MAINTENANCE CULTURE AND SUSTAINABILITY OF TOURIST ATTRACTIONS IN UMUAHIA NORTH LOCAL GOVERNMENT AREA OF ABIA STATE.

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Abstract
This paper examined the influence of maintenance culture on the sustainability of tourist attractions with regards to the National War Museum in Umuahia, Abia State. Specifically, the study sought to identify the different types of maintenance culture engaged in at the tourist destination and to find out the extent maintenance influences sustainability of the tourist destination. Research questions were drawn based on the objectives. Hypothesis was equally formulated. The study adopted the survey research approach through the use of questionnaire where two hundred and two (202) respondents were sampled. Simple percentage, frequency and mean distributions were used to analyze the data generated for the study while Pearson correlation coefficient was used to test the hypothesis. The findings showed that the maintenance culture applicable in most tourist attractions is majorly planned maintenance and that generally, maintenance influences the sustainability of tourist attractions. Test of hypothesis showed that a strong positive significant relationship exists between maintenance and sustainability of tourist attraction. It was concluded that engaging in maintenance culture is imperative as this affects sustainability.
Keywords: Maintenance culture, tourist attractions, sustainability, national war museum.

Introduction

Tourism involves persons traveling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes (Iyiola, 2014). The tourism and hospitality industry are sectors that most countries around the world, including Nigeria,

try to develop. The beauty of development whether new or existing is maintaining whatever that has been developed to make it sustainable.

According to Chang (2010), maintenance is defined as a combination of all technical, administrative and managerial actions during the life cycle of an item intended to retain it in, or to restore it to a state in which it can perform the required function. Maintenance can be viewed from a different perspective; based on its objectives. The universal definition for maintenance is based on minimum principle of conservation and long-life cycle on structure, systems and equipment (Telang &Telang, 2010).

The structure refers to something constructed at tourist sites; the system consists of the components installed on the equipment and structure such as civil system, mechanical system and electrical equipment. Equipment is a tangible property besides land and building used in operations of a site thus, it is referred to as devices, machines, tools, or vehicles. All these items are tangible asset and have a life cycle that is required to be maintained and protected properly. The word maintenance is a noun derived from the verb "to maintain" which means the process of keeping something in good condition (Telang &Telang, 2010). The process of maintenance involves task or activities to restore the equipment to its normal operating condition, at minimum cost throughout their life cycle.

Brian (2019) noted that maintenance is portrayed as the set of actions carried out on an asset in order to ensure that the asset continues to perform its intended functions by repairing any equipment that has failed and/or by restoring it to its favorable operating conditions. According to Ojo, Odediran, Adeyinka and Oparinda (2011), the purpose of maintenance on tourist attractions is inevitably to extend their lifespan and improve the carrying capacity of the facilities; In other words, maintenance policies are planned to reduce the frequency of service interruption and the many undesirable consequences of such interruptions. Maintenance of tourist attractions clearly impacts on the quality of services rendered and on the system reliability of which, if little is done about it, may result to excessive number of costly failures and poor customer service satisfaction. Ojo et al. (2011) observed that in the last decades, maintenance strategies evolved with the aim of carrying out as little maintenance as possible and as infrequently as possible while at the same time preserving the availability of company assets. Tourism utilities have always needed maintenance programs to keep infrastructures in good working conditions for as long as it is feasible. Eraqi (2016) further explained that efficient maintenance policy improves the quality of tourism services production and delivery and should be matched with both the features and the explicit/implicit customer expectation. To ensure this, tourism establishments should endeavor to have good maintenance culture.

According to Suwaibatul (2012), maintenance culture is the values, way of thinking, behaviour, perception and the underlying assumptions of any person or group or society that considers maintenance as a matter that is important (priority) and practices it. When a person or group has maintenance

culture, they would have the attitude to maintain, preserve and protect the public facilities. Maintenance culture is not universal in nature, it is usually derived or learned through a person making maintenance a natural daily practice that can be followed and emulated by others (Florence, 2011). Enemuo, Ajala and Offor (2015) opine that the comfort of tourists during visits is very essential and always a priority because they count on the quality of service experienced and this goes a long way in attracting visitors to the destinations and making the destination a sustainable tourist attraction. Moreover, this would mostly be achieved through a well-maintained tourist facility and infrastructure.

As noted by Ranjbari, Esfandabadi, Zanetti, Scagnelli, Siebers, Aghbashlo, Peng, Quatraro and Tabatabaei (2021), in the past two decades, the sustainability concept has increasingly attracted both scholars and practitioners worldwide, incorporating three interconnected pillars. Sustainability deals with a balanced integration of social, environmental, and economic performance of human lives within the society, environment, and economy to the benefit of current and future generations (Geissdoerfer, Savaget, Boken & Hultink, 2017). These three pillars were utilized in the course of this study. Sustainability may then be defined as maintaining well-being over a long, perhaps even an indefinite period (Kuhlman & Farrington, 2010). Sustainable tourism, therefore, focuses on the comparative advantage and competitive positioning of tourist destinations enhanced by their commitment to sustainable development principles and practices (Ukabilu & Uzoho, 2014). Thus, equipment, facilities, systems and businesses should be maintained in order to be sustained for a long period.

Globally and especially in the developed countries, there are varieties and different categories of Museums for various purposes, that serve different interests such as Natural-history Museums, Science Museums, Art Museums, History Museums, children's Museums among others. Museums in Nigeria basically revolve around three or four major types namely, Ethnographic, Archeological, Colonial and War Museums (Onyejegbu, 2014). The type located in Abia State is the War Museum.

In Umuahia Abia State, National War Museum is perceived to be the most popular tourist attraction one can visit. The government that is the main stakeholder of most tourists' attractions has often failed to give sufficient attention to maintaining these attractions. This has in turn failed to boost the image of these attractions, resulting in low patronage by tourists. There are lots of machines and facilities in most tourist attractions that are no longer functioning as a result of lack of maintenance. The buildings of these tourist attractions that need maintenance are ignored. Moreover, most of the workers lack maintenance culture since it is not their private business. Nigeria is a tourism goldmine and nature's biggest gifts dwell in it but for many decades, there have been little or no new investments in the industry. Ayeni and Ebohon (2012) explained that the traditional tourist attractions, game reserves, nature reserves and museums are not adequately maintained nor physically

developed in line with ambient physical environment that enables a conducive atmosphere for attraction of domestic and international tourists. The element of maintenance culture is usually ignored by the hospitality industry and this may be because, they are not aware of the needs for maintenance culture to be implemented.

Objectives of the Study

The overall objective of the study is to examine the influence of maintenance culture on the sustainability of tourist attractions in Umuahia North L.G.A of Abia state. The specific objectives are:

1. To identify the maintenance culture applicable to tourist attractions.
2. To examine the extent that maintenance culture influences the sustainability of tourist attractions.

Research Questions

The following questions guided the study

1. What are the maintenance cultures applicable to tourist attractions?
2. To what extent does maintenance culture influence the sustainability of tourist attraction?

Hypothesis

Ho_1: There is no significant relationship between engaging in maintenance culture and sustainability of tourist attractions.

Methodology

Research Design

For the purpose of achieving the objectives of the study, a descriptive research approach was used through administration of questionnaire. Descriptive research method is important in this kind of research because it has the ability to clearly explain and organize complex phenomenon in a simpler and understandable form (Onwumere, 2009).

Area of the Study

The fieldwork for this study was carried out in Umuahia North L.G.A. of Abia State in the South-east geopolitical zone of Nigeria. It lies within latitude $4^0$40 and $6^0$1 N and longitude $7^0$10 and $8^0$00'E. Abia State covers a landmass of about 5,243 7km^2, approximately 5.6 percent of total land area in Nigeria (INEC, 2008). The State has an average population of 2,833979 persons (INEC, 2008; NPC, 2007). It shares common boundary with Rivers States on the south; Imo States on the west, Akwa Ibom and Cross River States on the east and Ebonyi and Enugu States to the north. Abia State has 17 Local Government Areas and three senatorial zones.

Population of the Study

The populations of the study include two managers (General and maintenance managers), four staff of the maintenance department and an infinite number of tourists (visitors) at National War Museum. The tourists who visited over the years were selected. The formula to find the infinite population according to Kothari (2004) in Onwumere (2009) is given as:

$$n = \frac{z^2.p.q}{e^2}$$

where, n = population size

z = the value of standard variate at a given confidence level and to be worked out from table showing area under normal curve.

p = sample proportion

q = 1-p

e = given precision rate or acceptable error

Now putting the value in the formula for infinite population, we get:

$$n = \frac{z^2.p.q}{e^2}$$

where,

z = 1.96 (desired confidence level is 95% and value obtained from table)

p = 0.5 (sample proportion).

q = 0.5 {(1-0.5) i.e 1-p}

e = 7% or 0.07 (precision rate or acceptable error)

$$n = \frac{(1.96)^2.(0.5).(0.5)}{(0.07)^2}$$

$$n = \frac{0.9604}{0.0049}$$

n = 196 Respondents

Therefore, the total population for the study is two hundred and two (202) respondents.

Sampling Techniques

The study adopted convenience sampling technique. Convenience sampling is a non-probability sampling technique. The reason for using convenience sampling is because some of the respondents were not willing and ready to answer the questionnaire at the time it was administered. This technique was used to select the tourists while purposive sampling technique was used to select the managers and staff because they serve the purpose of this study. One hundred and ninety-six (196) tourists, two (2) managers and four (4) maintenance staff were selected for the study making it a total of two hundred and two (202) respondents.

Instrument for Data Collection

The instrument for data collection is the questionnaire which was designed in five-point Likert scale close-ended questions including the following:

SA/VHE = strongly agreed/Very high extent = 5
A/HE = Agreed/High extent = 4
U/ME = Undecided/Moderate extent = 3
D/LE = disagreed/Low extent = 2
SD/NA = strongly disagreed/Not applicable = 1

Validity and Reliability of the Instrument

The instrument was validated by three experts in the field of hospitality and tourism and reliability test conducted using test-re-test method of reliability. A coefficient value of 0.74 was obtained using Crobanch Alpha showing an acceptable degree of reliability of the instrument.

Method of Data Analysis

Frequencies, percentage and mean distribution were used to analyze the research questions. Pearson moment coefficient of correlation was used to test the hypothesis in order to examine the strength and direction of the linear relationship between the two variables X and Y using statistical package for social sciences (SPSS) version 20.

Decision Rule

Based on the research questions, mean value above or equal to 3.0 will be accepted since the study adopted 5 point likert scale while values below 3.0 will not be accepted. For the hypothesis test, the sample correlation coefficient (r) may take on any value between -1.0 and +1.0. A correlation of +1.0 represents a perfect positive relationship between X and Y. Conversely, a correlation of -1.0 symbolizes a perfect inverse relationship between X and Y, where an increase in X determines an exact decrease in Y. When r = 0, it means that there is no relationship between X and Y therefore, the null hypothesis will be accepted.

Results

Six questionnaires were returned uncompleted and were therefore invalid. This made the total number of respondents to be one hundred and ninety-six comprising two managers, four staff and one hundred and ninety tourists.

Research Question 1: What are the Maintenance Cultures Applicable to Tourist Attractions?

Table 1: Maintenance Cultures Applicable to Tourist Attractions.

S/N	Maintenance cultures	SA %	A%	U%	D%	SD %	Total	Total score	$\bar{X}$	Remark
1	Planned maintenance	80 (40.82)	50 (25.51)	35 (17.86)	20 (10.20)	11 (5.61)	196	756	3.86	Accepted
2	Unplanned maintenance	70 (35.71)	60 (30.61)	40 (20.41)	15 (7.65)	11 (5.61)	196	751	3.83	Accepted
3	Preventive maintenance	75 (38.27)	55 (28.06)	35 (17.86)	21 (10.7)	10 (5.1)	196	752	3.84	Accepted
4	Corrective maintenance	65 (34.2)	50 (25.51)	45 (22.96)	25 (12.76)	11 (5.61)	196	634	3.23	Accepted
5	Scheduled maintenance	60 (30.61)	50 (25.51)	40 (20.41)	35 (17.86)	11 (5.61)	196	701	3.75	Accepted
6	Condition based maintenance	50 (25.51)	45 (22.96)	60 (30.61)	30 (15.31)	11 (5.61)	196	681	3.47	Accepted

SA= Strongly Agree, A= Agree, U=Undecided, D= Disagree. SD= Strongly disagree

Table 1 shows the maintenance cultures applicable to National War Museum. A mean of ($\bar{X}$ = 3.86) which was accepted showed that planned maintenance was applied in the destination. For unplanned maintenance, with mean ($\bar{X}$ = 3.83) above the criterion mean, the result revealed that the destination also used unplanned maintenance culture. Preventive maintenance culture with the mean ($\bar{X}$ = 3.84) was also accepted to be in use at the tourist destination. For corrective maintenance culture, the result revealed that with an accepted mean ($\bar{X}$ = 3.23), the destination equally adopts corrective maintenance culture. Similarly, scheduled maintenance culture with a mean of ($\bar{X}$ = 3.75) was accepted which showed that it is also applied in the destination. For condition-based maintenance, the result which shows mean ($\bar{X}$ = 3.47) was equally accepted. This also showed that it was applied in the tourist destination.

Research Question 2: To What Extent Does Maintenance Culture Influence the Sustainability of Tourism Attraction?

Table 2: Extent of Influence of Maintenance Culture on the Sustainability of Tourism Attractions.

S/N	Extent of Influence of Maintenance	VHE %	HE%	ME %	LE%	NA %	Total	Total score	$\bar{X}$	Remark
1	Maintenance increases conservation and life cycle of the destination.	70 (35.71)	50 (25.51)	40 (20.41)	20 (10.20)	16 (8.16)	196	726	3.70	Accepted
2	Maintenance reduces frequency of service interruptions at destinations.	60 (30.61)	40 (20.41)	50 (25.51)	35 (17.86)	11 (5.61)	196	691	3.52	Accepted
3	Proper maintenance improves the general quality of tourism destinations.	75 (38.27)	35 (17.86)	40 (20.41)	30 (15.31)	16 (8.16)	196	711	3.62	Accepted
4	Maintenance culture helps to improve social sustainability e.g. better working condition.	50 (25.51)	40 (20.41)	60 (30.61)	20 (10.20)	26 (13.27)	196	656	3.34	Accepted
5	Well maintained Tourist attraction improves environmental sustainability.	80 (40.82)	30 (15.31)	60 (30.61)	20 (10.20)	6 (3.06)	196	746	3.80	Accepted

6	Well maintained Tourist attraction improves economic sustainability.	40 (20.41)	50 (25.51)	55 (28.06)	35 (17.86)	16 (8.16)	196	651	3.32	Accepted

VHE= Very high extent, HE= High extent, ME= Moderate extent, LE= Low extent, NA= Not applicable.

The table above showed the extent that maintenance culture influences **s**ustainability of tourist attractions. The extent to which maintenance increases conservation and life cycle of the destination was identified. The result revealed that the mean ($\bar{X}$**=** 3.70) was accepted and this shows that maintenance increases conservation and life cycle of the destination. The extent to which maintenance reduces frequency of service interruptions at destinations was identified. The result revealed that the mean ($\bar{X}$= 3.52) was accepted and this showed that maintenance reduces frequency of service interruptions at destinations. With the extent to which proper maintenance improves the general quality of tourist destinations, the result revealed that the mean ($\bar{X}$= 3.62) was accepted, meaning that proper maintenance improves the quality of tourist destinations.

More so, the extent to which maintenance culture helps to improve social sustainability e.g. better working condition was identified and it showed that with the mean ($\bar{X}$= 3.34) which was accepted, maintenance culture helps to improve social sustainability. Also, the extent to which well-maintained tourist attraction improves environmental sustainability was equally identified. The mean ($\bar{X}$= 3.80) was accepted which means that well maintained tourist attraction improves environmental sustainability. The extent to which well-maintained tourist attraction improves economic sustainability was investigated. The result revealed that with a mean ($\bar{X}$= 3.32) which was accepted, a well-maintained tourist attraction improves economic sustainability.

Table 3: Test of Hypothesis

Hypothesis (Ho): There is No Significant Relationship Between Engaging in Maintenance Culture and Sustainability of Tourist Attractions.

Correlation	**MC**	**STA**
MC	1	.779
STA	.779	1

*Correlation is significant at 0.05 level (2-tailed)

MC= Mean responses on different maintenance culture adopted by tourist attractions, STA= Mean responses on the influence of maintenance on sustainability of tourist attraction.

The hypothesis in Table 3 shows a strong positive significant relationship of 0.78. This invariably means that maintenance culture has a positive significant relationship with sustainability of tourist attractions. Therefore, the null hypothesis which states that there is no significant relationship between engaging in maintenance culture and sustainability of tourist attractions was rejected.

Discussion of Findings

Research question one centered on the maintenance cultures applicable to the destination which are planned maintenance, unplanned maintenance, preventive maintenance, corrective maintenance, scheduled maintenance and condition-based maintenance. The results showed that National War Museum mostly use planned maintenance strategy though the Museum applies all the maintenance cultures in the course of maintaining their destination. According to Ojo et al. (2011), maintenance policies are planned to reduce the frequency of service interruption and the many undesirable consequences of such interruptions. The result of the study is also in line with the opinion of Suwaibatul (2012) who opined that maintenance culture are values, way of thinking, behaviour, perception and the underlying assumptions of any person or group or society that considers maintenance as a matter that is important (priority) and practices it.

For research question two which centered on the extent of influence of maintenance culture on the sustainability of tourist attraction, it was revealed that generally, maintenance increases conservation and life cycle of the destination, reduces frequency of service interruptions, improves the general quality of tourism destinations, helps to improve social sustainability e.g. better working condition, improves environmental sustainability as well as improves economic sustainability. This is in line with Enemuo et al.'s (2015) findings which showed that maintenance culture contributes to the sustainability of hospitality establishments. According to the authors, maintenance will increase durability of building, effective functioning of facilities, reduce damages and replacement costs, increase efficiency and speed of delivery, increase safety and security, reduce risks, increase general quality of the establishment, create better working condition, increase condition and appearance of establishments and cause establishments to be in long term business.

The hypothesis which states that there is no significant relationship between engaging in maintenance culture and sustainability of tourist attractions was tested using Pearson correlation coefficient. The mean values on the different maintenance cultures applied in tourist attractions were correlated with the mean values of its extent on the sustainability of tourist attractions on a 2-tailed test of significance. The result revealed that maintenance culture has a strong positive significant relationship with sustainability of tourist attractions with a correlation result of 0.78. The null

hypothesis of no significant relationship was rejected. Therefore, maintenance of tourist attractions influences sustainability.

Conclusion

Maintenance is very important because the beauty of any tourist attraction depends on its visual appearance. Moreover, the more equipment and facilities are maintained constantly, the more sustainable they become. The study has elaborated on the need for tourist attractions to be maintained in order to be sustainable for generations to come. This will require effective maintenance culture and participation by all stakeholders. This work has shown that the destination investigated maintain their facilities and this has contributed to the sustainability of the tourist attraction. Based on these findings therefore, management of tourism attractions should see the need to incorporate different types of maintenance culture in their destination as this will go a long way to support sustainability. It will also be in the interest of tourist attractions if sustainable practices should not be left in the hands of government alone as it is important that every individual working in both public and private tourist destinations see the need for maintenance culture and treat it as a matter of concern since it is proven to influence sustainability.

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