

Using Importance-Performance Analysis to Identify Factors Affecting the Sustainable Events: Tourists' Perspective

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Abstract

In this study, the Importance-Performance Analysis (IPA) of sustainable events in Egypt was conducted from the travelers' and tourists' perspective of sustainable events. The six sustainable events factors identified were venue selection; transport and travel; energy; catering; supply chain; and waste management. The study sample included 408 travellers and tourists visiting Egypt. The IPA grids illustrated that the Value factors fell into the Concentrate Here quadrant; were "catering" with 5 sustainable events items *i.e* (awareness of green aspects, environmental policy and action plan, the use of water and energy-efficient kitchen appliances, compost or anaerobically digest the waste food and environmentally friendly manner for cleaning) and "supply chain" related services with 4 sustainable events items. They were environmental provenance, recycling, and other waste reduction policies, venue sustainability requirements, and monitoring and measurement standards. Furthermore, Venue selection; transport and travel; energy; supply chain; and waste management were identified in the Keep Up the Good Work quadrant.

Keywords: Sustainable Event, Importance Performance Analysis, Grid, Venue Selection, and Transport.

1. Introduction

Sustainable Events are an attractive trend nationally and globally. Economic instability, technological development, and amplified competition; are the three trends that shaped a major idea change within the event industry. This change happened during the mid-1980s as the event industry was improved and expanded quickly. Although the industry of events was in an era of economic instability, technological change, and escalating competition, the process of arranging or managing it was still organized. This stage was affected by unplanned thought inside and outside the industry (Goldblatt and Schiptsova, 2002). In addition, the social, cultural, economic and technological advancements have played an essential role in achieving the innovation of goals of the organization, efficiency, venues, and scope and the increased diversity of activities of the events. In the same context, the scope of the events which are organized for social coherence and charitable activities were transferred to events that have been used within the economic prosperity programs of the organizations (Pira, 2004). Event activities were also considered as an implementation stimulating the plan of the organizations, contributing to the process of goals fulfilment and then public relations managers could convert these goals to strategic structure planned (Mekanlı, 2005).

Globally, the number of event participants increase rapidly with the increased industrial growth and they are counted in millions. Currently, the event industry has the ability to apply sustainable event management (Jones, 2010). Similarly, as the number of events increases, there is an increasing awareness that there is a need for professional event managers who have the ability to arrange, innovate and manage sustainable events (Getz, 1997), by using advanced scientific methods and techniques so as to accomplish stakeholder needs. Despite, the fact that many events are organized successfully by devoted volunteers, rising competition across all sectors of the events industry is providing greater motivation to the necessity for professional events managers and well educated and experienced staff (Arcodia & Reid, 2003).

The vast majority of events are held in a responsible way to take into account the environmental, social and economic factors. Many global companies are organizing a green event as part of their business. Greening events ought to minimize the harmful environmental impact, and maximize the positive and continuous legacy of society. Holding an event necessitates many resources such as water, power, and materials that cause harmful emissions and environmental pollution (Ahmed *et al.*, 2013).

Consequently, a sustainable event is planned, prearranged and implemented to reduce critical negative impacts and increase a useful legacy for the destination. Event organizers should consider sustainability in planning. Not solely they need the possibility to cut back negative effects but also, increase the number of stakeholders who influence the community change to attain sustainability and greening (United Nations Environment Programme, 2012).

This paper attempts to identify the importance and performance of sustainable events factors in Egypt using the Importance and Performance Analysis (IPA) model. Moreover, to investigate the current situation of the sustainable events in Egypt. To achieve the goal of the paper, the importance- performance analysis has been applied in order to attain effective improvement by evaluating the tourists' importance and performance of factors during the event.

2. Literature Review

2.1 Sustainable Event Management /Planning

The Planning process for an event explains to the firm or organization itself how to use the available resources and the best strategies formulation to meet requirements. From this viewpoint, the company or organization will have adequate knowledge of the enhancement of their own business. (Shone & Parry, 2004). The tourism and events industries have a similar nature with multifaceted linkages and joint dependency (Cooper, 1998), and events are often described as an integral part of tourism development. They are often planed as a factor of destination attraction to visitors (Getz, 1989 and McDonnell, 1999). Therefore, the strategies of sustainable development should manage the environmental impacts of events (Arcodia & Cohen, 2007).

No, doubt that sustainability is defined in many ways. Even though the fundamental elements of these definitions are similar (*ie.* the idea of meeting current needs while conserving opportunities for the future), there are many concepts that adopt various definition by different fields. The event industry is still growing at the level of managing sustainability items. This is confirmed through the industry which cannot put a definition of its own business. While connected strongly to tourism, vacation, hospitality, and other service industries, the event industry is unique in its issues; therefore, the definition could be developed and provided the command to all supply chains to manage the event industry (Dickson and Arcodia, 2015). Therefore, the activities concerned in the implementation of an event often affect the environment. These effects can be classified as to resource utilization and emissions. The event administrators should concentrate on the field of purchase, waste management, energy, water management, and transportation so as to reduce the negative influence on environmental resources. The event manager should consider that sustainability factors will have an impact on the thoughts, views and attitude of the participants, stakeholders, contractors, providers and the events industry (Jones, 2010).

The sustainability factors can increase the understanding of sustainable development and its vital role in the future. It includes basics and methods of sustainable development in all levels of organizing the event and pursue that an event is hosted in a responsible way. It manages the total package of items at an event to be achieved in an incorporated approach. Event greening should begin at the opening of the project and should include all the stakeholders, such as customer, organizers, contractors, supply chains and, venues (Bergin-Seers and Mair, 2009). The industry of event and its sectors is being criticized for its environmental pollution. With its rapid growth over the past decade, the event industry is attracting attention as an influential factor in this growing problem (Bergsteiner and Avery, 2010). Similarly, Van Winkle and Bueddefeld (2016), argued for their viewpoint that deems an organization as the supplier of resources for keeping value-creation approaches through groups of individuals, technology, information and service related to events which cannot be directly recognized in its entirety. These resources are acting as social constructions so the involving actors explain and employ them within their own social system that develops and adjusts over time (Evardsson *et al.*, 2011 and Vargo *et al.*, 2008).

According to the sustainable event guide of Scotland (2011) which suggested a number of factors that cover general sustainable standards and effects of event organization(taking into consideration environmental standards) including venue selection, lighting, energy, and travel and transportation of participants to the event.

2.1.1 Venue Selection

Venue Selection is very vital to estimate the commitment to the event sustainability of the venue management in advance. It is necessary to apply sustainability standards and goals, simultaneously with corresponding

activities, in the convention. These sustainability standards and principles should be applied in the agreement with suppliers. If there is not a “sustainable venue”, cooperate with the venue administrators to make, at least some minimal operational amendment, taking into account sustainability for future generations (Natural Scotland Scottish government, 2011).

2.1.2 Travel and Transportation

While successful transport planning is essential to fulfilling these goals, poor venue selection will weaken all succeeding efforts to reduce negative transportation impacts. As a result, an appropriate venue with good public transport links is highly attractive (Natural Scotland Scottish government, 2011).

2.1.3 Energy Management

The management of Sustainable energy is a wide concept that includes all phases of the event industry –from fuels and derivatives, to energy production and the systems capacity, energy distribution, and energy use (in terms of quantity and efficiency), and energy safety measures implications *etc* (Ahmad *et al.*, 2013).

2.1.4 Waste Management

Event organizers should attempt to keep away from printed handouts and if it is necessary, then use reused or eco-friendly paper. They should save the main documents to a USB flash drive to decrease paper use and support recycles substitute for disposal. As for the recycle bins, they should be separated from the venue to foster waste sorting at the source and minimize waste to landfill (Ahmad *et al.*, 2013).

2.1.5 Catering and Supply Chain

Sustainable health food depends not only on the distance from which it is transported, but also on food, which has major impacts on health and the local economy (Natural Scotland Scottish government, 2011). The waste issue is a difficulty for every event and a great defy for international events. Regardless of the selection of destination and venue, many items can decrease waste. Therefore, the three main steps in this industry are Reduce, Reuse, and Recycle (3 R's). Zero Waste is a viewpoint, a tactic, and a set of practical tools looking for remove waste, not manage it. The event with a Zero Waste is not achieved by just increasing recycling and composting bins. The main element to achieve a zero waste event is accurate planning. Consequently, that all sources utilized and discarded are eco-friendly, reclaimable or compostable (United Nations Environment Programme, 2012). Therefore, This Sustainable Events checklist supply a particular set of suggestions for organizers of international events. It includes the most important elements of the event organizers. Some times sustainable event factors, like the venue selection or accommodation, don't seem to be the responsibility of the organizer but of the destination/organization. They can also be helpful once selecting service suppliers, who can be asked to tick the standards they fulfill (and offer supporting documentation) (International Organization for Standardization, 2012).

2.2 Sustainable events with ISO 20121

International Organization for Standardization (ISO) 20121 is a management system standard that has been planned to assist organizations and companies in the events industry in enhancing the sustainability activities of event, products, and services related to the event. ISO 20121 depended on the previous British Standard called 'BS 8901 Specification for a Sustainability Management System for Events' that was first advanced in 2007. In accordance with the excellence of BS 8901, it is decided to design an international version of the standard to be compatible with the London 2012 Olympics. In other words, ISO 20121 illustrates the basics of a management system that will support any event concerning organization to keep financially effective, turned out to more socially responsible, and decrease its environmental impacts. ISO 20121 try to obtain all categories and sizes of the organization engaged in the events field – from catering suppliers, lighting and energy, security firms, and venues to independent event administrators and incorporate and an event team of the public sector. The contribution of ISO standards makes a positive effect on the world. They support business, extend knowledge, spread innovation in technology, and engage vital management and identify evaluation practices (International Organization for Standardization, 2012). Developments in technology are rapidly removing environmental borders within the international event industry. Event management organization accomplishes registration, planning, control, and management of events over the web. An event management company placed in the United States will create an event in Germany, and contrariwise, while not physically relocating its employees and/or setting up an office. When the event management industry becomes more competitive, the development of technology will further amplify and speed competitive factors (Goldblatt and Schiptsova, 2002).

2.3 Importance performance analysis

Developed by Martilla and James (1977), Importance Performance Analysis (IPA) generally yields a two-dimensional plot with mean importance on the vertical axis and means performance on the horizontal axis (Fig. 1). Crosshairs divide this plot into four quadrants with completely different implications. As an example, a service attribute with lower performance and higher importance falls into the 'concentrate management here' quadrant, indicating that managers must devote additional resources into this specific attribute to boost its performance. Additionally to facilitating a matrix-based analysis of how the quadrants vary from each other, IPA permits managers to recognize areas within which they need to reapportion resources (Matzler *et al.*, 2004). IPA has turn out to be an admired managerial tool that has been largely applied to determine the strengths and weaknesses of brands, products, services and retail establishments in many industries in recent years. IPA is conducted by estimating the perceived importance and performance mean of each attribute or variable through calculated and plotted into a graphical grid (Chu, and Choi, 2000). However, this method has been broadly utilized in the tourism industry; the majority of research has targeted specific tourism services or attractions. As

an example, the IPA approaches to handle the market segmentation of Tanzania's National Parks. Moreover, IPA has been applied to assess performances of hotels (Chu and Choi, 2000 and Wilkins, 2010) and the events of tourism (Deng, 2007; Smith and Costello, 2008). The IPA approach is identified in facilitating the identification of attributes (Dwyer and Kim, 2003 ; Sampson and Showalter ,1999). It is additionally, helps the mobilization and consumption of scarce resources to wherever they are required most (Matzler *et al.*, 2004). Dwyer and Kim (2003) clarified the advantage of IPA as simple to interpret; it helps the development of local management strategies, derives realistic suggestions and permits to directly judge the importance and performance at intervals a similar attribute. The analysis of the IPA is diagrammatically given on a grid divided into four quadrants. Fig. 1 illustrates the IPA grid. The y-axis reports the customers' perceived importance of selected attributes, and the X-axis shows the product's (or service's) performance with respect to the attributes. The four recognizable quadrants are:

“Concentrate Here”, “continue the Good Work”, “Low Priority” and “Possible Overkill”. In the Concentrate Here quadrant, attributes appeared to be vital to respondents; however performance levels are seen as quite low. This sends a direct message that enhancement efforts ought to concentrate here. In continue the Good Work quadrant, attributes appeared to be very significant to respondents, and at a similar time, the organization seems to have high levels of performance with respect to these activities. According to the Low Priority quadrant, attributes have low importance and low performance. Although performance levels are also low during this cell, managers do not have to be involved as the attributes during this cell do not seemed to be very vital. Incomplete resources ought to be spent on this ‘low priority’ cell. Finally, the quadrant of “Possible Overkill” includes attributes of low importance and high performance. Customers are convinced with the performance of the product and service; however, managers need to do their best efforts on the attributes of this stage (Martilla and James, 1977; Evans and Chon, 1989; Keyt et al., 1994 ; Hemmasi , Strong and Taylor, 1994; Martin, 1995).

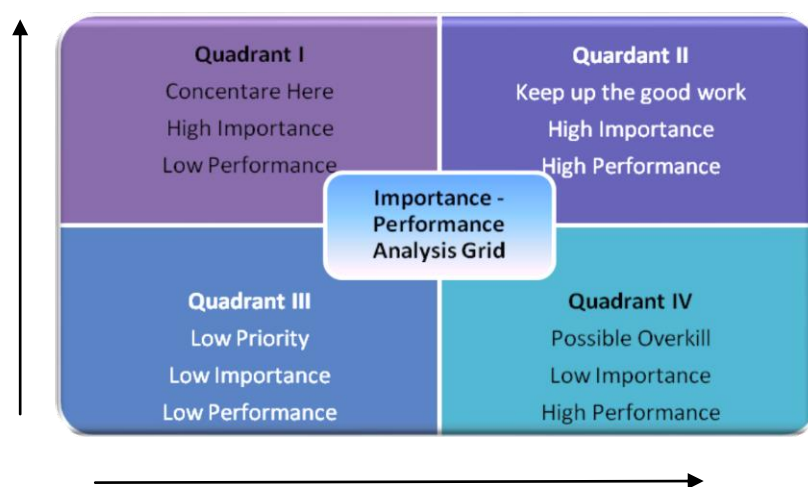


Figure (1): Importance-Performance Analysis Grid
Source :(Chu and Choi, 2000)

3. Methodology

This study aimed at identifying the elements of sustainable events based upon the ISO 20121 guide of sustainable events. The Guide is divided into a number of sections that cover common environmental considerations and impacts of event organization, including (United Nations Environment Programme, 2012)

- Venue selection
- Transport and travel
- Energy – power, lighting, heating and cooling
- catering
- Waste management
- Supply Chain

3.1 Respondents

The target population of this study represent the tourists and travelers of sustainable events through travel agencies and hotels who organize the event in Cairo Egypt. This category of travelers was chosen as they are supposed to be more knowledgeable and to have a basic understanding and relation with the topics of research in order to obtain significant data. The Questionnaires were distributed to the participants in hotels and travel agencies in Cairo, selected by their tendency to organize, host, and accommodate attendees of sustainable events and capacity to get enough informants. After the collection of the required quantity of completely filled questionnaires, the analysis was made using IPA technique. The survey was administered to 420 tourists and travelers. Data collection was carried out during the period from November 2018 to March 2019. There were 408 responses received, indicating an estimated response rate of 97 percent.

3.2 Research Instrument

The data collection methods of the study were questionnaire forms, to verify the gathered data. A questionnaire was developed to identify factors affecting sustainable events. The questionnaire was designed based on the United Nations Environment Programme guide,(2011) which divided into six factors that cover common environmental considerations and impacts of sustainable events for the organization. The six factors of the guide include venue selection; transport and travel; energy – power, lighting, heating and cooling; catering; and waste management. Moreover, these factors contain 35 sustainable events attributes were derived from a literature review and three focus group discussions. This list of sustainable events attributes was then sent to three identified groups for an explanation. The three identical groups were: academic staff, hotel and travel agents, and current tourists and travelers. Members of the three groups were asked to rate each of the 35 sustainable events attributes in terms of importance when selecting an event on a five-point Likert scale ranging from 1 least important to , 5 mainly important. After a careful screening analysis and recommendation from academic experts, 28 out of the 35attributes were selected.

These 28 attributes were regarded as the influential factors of sustainable events. Consequently, the form of the questionnaire included these six factors of the guide with a total number of 28 questions (attributes). The questionnaire comprised of two sections. The first Section represented the respondents' profile. The second Section consisted of 28 inquiries (attributes) to indicate the perceived importance of these items when the respondents attend an event and their perceptions of event performance. The questionnaire was structured so that each consideration was rated using a 5-point Likert scale, ranging from 1 least important to , 5 most important in the importance part. In the performance part, from 1 as strongly disagree to 5 as strongly agree. Reliability analysis of item-scale was conducted with 30 tourists. In the questionnaire, Cronbach's alpha of the study measures was above 0.70.

3.3 Data analysis

Data were analyzed employing SPSS version 16-software package. Suitable tools were used to examine the variables and find reliability. Cronbach's alpha was used to test the reliability of the data, the mean and standard deviation have been calculated to classify the sets and confirm however undiversified or discrepant (inconsistent) the sample is, concerning all analysis variables (Alsmadi, 2008). The descriptive statistics were used to analyze the demographic information and paired-samples t-tests were conducted to judge the mean value. Importance-performance analysis (IPA) was then employed to compare the perceptions of customers toward the most important factors of the sustainable events and performance of these factors.

With increasing global competition, the identification of the strengths and weaknesses of a product's and service's importance and performance appear as an irrefutable element of success. The analysis of the IPA is diagrammatically illustrated on a grid divided into four quadrants. The Y-axis reports the importance of customers' perceived of designated attributes and the X-axis presents the items and services performance in relevance to these attributes. The four identifiable quadrants are: Concentrate Here, Keep Up the Good Work, Low Priority and Possible Overkill (Chu, and Choi, 2000). Positioning the vertical and horizontal axes on the grid may be a matter of judgment (Bacon, 2003). The intersection of horizontal lines with vertical lines using the mean values of the importance and performance parts was designed to separate the imitative factors into four particular quadrants (Figure 2). Subsequently, the data was displayed on a grid where each factor was arranged according to its perceived importance and performance. The two-dimensional grid presented the attributes' importance on the vertical axis from high (top) to low (bottom) and the attributes' performance on the horizontal axis from high (right) to low (left). Figure (2) represents the resulting graphical representation of the data that created the four cells.

4. Results and Discussion

Of the respondents, a total of 408 out of 420 travelers completed the questionnaire, representing a response rate of 97 percent. The vast majority of the respondents were male (61.3%) and (38.7%) were female.

The largest age group was comprised of those who are between 30 and less than 40 years old (56.9%). Over 76 percent of the respondents reported that they were in high school. Nearly 45 percent of the respondents reported that they were from European Union countries, 20% from the USA, 35% were from Australia, and New Zealand. As shown in table (1), the mean scores of the six sustainable event factors and their retaining attributes for the tourists and travelers in relevance to Importance and Performance. The data were then represented by the IPA grid in Fig 2.

Table 1: The Profile of the Respondents

<i>Variable</i>	<i>Sample</i>	<i>Percentage</i>
<i>Gender</i>	N	%
<input type="checkbox"/> Female	158	38.7
<input type="checkbox"/> Male	250	61.3
<i>Age</i>		
<input type="checkbox"/> 24- less than	112	27.5
<input type="checkbox"/> 30- less than	232	56.9
<input type="checkbox"/> 40 - less than	55	13.5
<input type="checkbox"/> 50 and above	9	2.2
<i>Education</i>		
<input type="checkbox"/> Middle school	37	9.1
<input type="checkbox"/> High school	312	76.5
<input type="checkbox"/> Post graduated	59	14.5
<i>Nationality</i>		
European Union	183	45
Australia, and New Zealand	143	35
USA	82	20

In the first examination of the data, a reliability analysis was performed for measuring the reliability of the six sustainable events factors in order to know to what extent these items have an internal constancy. Cronbach’s alpha is used and employed here for that reason. The generally agreed upon lower limit for Cronbach’s alpha is 0.70 (Nunnaly, 1978). The results of the reliability analysis are presented in Table (2). As the table shows, the reliability analysis gave alpha coefficients exceeding (.70), for the six constructs which are regarded as acceptable reliability coefficients and a good indication of construct reliability.

Table (2): The measuring constructs reliability

N	Construct	Cronbach's Alpha
6	F1 Venue Selection	0.759
	F2 Transprot and Travel	
	F3 Catering	
	F4 Waste Disposaple and Recycling	
	F5 Energy	
	F6 Supply Chain	

Table (3) indicates that ,the mean Importance rating for the six factors was ranging from 4 to 4.10 and the mean Performance rating was ranging from 2.90 to 4.2.

Table (3): Mean ratings of importance and performance of sustainable events factors

Sustainable events factors	Importance		Performance	
	Mean ^a	Std. Dev.	Mean ^b	Std. Dev.
F1 Venue Selection	4.00	.489	4.2	.498
Provide information to staff and participants about the green aspects of the venue.	3.67	1.108	3.509	.9058
Have an environmental/sustainability policy.	3.93	.9935	3.237	1.2242
Apply environmental and social considerations.	3.79	1.046	3.311	1.083
Have training courses for staff.	3.95	1.21	3.916	.93415
Seating space allocation for disables.	3.78	1.001	2.953	.92217
Online marketing/promotional campaign.	3.51	1.193	2.666	1.2428
F2 Transport and Travel	4.0564	.505	3.59	.939
Good access to the main public transport.	3.993	.8397	3.257	1.0837
Promote the use of a “green” taxi operator.	3.824	1.144	2.995	1.1834
Publicising the public transport options.	3.620	1.240	3.617	.88163
Downloadable maps of the best walking or cycling	3.645	1.017	3.093	1.2065
Sustainable travel advice for people with	3.995	.8023	3.007	1.0146
F3 Catering	4.1054	.608	2.90	1.05
Information to staff and participants about the green aspects of the menu.	4.208	.8459	4.007	.76947
The catering company should be local, have an environmental policy and action plan.	3.819	.8123	2.625	1.1013
Encourage the use of water-and energy efficient kitchen appliances.	3.917	.9155	2.345	1.1306
Catering premises should be cleaned in an environmentally friendly manner.	3.968	.9121	3.887	1.0478
Identifying local community groups or waste contractors.	4.120	.7979	3.784	.95478
F4 Waste Disposaple and Recycling	4.142	.578	3.56	1.05
Avoid excessive paper use.	3.941	.8536	3.737	1.0666
Have a laptop and printer on site.	4.101	.8511	2.926	1.1126
Waste materials may be use of in a later event .	4.238	.7317	3.112	1.239
Waste produced catering should be collected	3.949	.8612	3.387	1.144
F5 Energy	4.091	.489	3.19	.854
Use of renewable energy sources,	4.299	.789	3.308	1.174
purchases its energy in a sustainable way	4.196	.8089	3.399	1.194
Maximises natural light	3.961	.9131	3.169	1.257
Low energy appliances	4.034	.5812	3.779	.6726
F6 Supply Chain	4.056	.505	2.94	.868
Considering environmental provenance	4.1005	.5756	3.7255	.6562
Ensuring suppliers have recycling policies	3.9534	.5295	4.120	.7632
Suppliers comply with, venue sustainability	4.2647	.6639	4.240	.6658
Setting monitoring and measurement standards	4.1225	.6536	4.105	.6395

^a Mean scale: 1 * least important to 5 * most important.

^b Mean scale: 1 * strongly disagree to 5 * strongly agree.

To complete the Importance-Performance analysis, a series of paired-samples *t*-tests were conducted to evaluate whether the mean performance scores differ significantly from the mean importance scores. Therefore, to assess significant differences between sustainable events travelers' perceived importance and performance perceptions on the 28 attributes, a paired sample *t*-test was conducted.

Table 4 showed results that indicated the mean importance and performance ratings of the 23 items of the sustainable events don't differ significantly.

Table (4): Importance-performance analysis of sustainable events factors

Sustainable events factors	Importance	Performance	Gap I-P	t-value	Significance (two-tailed)
F1 Venue Selection	Mean^a	Mean^b			
Provide information to staff and participants about the green aspects.	3.672	3.509	0.1	-8.840	0.000
Have an environmental/sustainability policy.	3.927	3.237	0.7	-9.061	0.000
Apply environmental and social considerations.	3.789	3.311	0.4	-6.673	0.000
Seating space allocation for disables.	3.779	2.953	0.8	-12.66	0.000
Online marketing/promotional campaign.	3.507	2.666	0.8	-10.11	0.000
F2 Transport and Travel					
Good access to the main public transport.	3.993	3.257	0.7	-11.33	0.000
Promote the use of a “green” taxi operator.	3.824	2.995	0.8	-10.53	0.000
Downloadable maps of the best walking or cycling routes.	3.645	3.093	0.5	-7.295	0.000
Sustainable travel advice for people with disabilities.	3.995	3.007	0.9	-16.34	0.000
F3 Catering					
Information to staff and participants about the green aspects of the menu.	4.208	4.007	0.2	-3.863	0.000
The catering company should be local, have an environmental policy and action plan.	3.819	2.625	1.2	-18.03	0.000
Encourage the use of water-and energy efficient kitchen appliances	3.917	2.345	1.6	-22.385	0.000
Identifying local community groups or waste contractors.	4.120	3.784	0.4	-5.687	0.000
F4 Waste Disposal and Recycling					
Avoid excessive paper use.	3.941	3.737	0.2	-3.055	0.002
Have a laptop and printer on site.	4.101	2.926	1.2	-17.301	0.000
Waste materials may be use of in a later event .	4.238	3.112	1.1	-16.082	0.000
Waste produced catering should be collected separately.	3.949	3.387	0.6	-8.417	0.000
F5 Energy					
Use of renewable energy sources.	4.299	3.308	0.9	-14.523	0.000
Purchases its energy in a sustainable way.	4.196	3.399	0.8	-11.307	0.000
Maximises natural light.	3.961	3.169	0.8	-10.628	0.000
Low energy appliances.	4.034	3.779	0.3	-6.169	0.000
F6 Supply Chain					
Considering environmental provenance.	4.1005	3.7255	0.4	-8.948	0.000
Ensuring suppliers have recycling policies.	3.9534	4.120	-0.2	3.781	0.000

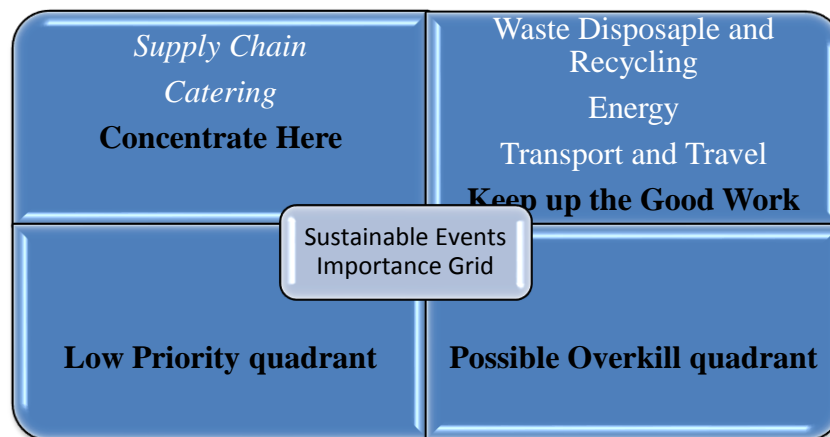


Figure (2): Sustainable Events Importance Grid

The above IPA grid matrix, figure 2, showed key strengths and weaknesses of the sustainable event Sector from the tourists' perspective. X-axis represents the perception of Performance scores relating to respondents' experience of Sustainable events items. The Y-axis represents the relative weights of the six Importance items relating to Sustainable events items. The four quadrants are constructed based on the mean scores of the Importance and Performance ratings. The results of the four quadrants are as follows:

Quadrant I - Concentrate Here quadrant- (High Importance, low Performance):

This quadrant presents the attributes which are perceived to be very important to respondents, but performance levels are fairly low. This confirms a point that improvement efforts should concentrate here. Two factors were identified in this quadrant, these factors are “catering” with 5 sustainable events items i.e (awareness of green aspects, environmental policy and action plan, the use of water-and energy efficient kitchen appliances, compost or anaerobically digest the waste food and environmentally friendly manner for cleaning) and “supply chain” related services with 4 sustainable events items. They were environmental provenance, recycling and other waste reduction policies, venue sustainability requirements, and monitoring and measurement standards. The results shown above suggest that special attention should be directed to the supply chain and catering related to sustainable event factor. For catering, the achieved mean of importance was 4.11, with performance mean 2.90. Furthermore, Food & beverages need food which is regionally grown, organic, seasonal, preferably vegetarian, and produced by local people. food and catering involve many people and may simply address the social integration of marginalized workers. once regionally and culturally appropriate, provide one vegetarian meal per day. With this one action the managers may attain sustainability goals, from minimizing CO2 emissions to rising participants' health, animal protection and awareness-raising. The served seafood should be from sustainable sources (e.g., use eco-labels like the Maritime Stewardship Council (MSC) to assist select products) and also the foods are not from endangered or vulnerable species (biodiversity targets) (United Nations Environment Programme, 2012).

However, the importance mean of (Supply chain) was 4 and the performance mean was 2.95. According to the UK's National Standards Body (2012) suggested that by reviewing how you at present have interaction and communicate with the stakeholders you've already known. Your ideal approach ought to support discussion on sustainability and balance your wider stakeholder engagement efforts. Beware that this doesn't have an effect on the other team's communications work. There are a number of communication's mechanisms – starting from the employment of internet sites, social media, newsletters and reports through to internal presentations, focus teams public conferences, surveys or matched conferences. Whichever you select, your approach should always take stakeholder interests into consideration. Sustainability can be a difficult topic to communicate – and you may need to simplify messages, avoid terminology and use language that people can relate to and understand simply. These results send a meaningful message to the destination and event managers, in that they should concentrate on these aspects from their customers' point of views. Resources should be directed to improving and maintaining the quality of their product regarding “catering “and “supply chain”.

Quadrant II - Keep Up the Good Work quadrant- (High Importance, High Performance):

In this quadrant, attributes are supposed to be very significant to respondents, and at the same time, the organization seems to have high levels of performance on these activities. The note here is to sustain the good work. venue selection; transport and travel; energy; and waste management were identified in this quadrant illustrated in Figs. 2. These factors were considered satisfactory in meeting travelers' needs. According to the results "Waste Disposable and Recycling" and "energy" were the next important factors after venue selection as supposed by travelers in the sustainable events with a mean rating of 4.09 with performance mean 4.

The result confirms the study of United Nations Environment Programme (2012) if you have the possibility to select your destination, choose one that is central to the majority of participants, easily reachable by bus by train and direct flights. Connecting flights considerably increase carbon emissions as the main impact is produced during takeoff and landing so maximizing the option of direct flights is essential. By doing an inventory of the expected origins and distances of attendees, you can find the best location). Following the subsequent recommendations, take into consideration that the quality and reach of public transportation systems, the availability and the recognized standards for efficient and low emission vehicles will vary considerably by region, as well as the levels of safety for walking or cycling. While effective transport planning is critical in achieving these objectives, poor venue selection will undermine all subsequent efforts to minimize transportation impacts. Therefore, a suitable venue close to good public transport links is highly desirable. as well as Zero Waste can provide support to event venues to help them improve resource efficiency and cut costs (Natural Scotland Scottish government, 2011).

However, it could conclude that the important point is that in the event industry, many players are all linked and depend upon one another. For example, the venue selection, relies upon the transport sector to transport guests to and from the venue. Similarly, the transport and catering sectors, both rely upon the suppliers and finally all of them rely upon the travel organizers or event organizers sector to provide them with customers. If one fails to deliver a service it has an effect on other sectors. This interdependence between sectors is effective in the overall service quality that the consumers perceive.

Quadrant III - Low Priority quadrant -(low importance, low performance):

The attributes of this cell with low importance and low performance was presented. While performance levels could also be low inside this quadrant, managers must not be to a fault involved since the attribute of this cell isn't looked as if it would be vital. Limited resources should be expended on this low priority cell. In other words, this quadrant identifies those items where are performing adequately, but travelers perceive them as less important when compared with other sustainable events attributes. However, there is no factor can be viewed in this quadrant.

Quadrant IV- Possible Overkill quadrant- (low importance, high performance):

This cell contains attributes of low importance, however comparatively high performance. Respondents are satisfied with the performance of the organizations, however, managers ought to take into account present efforts on the attributes of this cell as being overused. No factors can be viewed as areas of performance “overkill.” The analysis did not identify any attributes by sustainable event travelers as being low importance' with relatively high performance'. One possible explanation is that most travelers simply perceived that all attributes presented to them were important and that they would not accept a low performance of the service.

5. Conclusion and implementations

This study has categorized the 28 sustainable events attributes into six main factors: venue selection; transport and travel; energy – power, lighting, heating and cooling; catering; supply chain; and waste management. By using IPA, this study has compared the importance and performance of the sustainable events factors, as perceived by the study participants. The IPA grids have illustrated that the sustainable events factors which fell into the Concentrate Here quadrant were supply chain and catering. On the other hand, venue selection; transport and travel; energy; and waste management fell into the Keep up the Good Work quadrant. Furthermore, no attributes have been identified in the Low Priority quadrant and the Possible Overkill quadrant. This is part of achieving the goal because, some of the resources invested in enhancing the performance of attributes that fall in that quadrant are ‘wasted effort’ and can be better if diverted elsewhere given the relatively low importance of the performance of a destination on these items.

Furthermore, the results of paired sample t-test indicated that the mean importance and performance ratings of 23 items from 28 items of the Sustainable events factors didn't differ significantly on the perceived importance of sustainable events factors.

In particular, the study identifies as a prior area of intervention the improvement of sustainable events services. In the "Concentrate Here" quadrant, two indicators such as Supply Chain and Catering services –which are usually delivered by the public sector – are located in the high importance/low-performance grid importance and so they are perceived as relevant determinants of perceived quality of the tourists' experience. Therefore, the sustainable events stakeholders should divert the resources to venue selection; transport and travel; energy; and waste management which falling in the low importance but relatively high performance to these indicators as they played a great role to its global. These variables were praised to be very good performing or good standing by the sustainable events which indicated that those were the areas where the country needed the same and steadily continuous efforts to 'keep up the good work' or at least to maintain the current status. The activities involved in the execution of an event always impact the environment in some way. The areas of impact can be divided into resource use or emissions. The event manager should focus on the areas of purchasing, waste management, energy production, water management and transport in order to minimize the impact on the surrounding air, land and water. The event manager should keep in mind that a sustainability focus can affect the ideas, views and behavior of the participants, contractors, suppliers and the events industry (Jones, 2010). The sustainability focus can raise awareness of sustainable development and its importance towards our future. This result leads to the conclusion that these items should keep receiving a 'low priority' in resource allocation decisions and divert such resources to other priority areas (Manninen and Vanha-Rauvola ,2014).

The use of IPA has contributed to the literature and the industry. Academically, the use of IPA to investigate the difference between the importance of the sustainable events factors as perceived by travelers, and their perceptions of a sustainable events performance in relation to these factors, could contribute to additional research studies in the field of customer decision-process theory. In practical terms, the IPA technique has helped to divide the sustainable events (services and facilities) into four identifiable quadrants, so that stakeholders of the tourism industry are better able to understand how customers perceive their products and services. Moreover, the advantages of applying IPA analysis for sustainable events are firstly IPA is a relatively economical and easily understood technique. Using a simple quadratic presentation, one can display the results graphically on a two-dimensional grid that explicitly shows the strengths and weaknesses of the sustainable events attributes being studied. Secondly, using the results provided by IPA, the events managers can create marketing strategies based on the importance and perception of performance revealed in each quadrant, from the perspective of customers.

This is a useful and effective way for management to identify what problems exist, and how to manage. The IPA results can be used as a benchmarking tool in order to support the further improvement of the level of service quality. At the same time, the proposed framework could be adopted by other events to evaluate the quality of the experience offered to visitors, also comparing their own strengths and weaknesses with other potential competitor sustainable events. In this sense, the proposed analysis may be useful also as a strategic marketing tool able to show the main elements for differentiating tourist offer (De Nisco et al., 2015)

Therefore, some of the resources invested in enhancing performance of attributes that fall in that quadrant are 'wasted effort' and can be better if diverted elsewhere given the relatively low importance of the performance of a destination on these items. According to Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) (2018) The value added through sustainable events is sustainable events demonstrably reduce CO2 emissions. And last but not least, these sustainable events help to make commissioning parties (clients) and guests aware of the topic of sustainability. The destination should redirect its resources falling in the (overkill) quadrant to this (Concentrate Here) quadrant as the items in this quadrant play great role to its global competitive balance which is a typical of deploying scarce resources to where they are needed most (Weldearegay, 2017).

6. Further research

This study likewise concentrates only on identifying the elements of sustainable events based upon the ISO 20121 of sustainable events, it leaves scope for future researches to examine the effect of these factors on the environment. In addition to this, future researchers shall empirically investigate the travel agencies managers' point of view of sustainable events. It would similarly be fascinating to concentrate on Sustainable event management that could create added value – regardless of whether the sustainability is measurable or not. As the sustainable organization of events should contribute to the travel agency's reputation.

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إستخدام تحليل الأهمية والأداء لتحديد العوامل المؤثرة على الأحداث المستدامة: من وجهة نظر السائحين

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الملخص العربي

هدفت هذه الدراسة إلى إجراء تحليل الأهمية والأداء (IPA) لتحديد العوامل المؤثرة علي الأحداث المستدامة في مصر من وجهة نظر السائحين. توصل البحث إلي أن العوامل المؤثرة علي الأحداث المستدامة الستة التي تم تحديدها هي اختيار المكان ؛ النقل والسفر؛ استهلاك الطاقة؛ تقديم الطعام؛ الموردين؛ وإدارة النفايات. شملت عينة الدراسة ٤٠٨ من السائحين في مصر. أوضحت شبكات IPA أن عوامل القيمة المؤثرة علي الأحداث المستدامة في مصر كانت "تقديم الطعام" وشملت خمسة عناصر (الوعي بالجوانب الخضراء ، والسياسة البيئية وخطة العمل ، واستخدام المياه وأدوات المطبخ الموفرة للطاقة ، والسماذ العضوي وطرق التنظيف الصديقة للبيئة) و "سلاسل التوريد" وشملت ٤ عناصر (المنشأ البيئي ، وإعادة التدوير ، وسياسات الحد من النفايات ، ومتطلبات الاستدامة للمكان ومعايير المراقبة والقياس). علاوة على ذلك ، اختيار المكان ؛ النقل والسفر؛ استهلاك الطاقة وكذلك إدارة النفايات.

الكلمات الدالة: الحدث المستدام، تحليل الأهمية والأداء، اختيار المكان، النقل.