basis of the implemented methodology, as already mentioned, we analysed the most applicable results divided into four important groups: 1) Opportunity of cultural events and in particular green cultural events to stimulate economic development; 2) Introduction of environmental certification for cultural events; 3) The recognition of green policy in event management by Municipal authorities; 4) Interest in green cultural events.

4.1. Opportunity of cultural events and in particular green cultural events to stimulate economic development

Concrete results in the study show that among citizens (including cultural operators) cultural events would contribute to the economic growth of the city and the region, if they qualify as "green."

The results indicate that the "green element" is associated with a reduction in the volume of waste produced during the cultural events, as well as better planning and organization of a system of recycling. It is important to note that people think that sustainability of the events in the cultural calendar of the city and the region could represent a new model of governance at the local level.

The following tables present only these results of the relationships test which have statistical significance. The empirical values are structured in column Value (Chi-Square tests) and column Value (Symmetric measures).

Table 1: Strong correlation relationships for cultural events, in particular green cultural events to stimulate economic development

Relationships*	Statistics	Chi-Square Tests			Symmetric Measures		
		Value	df	Sig.(2-sided)	Statistics	Value	Sig.
Variables **							
Q12_Q17	Pearson Chi-Square	190.12	16	0.00	Phi	0.53	0.00
	Likelihood Ratio	171.08	16	0.00			
Q12_Q18	Pearson Chi-Square	172.73	16	0.00	Phi	0.50	0.00
	Likelihood Ratio	147.40	16	0.00			
Q12_Q19	Pearson Chi-Square	191.78	16	0.00	Phi	0.53	0.00
	Likelihood Ratio	153.49	16	0.00			
Q12_Q26	Pearson Chi-Square	208.81	12	0.00	Phi	0.55	0.00
	Likelihood Ratio	140.95	12	0.00			
Q10_Q12	Pearson Chi-Square	203.28	16	0.00	Phi	0.55	0.00
	Likelihood Ratio	225.27	16	0.00			
Q10_Q16	Pearson Chi-Square	186.87	16	0.00	Phi	0.52	0.00
	Likelihood Ratio	145.13	16	0.00			
Q10_Q20	Pearson Chi-Square	179.71	12	0.00	Phi	0.51	0.00
	Likelihood Ratio	119.46	12	0.00			
Q10_Q30	Pearson Chi-Square	211.52	16	0.00	Phi	0.56	0.00
	Likelihood Ratio	155.43	16	0.00			

** (Q12) Green cultural events stimulate economic growth
   (Q17) Dissemination of environmental indicators for the cultural event
   (Q18) Strategic importance of environmental practices in culture
   (Q19) Importance of environmental certification,
   (Q26) Green cultural events and unemployment
   (Q10) Cultural events stimulate economic growth
   (Q16) Waste system organized during the cultural event
   (Q20) Importance of green culture management as a model for regional development
   (Q30) Reducing the waste volume of cultural events.

Specifically in terms of green cultural events according to data from the survey, they could reduce unemployment and thus contribute to the economic development of the region. Strategically important in this process is the introduction of environmental certification, and environmental practices at the local level. Citizens believe that prior dissemination of information on environmental indicators of cultural events will play a significant role. From the economic point of view the study shows that citizens are not ready to pay a higher ticket price for a green cultural event with the aim of offsetting environmental damage. Similarly, the idea of free bus tickets as part of the end price of a cultural event, as a way to stimulate the green event in the city, is poorly recognized.

Table 2: Low correlation relationships for cultural events, in particular green cultural events to stimulate economic development

Relationships*	Chi-Square Tests				Symmetric Measures		
	Statistics	Value	df	Sig.(2-sided)	Statistics	Value	Sig.
Variables **							
Q12_Q15	Pearson Chi-Square	85.88	16	0.00	Phi	0.36	0.00
	Likelihood Ratio	83.33	16	0.00			
Q12_Q16	Pearson Chi-Square	132.92	16	0.00	Phi	0.44	0.00
	Likelihood Ratio	128.58	16	0.00			
Q12_Q27	Pearson Chi-Square	93.26	12	0.00	Phi	0.37	0.00
	Likelihood Ratio	85.60	12	0.00			
Q12_Q28	Pearson Chi-Square	89.18	12	0.00	Phi	0.36	0.00
	Likelihood Ratio	83.19	12	0.00			
Q12_Q29	Pearson Chi-Square	94.33	16	0.00	Phi	0.37	0.00
	Likelihood Ratio	107.71	16	0.00			
Q12_Q30	Pearson Chi-Square	148.87	16	0.00	Phi	0.47	0.00
	Likelihood Ratio	148.56	16	0.00			
Q10_Q9	Pearson Chi-Square	97.00	16	0.00	Phi	0.38	0.00
	Likelihood Ratio	87.30	16	0.00			
Q10_Q15	Pearson Chi-Square	59.42	16	0.00	Phi	0.30	0.00
	Likelihood Ratio	71.10	16	0.00			
Q10_Q18	Pearson Chi-Square	129.96	16	0.00	Phi	0.44	0.00
	Likelihood Ratio	118.94	16	0.00			
Q10_Q21	Pearson Chi-Square	117.21	16	0.00	Phi	0.42	0.00
	Likelihood Ratio	91.52	16	0.00			
Q10_Q26	Pearson Chi-Square	131.17	12	0.00	Phi	0.44	0.00
	Likelihood Ratio	128.45	12	0.00			
Q10_Q27	Pearson Chi-Square	56.33	12	0.00	Phi	0.29	0.00
	Likelihood Ratio	65.35	12	0.00			
Q10_Q28	Pearson Chi-Square	105.66	12	0.00	Phi	0.35	0.00
	Likelihood Ratio	116.42	12	0.00			
Q10_Q29	Pearson Chi-Square	100.50	16	0.00	Phi	0.38	0.00
	Likelihood Ratio	103.52	16	0.00			
Q10_Q13	Pearson Chi-Square	10.97	4	0.03	Phi	0.13	0.03
	Likelihood Ratio	13.29	4	0.10			

** (Q12) Green cultural events stimulate economic growth
   (Q15) Calculation of free transport for cultural event
   (Q16) Waste system organized during the cultural event
   (Q27) Green cultural events and sponsorship
   (Q28) Green cultural events and foreign cultural operators
   (Q29) Reduction of CO2 emissions from cultural events
   (Q30) Reducing the waste volume of cultural events
   (Q10) Cultural events stimulate economic growth
   (Q18) Strategic importance of environmental practices in culture
   (Q21) Importance of green cultural events for Municipalities
   (Q26) Green cultural events and unemployment
   (Q13) Payment of a higher price for a cultural event ticket

Relatively unrecognized are ideas that green cultural events can stimulate sponsorship and attract foreign cultural operators and thus contribute to the local economy and help enrich the local scene. Planning and organizing a system for recycling and the reduction of carbon emissions and waste produced during cultural events, also shows relatively low correlation.

With slightly better indicators, but still within the zone of low correlation, are the following several statements - reducing unemployment through "green" cultural events, the introduction of environmental practices as a strategic regional development and adoption of green cultural policy by the Municipality. Citizens (including cultural operators) find difficulty in correlating the reduction of carbon emissions during the cultural events with the good development of the city.

Assessment of the organizers and users of cultural events for the planning of the environmental aspects of a cultural event is a favourable environment for the development of new tools of management at local level. This confirms the hypothesis (Jones, 2014)[2] that in order to accelerate socio-economic development, cultural events should contribute to environmental friendly systems for recycling and waste collection as a productive industry.

At the same time, still unrecognizable are some innovative practices, which are long recognized in the European Union, such as included in the fare calculation for transport to the venue, cost savings on printing of tickets for cultural events and the move to online access for the purchase of tickets. The use of public transport reduces traffic congestion, facilitates cost savings in parking and increases traffic safety. These considerations are very well considered in countries where green issues have long been recognized such as those of Northern Europe.

Thus, the assessment of the sustainability of cultural events in Varna is complicated and the visibility of "green" policies in the management of cultural events is difficult.

4.2. Introduction of environmental certification for cultural events

The study shows that citizens (including cultural operators) associate the benefits from the environmental certification for cultural events with the following factors - the application of environmental practices at the local level to help regional development, as well as a greater awareness among the audience on the topic of green cultural events.

Citizens (including cultural operators) believe that such certification will facilitate, on the one hand, the process of pre-dissemination of information on environmental indicators of cultural events and, on the other hand, the development and spread of subsequent reports of the benefits and environmental effects.

Table 3: Strong correlation relationships for the introduction of environmental certification

Relationships*	Chi-Square Tests				Symmetric Measures		
	Statistics	Value	df	Sig.(2-sided)	Statistics	Value	Sig.
Variables **							
Q19_Q16	Pearson Chi-Square	185.41	16	0.00	Phi	0.52	0.00
	Likelihood Ratio	174.97	16	0.00			
Q19_Q17	Pearson Chi-Square	283.59	16	0.00	Phi	0.65	0.00
	Likelihood Ratio	223.96	16	0.00			
Q19_Q18	Pearson Chi-Square	670.97	16	0.00	Phi	0.99	0.00
	Likelihood Ratio	321.20	16	0.00			
Q19_Q23	Pearson Chi-Square	356.39	16	0.00	Phi	0.72	0.00
	Likelihood Ratio	156.46	16	0.00			
Q19_Q29	Pearson Chi-Square	175.40	16	0.00	Phi	0.51	0.00
	Likelihood Ratio	157.98	16	0.00			
Q19_Q30	Pearson Chi-Square	167.61	16	0.00	Phi	0.50	0.00
	Likelihood Ratio	172.25	16	0.00			

** (Q19) Importance of environmental certification
    (Q16) Waste system organized during the cultural event
    (Q17) Dissemination of environmental indicators for the cultural event
    (Q18) Strategic importance of environmental practices in culture
    (Q23) Responsibility to develop a report on the environmental impacts of the cultural event
    (Q29) Reduction of CO2 emissions from cultural events
    (Q30) Reducing the waste volume of cultural events

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[2] Jones, M. (2014) Sustainable Event Management-a practical guide, Second edition, Routledge

Among the consequences favourable to the introduction of environmental certification for cultural events is also included the possibility for better planning and organization of a system to recycle waste produced within a cultural event; reducing carbon emissions in the course of cultural events, as well as general reduction in the volumes of waste that are traditionally produced in the cultural event.

Table 4: Low correlation relationships for the introduction of environmental certification

	Chi-Square Tests				Symmetric Measures		
Relationships*	Statistics	Value	df	Sig.(2-sided)	Statistics	Value	Sig.
Variables **							
Q19_Q11	Pearson Chi-Square	95.03	16	0.00	Phi	0.37	0.00
	Likelihood Ratio	89.50	16	0.00			
Q19_Q22	Pearson Chi-Square	164.87	16	0.00	Phi	0.49	0.00
	Likelihood Ratio	159.51	16	0.00			

**(Q19) Importance of environmental certification
(Q11) Cultural events lead to negative consequences for the environment
(Q22) Importance of green cultural events for cultural operators

According to survey data, citizens (including cultural operators) do not directly link the implementation of environmental certification for cultural events with the fact that cultural events lead to a negative effect on the environment. It should be noted that this study tested attitudes towards environmental certification for cultural events in Bulgaria for the first time in the country. Therefore, an understanding of its usefulness as opposed to countries such as Denmark, the UK, Italy and others is still weak. There is a lack of sufficient knowledge about the way to implement environmental certification for cultural events, including the introduction of subject specific events or venues.

Many steps still need to be taken: to inform about the meaning of environmental certification in the city and the region and convince cultural operators, participants, suppliers, sponsors, advertisers and the public that it brings not only environmental but also social and economic benefits. Such a situation requires comprehensive understanding of, for example, the specific ISO 20121: 2013 standard and the way through which it improves the sustainability of the cultural event and increases the quality of presentation. In addition, it is necessary to explain the fundamental statement of "green" cultural event as "an event of a sustainable policy and environmental responsibility, adopting a sustainable approach towards the management of operations."

4.3. The recognition of green policy in event management by Municipal authorities

Recognition by the Municipal government of a "green" cultural policy is considered to be an important step in the process towards a new green consciousness. Such a policy at local level will be helpful especially in the organization of sustainable cultural events, defined as a new organizational model for the region. Citizens accept that the measures taken by the local government will contribute to better planning and organization of a recycling system within the cultural event, as well as reducing the amount of waste produced during the cultural event.

Table 5: Strong correlation relationships for the recognition of green policy on event management by Municipal authorities

Relationships* Variables **	Statistics	Chi-Square Tests			Symmetric Measures		
		Value	df	Sig.(2-sided)	Statistics	Value	Sig.
Q21_Q16	Pearson Chi-Square	279.52	16	0.00	Phi	0.64	0.00
	Likelihood Ratio	222.22	16	0.00			
Q21_Q17	Pearson Chi-Square	177.72	16	0.00	Phi	0.51	0.00
	Likelihood Ratio	181.08	16	0.00			
Q21_Q18	Pearson Chi-Square	165.26	16	0.00	Phi	0.49	0.00
	Likelihood Ratio	164.80	16	0.00			
Q21_Q20	Pearson Chi-Square	378.69	12	0.00	Phi	0.75	0.00
	Likelihood Ratio	342.26	12	0.00			
Q21_Q23	Pearson Chi-Square	204.00	16	0.00	Phi	0.55	0.00
	Likelihood Ratio	213.73	16	0.00			
Q21_Q24	Pearson Chi-Square	178.42	16	0.00	Phi	0.51	0.00
	Likelihood Ratio	180.28	16	0.00			
Q21_Q25	Pearson Chi-Square	199.79	12	0.00	Phi	0.54	0.00
	Likelihood Ratio	147.89	12	0.00			
Q21_Q29	Pearson Chi-Square	163.63	16	0.00	Phi	0.49	0.00
	Likelihood Ratio	169.78	16	0.00			
Q21_Q30	Pearson Chi-Square	256.77	16	0.00	Phi	0.61	0.00
	Likelihood Ratio	232.55	16	0.00			

**(Q21) Importance of green cultural events for Municipalities
(Q16) Waste system organized during the cultural event
(Q17) Dissemination of environmental indicators for the cultural event
(Q18) Strategic importance of environmental practices in culture
(Q20) Importance of green culture management as a model for regional development
(Q23) Responsibility to develop a report on the environmental impacts of the cultural event
(Q24) Responsibility of publishing a report on the environmental consequences of cultural event
(Q25) Responsibility of communicating the results of the report on the environmental impacts of the cultural event
(Q29) Reduction of CO2 emissions from cultural events
(Q30) Reducing the waste volume of cultural events.

As part of its "green" cultural policy each Municipality Commitment commits to the development and the dissemination of reports on the benefits and environmental effects, which cause cultural events. It is important to note, however, that a report containing information on the benefits and harms of cultural events should be published for citizens by cultural operators. Probably the incentives of a law through which environmental certification facilitated access to regional or Ministerial funds in organizing events could stimulate the whole process.

The benefits of carrying out a green policy at the local level also include increasing awareness among the audience through an advance dissemination of information on environmental indicators for cultural

events, the implementation of environmental practices that are of strategic importance for regional development and also the reducing of carbon emissions during cultural events.

According to the statistics, local governments underestimate the adoption of "green" cultural policies based on citizens' interest in "green" cultural events. The perception of a higher price of the ticket for a cultural event, which ensures reduction of environmental damage, is also among the statements with a relatively low correlation index with the idea of local government to be culturally "greener".

Table 6: Low correlation relationships for the recognition of green policy on event management
by Municipal authorities

Relationships* Variables **	Chi-Square Tests				Symmetric Measures		
	Statistics	Value	df	Sig.(2-sided)	Statistics	Value	Sig.
Q21_Q8	Pearson Chi-Square	24.21	4	0.00	Phi	0.19	0.00
	Likelihood Ratio	21.89	4	0.00			
Q21_Q9	Pearson Chi-Square	143.54	16	0.00	Phi	0.46	0.00
	Likelihood Ratio	122.32	16	0.00			
Q21_Q10	Pearson Chi-Square	117.21	16	0.00	Phi	0.42	0.00
	Likelihood Ratio	91.52	16	0.00			
Q21_Q13	Pearson Chi-Square	12.90	4	0.01	Phi	0.14	0.01
	Likelihood Ratio	16.96	4	0.00			
Q21_Q14	Pearson Chi-Square	97.03	20	0.00	Phi	0.38	0.00
	Likelihood Ratio	88.85	20	0.00			
Q21_Q15	Pearson Chi-Square	123.93	16	0.00	Phi	0.43	0.00
	Likelihood Ratio	128.91	16	0.00			
Q21_Q26	Pearson Chi-Square	148.85	12	0.00	Phi	0.47	0.00
	Likelihood Ratio	144.24	12	0.00			

** (Q21) Importance of green cultural events for Municipalities
   (Q8) Interest in green cultural events
   (Q9) Online purchase of tickets for cultural events
   (Q10) Cultural events stimulate economic growth
   (Q13) Payment of a higher price for a cultural event ticket
   (Q14) Value of the cultural event ticket
   (Q15) Calculation of free transport for cultural event
   (Q26) Green cultural events and unemployment

The study indicates that procedures such as online ticket purchase or inclusion of free bus tickets are also among the weakest arguments for the adoption of a green cultural policy. According to the responders, cultural events do not stimulate economic growth strongly enough with the adoption of "green" cultural policies at local level. Reducing unemployment through "green" cultural events is an important factor, but again not so decisive for the local government to take a new approach towards "green" cultural events.

The data confirm a universal trend: that consumers of cultural events like to know in advance which environmental effects await them during the visit to a cultural event and which data are examined for hosting successful "green" policies.

Successful implementation of "green" cultural events will support the implementation of new knowledge and a comprehensive policy on event management. Requirements for the collection of information are directed to the Municipal authorities.

For Municipalities that are responsible for the organization of cultural events, this is a normal practice. The nature of traced information is understood as carrying an additional value to society. In addition, there are too many challenges facing the local authorities for them to be recognized by the citizens as bearers of a "green" policy for cultural events. However, according to the survey the publication of ecological data is the duty of the cultural operators. Furthermore, previous studies show that the publication of ecological data is important to both foreign cultural operators and sponsors. They decide to participate in an event based on a clearly defined "green" focus. So, this focus should be specifically reflected in promotion materials targeting the audience and prepared by the local cultural operators.

4.4. Interest in green cultural events

To deepen the discussion of the results in this paper, we implemented a Logit model in order to test the probability of interest in green cultural events in Varna. Initially, we had done a test of missed variables. After multiple checks, a significant Logit model was established with the maximum number of regressors included in it. The Logit model was observed only at the 10 iteration (Step 10), which is significant and generally makes the model one to be considered adequate. The dependent variable of this test is (Q8) Interest in green cultural event. The logical structure of the test and the important variables in the equation at step 10 are presented in Table 7.

Table 7: Omnibus Tests of Model Coefficients

Step 10	Chi-square	df	Sig.
Step	5.157	1	0.023
Block	266.020	10	0.000
Model	266.020	10	0.000

Variables in the Equation Step 10 **	B	S.E.	Wald	df	Sig.	Exp(B)	95,0% C.I.for EXP(B)	
							Lower	Upper
Q3	-1.260	0.305	17.072	1.000	0.000	0.284	0.156	0.516
Age	0.047	0.007	42.324	1.000	0.000	1.048	1.033	1.063
Q4	-1.016	0.128	63.228	1.000	0.000	0.362	0.282	0.465
Q5	1.135	0.177	41.034	1.000	0.000	3.111	2.198	4.402
Q6	0.830	0.140	34.982	1.000	0.000	2.294	1.742	3.020
Q11	-0.823	0.113	53.096	1.000	0.000	0.439	0.352	0.548
Q21	0.523	0.126	17.270	1.000	0.000	1.688	1.319	2.160
Q26	0.820	0.149	30.129	1.000	0.000	2.270	1.694	3.042
Q28	0.411	0.143	8.306	1.000	0.004	1.509	1.141	1.996
Q15	0.272	0.120	5.162	1.000	0.023	1.312	1.038	1.659
Constant	-5.991	0.970	38.178	1.000	0.000	0.003		

** (Q3) Visit of traditional city cultural events
(Q4) Household members
(Q5) Students members in the household
(Q6) Employed person in household

(Q11) Cultural events lead to negative consequences for the environment
(Q21) Importance of green cultural events for Municipalities
(Q26) Green cultural events and unemployment,
(Q28) Green cultural events and foreign cultural operators
(Q15) Calculation of free transport for cultural event

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
10	644.19	0.32	0.44

The results show that the chance of interest in green cultural events decreases by 28.4% or Exp (B) with the range of 0.156 to 0.516 if only traditional city cultural events are attended by the respondents or in case of absence of consciousness that each cultural event harms the environment (in 56,1% of the cases or Exp (B) with the range of 0.352 to 0.548). The chance of interest in green cultural events becomes lower with the decrease of the number of household members (with 63, 8% or Exp (B) in the range of 0.282 to 0.465).

The chance of interest in green cultural events increases with the increasing age of the respondents with 4.8% or Exp (B) with the range of 1.033-1.063. Also it increases three times in the case of students in each household (Exp (B) with the range of 2.198- 4402) and twice in family with already employed members (Exp (B) with the range of 1742-3020), or with members who wish to be employed during green cultural events (Exp (B) with the range of 1694-3042). Furthermore, the chance of interest in green cultural events increases by 68.8% or Exp (B) with the range of 1.319-2.160 in the case of correct understanding by the Municipalities about the importance of these events and in the case of attracting more foreign cultural operators (50.9% or Exp (B) with the range of 1141-1996). The opportunity to use free transport also increases the chance to visit green cultural events by 31.2% or Exp (B) with the range of 1.038-1.659.

5. RECOMMENDATIONS AND CONCLUSIONS

The study shows that the green cultural event has a great potential to be implemented as a model for event management in the city of Varna. We summarize the green factors, which will increase the attention of the Municipal authorities and cultural operators in the city, precisely as:
- Promotion not only of traditional events from the cultural calendar of the city; but also of more green cultural events;
- Collecting, processing and monitoring of detailed and relevant information on the cultural event and its impact on the environment;
- Adoption of appropriate steps in environmental certification in the cultural sector;
- Increasing the number of collecting points for waste and recycling in the city/region;
- Improving knowledge in the field of green cultural policy;
- Increasing employment in the cultural sector with well-trained staff who understand the benefits and facilitate communications between the stakeholders for the implementation of green cultural policy;
- Promoting knowledge of educated people who have a keen interest in green cultural events and are aware of the environment damage (or through additional employment or through a voluntary job during the green cultural event);
- Purposeful implementation of all possible benefits from green cultural events for the Municipalities- starting with a more efficient transport policy, through the improved employment structure, ending with the diffusion of creative cultural policies by the exchange of foreign cultural operators.

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REFERENCE LIST

1. Andersson, T. D and Lundberg, E, 2013, Commensurability and sustainability: Triple impact assessments of a tourism event, *Tourism Management*, *37*, 99-109.
2. Andriola, L., Luciani, R, Poncina. R, Sonnino, S., 2010, I Sistemi di gestione degli eventi sostenibili secondo lo standard BS 8901, *Gazzetta Ambiente*, pp. 101-106.
3. Andriola,L, Jorizzo M, Luciani,R, (2012*), Green Meeting per la sostenibilità ambientale degli eventi Principi obiettivi e principali esperienze in atto*, XVII rapporto sul turismo in atto.
4. Crompton, J. L., & McKay, S. L. (1994). Measuring the economic impact of festivals and events: some myths, misapplications and ethical dilemmas. *Festival Management & Event Tourism*, *2*(1), pp. 33-43.
5. Daniels, M. J., & Norman, W. C. (2003). Estimating the economic impacts of seven regular sport tourism events. *Journal of Sport & Tourism 8*(4), pp. 214-222.
6. Deery, M., Jago, L., Fredline, L. (2012). Rethinking social impacts of tourism research: a new research agenda. *Tourism Management 33*(1),pp. 64-73.
7. Delamere, T. A., Wankel, L. M., & Hinch, T. D. (2001). Development of a scale to measure resident attitudes towards the social impacts of community festivals, part I: item generation and purification of the measure. *Event Management 7(*1), pp. 11-24.
8. Dickson, C., 2010, The Scholar athlete games experiencing sport, culture and art. I*nternational Journal of Event Management Research 5*(1).
9. Dolles, H., and Söderman, S. (2010). Addressing ecology and sustainability in megasporting events: the 2006 football world cup in Germany. *Journal of Management & Organization 16*(4), 587-600.
10. Dwyer, L., Mellor, R., Mistills, N., Mules, T., 2000. Forecasting the economic impacts of events and conventions. Event Management. *An International Journal 6(*3), pp. 191–204.
11. Fredline, E., Raybould, M., Jago, L., & Deery, M. (2005). Triple bottom line event evaluation: A proposed framework for holistic event evaluation. Paper presented at the Third International Event Conference, *The Impacts of Events: Triple Bottom Line Evaluation and Event Legacies*, UTS, Sydney, retrieved from (last access November 2013).
12. Hall, C.M, Hodges, J., 1996. The party's great, but what about the hangover? The housing and social impacts of mega-events with reference to the 2000 Sydney Olympics. *Festival Management and Event Tourism 4* (1/2), pp. 13–20.
13. Iraldo F.; M. Melis "Milano EXPO 2015: obiettivi e strumenti per la sostenibilità dell'evento. *Inquinamento*; N.D. (2008)
14. Jones, C. (2001), "Mega-events and host-region impacts: determining the true worth of the 1999 world cup. *International Journal of Tourism Research*, *3,* pp. 241-51
15. Lee, C.K., & Taylor, T. (2005). Critical reflections on the economic impact assessment of a mega event: the case of 2002 FIFA World Cup. *Tourism Management, 26(4),* pp. 595- 603.
16. Lee, M.J. (2006). Analytical reflections on the economic impact assessment of conventions and special events. *Journal of Convention & Event Tourism, 8*(3), 71-85.
17. McHone, W.W. and Rungeling, B. (2000), "Practical issues in measuring the impact of a cultural tourist event in a major tourist destination. *Journal of Travel Research*, 38, pp. 299-302.
18. Misener, L., & Mason, D.S. (2006). Creating community networks: Can sporting events offer meaningful sources of social capital*? Managing Leisure*, 1 1, pp. 39- 56.
19. Ponsford, I. F. (2011). Actualizing environmental sustainability at Vancouver 2010 venues. International Journal of Event and Festival Management *2*(2), 184-196.
20. Whitfield, J and Dioko, A.N. L. (2011) "Discretionary corporate social responsibility: introducing the GREENER VENUE. *International Journal of Event and Festival Management 2* (2), pp.170 – 183.
21. Wood, R. H, 2006, Measuring the economic and social impacts of local authority events. *International Journal of Public Sector Management 18*(1) pp.37-53.