Museums and Their Challenges in Contemporary Times

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Abstract

Museums occupied a significant position in the preservation and conservation of the artefacts, monuments and all the equipment of the histories of various people and ages. In the course of time many types of museums began to emerge depending on the needs of various organizations such as educational institutions. This plethora of museums also gave rise to numerous functions but all of them revolved around their statutory collection, conservation and preservation of historical artefacts for future generations. A lot of research has been carried out on museums over time, but these studies were inadvertently skewed away from the challenges of museums especially in contemporary times. This study therefore filled this gap in knowledge. Library method of analysis through the examination of numerous literary works was used. Different types of museums and their roles were highlighted. Museums and their challenges in contemporary times such as challenges of funding, physical structures and preservation of artefacts, challenges of chemicals and those arising from environmental pollutions were discussed. Due to developments in the world in recent times such as climate changes and the influence of human activities which tended to threaten the sustainability of museums and cultural heritages and their preservations; it was recommended that the integrity of the cultural assets be protected through green practices. It was further recommended that efforts should be made by the appropriate authorities to install deformation monitoring devices in cultural heritage sites with automatic systems for data acquisition and recording. Through this mechanism, it is hoped that some of these challenges could be mitigated.

Key Words: Museums, Challenges, Contemporary Times, Cultural Heritages, Sustainability

Introduction

The acknowledgement of cultural heritages as an irreversible wealth of human civilizations that are critical to the appreciation of human evolution and cultural diversity

necessitated the establishment of a specific institution called museums to ensure the accumulation, preservation and transfer of cultural capital from current to future generations.

Museums have therefore, been variously defined from different scholastic prisms. Dean and Edison (2013) defined it as an entertainment and educational institution that conserves a collection of artistic, cultural and scientifically important artefacts that make these collections available to facilitate public historical narrations for entertainment and educational purposes using various display ways. Orange (2018) on the other hand, argued that museums are non-profit institutions designed to service the society and open to the public, which conserves, researches, communicates and exhibits the tangible and intangible heritage of humanity and its environment for the purposes of education, study and enjoyment.

However, irrespective of the definitional divide, a certain set of values and behaviors embedded in cultures should be developed among individuals in order to reach environmental responsibility, social justice and economic development because societal cultural disintegration will inevitably lead to the disintegration of the natural, social and economic components. Therefore, scholars are in consensus that the mission of museums includes the systematic collection, preservation, study and interpretation of the tangible and intangible material evidence of any people.

Andre, Durksen and Volman (2016) contended that contemporary museums are saddled with the task of not only storing and preserving historical values, but also engage in their utilization for the purpose of learning. And learning in museums according to Lave and Wenger (1991) and Harrington and Oliver (2000) is one form of situated learning that facilitates a variety of knowledge and learning opportunities which enhances peoples' interest in knowledge accumulated in museums especially when they interact with virtual artefacts (Schneider, 2019).

In economic development sphere, the role of Museums as demonstrated by many scholars (Kotler, Kotler and Kotler 2008) have been enormous especially in tourist development strategies of various regions and their contributions to the increase of residents' income and job creation (Gils and Ritchie, 2009).

Problem Statement

The apparent significance of museums in the collections, preservations and utilizations of tangible and intangible material evidence of people in learning, aesthetics, economic

development etc., appears to be endangered given the numerous challenges of this institutions in contemporary times if measures are not put in place to reverse these ugly trends. Numerous studies have been conducted on museums and their sustainability (Pop and Borza, 2016, Loach, Rowley and Griffiths, 2016, Pop, Borza, Buiga, Ighian and Toader 2017, Abulude, et al 2017) and in other areas (Albattat and Ferdous, 2020, Onaade Ojo, Taye Pedro[2] and Olayemi Nwogbe, 2019) but these studies were skewed away from the challenges of museums in contemporary times. This research work on the challenges of museums in contemporary times is therefore geared towards filling this gap in knowledge. The broad objective of this paper is the discussion of museums and their challenges in contemporary times. The specific objectives include:

1. to outline the different types of museums,
2. the functions or roles of museums in contemporary times,
3. the challenges of museums in contemporary times.

Library method of examination of numerous published literatures was adopted in this study.

Museums are complex organizations mainly as a result of their multifaceted objectives of achieving simultaneously their socio-cultural goals of conservations and interpretations of artefacts as well as their commercial goals associated with spending in leisure time, tourism, and the increase of the museums' earned income (Camarero and Garrido, 2012).

Museums, generally are perceived as objects of tourist flow promotions due to its contribution to the economic and socio-cultural development of the region where it is situated, but that is not the only function of museums in contemporary times.

Types of Museums

Pop and Borza (2016) observed that museums differ a great deal from each other in terms of funding, size, type and collections. Traditional museums, in recent years have been supplemented by new types of museums such as interactive museums (Ambrose and Paine, 2012), ecomuseums (Donghai, 2008) and museums that do not own collections but are successful due to the cultural and educational services they offer to their visitors (Skramstad and Skramstad,2012). Walhimer (2017) on the other hand, identified about nineteen (19) types of museums as Transportation museums, Visitor centers, Nature centers, Military museums, Arts center, Art museums, Zoos, History museums, Historic sites, Historic houses, Sculpture gardens, Aquarium, Natural history museums, Science/Technology centers, Botanic gardens, Anthropology museums, Children's museums, Local & State

History museums.
Museums Association of London on the other hand estimated that there were about 2500 museums in the UK, ranging from national museums to local authority run museums that hold collections which tend to 'reflect local history and heritage'. In addition there are many university museums who maintain collections relating 'to specific areas of academic interest', and a diverse range of independent museums 'owned by registered charities and other independent bodies or trusts, who hold materials that vary considerably in their area of interest, focusing on anything from tanks to pencils (Museums Association 2015).

Museums, like any institution tuned with the dynamics that have changed since the emergence of technology in our daily lives, also seek to present to their visitors' information about their collection and cultural activities in an increasingly interactive and innovative way.

The Internet has changed the way people and institutions communicate in general. Therefore, developments in information and communication technology have revolutionized virtually all aspects of human life including the museum institution. Museums, like any other institution, are present in the world wide network and their websites have proliferated since the 1990s (Oliveira & Silva, 2007). Today, many museums have their institutional websites (Pinho, 2007) and seek to bring to their audience information about the content of their collections and the cultural activities they have developed; presenting themselves in an increasingly interactive and innovative way (Pujol- Tost, 2011; Mateos-Rusillo & Gifreu-Castells, 2017; de Almeida Martins & Baracho, 2019). Suffice it to say that the use of technologies is increasingly observed to attract more public and add informational value to contemporary museum exhibitions. Museums have used the Internet in streamlining their activities, developing websites, and, in some cases, offering technologies that make virtual visits possible (de Almeida Martins & Baracho, 2019).

Daniels (2020) discussed virtual museums as learning agents and evaluated them from a phenomenological perspective to understand their potential for educational purposes. This is anchored on the belief that different virtual solutions allow diversification in access to information, learning, and getting to places one would ordinarily, not be able to go (Kapp, 2017). Virtual museums could serve as a tool for learning by entertainment, where learning takes place through active exploration, collaborating with virtual agents (Lepouras Katifori, Vassilakis and Charitos, 2004) or as an interaction with a virtual narrator that is humanlike and capable of

communicating, while using the museum.

Functions or Roles of Museums

The traditional functions or roles of museums have been collection, conservation and research of the region's heritage (Gray, 2011). Some other roles of museums include social, educational, cultural-artistic which could be diversified or expanded further to include venues for experience sharing (Mencarelli, Marteaux and Pulh, 2010) spaces for interaction, playing or education (Genoways, 2003, Grenier, 2010, Zbuchea, 2014, Lord, Lord and Martin, 2012). Museums in contemporary times in addition performs the roles of an instruments of mass culture communication that contributes to improvement of social life, engines for economic development of their respective communities, tourist attractions within cultural center, sources of income, and instruments for manpower employment (Gunay, 2012) etc.

Another basic function of museums is the conservation and valorization of the cultural resources of a community, and it is expected that through these role, it can contribute to the sustainability of their cultural and natural environments. In addition to their role in the conservation of cultural resources, museums according to Yuqin (2008) possess the capacity of protecting and preserving the local biodiversity.

Furthermore, in their educational functions and the exhibitions they organize occasionally as well as the leadership position they assume in championing discussions about changes within their areas of location, Sutter (2008) argued that museums possess the potential of influencing people's attitudes towards their natural environment.

Traditional learning, indeed is based on cognitive experience, logic, and rationality, but the learning model offered by museums is based on emotional perception, experimentation, interaction, and the personal experience of creativity. The ability of the arts to evoke creativity, to teach people to look at their lives and societies in a critical way, and to re-examine social stereotypes, is particularly valuable for thinking about the future (Moldavanova, 2016).

Tourism and travelling have been aspects of humanity from the beginning of times. And in tourism, people want to explore some historical sites, visit some museums in order to have glimpses of certain artefacts, purpose of trade at different times, religious convictions of people and some other diverse motivations such as aesthetic artefacts of various communities.

Jansen-Verbeke & Rekon, (1996), described visitations to museums as an important and pleasurable aspect of tourism because, in addition to their attractiveness, museums generate jobs, growth, income and economic development for tourist destinations (Kotler & Kotler, 2018).

The economies of some nations have been boosted as a result of touristic attractions to their museums. For instance, Swarbrooke (2015) narrated how a closed mine in Pendeen, UK was turned into a museum, which generated new jobs for the residents, valorized the natural and cultural resources of the respective region, and attracted as much as 40,000 visitors per year. Similarly, Wickham and Lehman (2015) in Australia observed that, in 2009, "domestic overnight cultural and heritage tourists boosted their economy by the sum of 10 million Australian dollars because the visitors who attended the cultural and heritage activities spent an average of 1030 Australian dollars per stay. Siu, Zhang, Dong and Kwang (2013) reported that the museum sector's contribution to the British economy was more than that of the automotive industry or the publicity and film industry.

Challenges of Museums in Contemporary Times

Museums in contemporary times have evolved into various forms and roles and are therefore confronted with myriads of challenges both in the discharge of their traditional roles as tourists' attractions and exigencies of environmental-cum climatic changes. For instance, the economic recession, increased competition in the leisure market and the reduction of public funding for cultural organizations occasioned by economic recession were factors that have had adverse implications on the growth and development of this industry.

Challenges of Funding in contemporary times

For many museums, an increasingly important challenge is the strategies to ensure their own sustainability (Swarbrooke, 2015). It is only when museums are able to ensure their own survival and development, that they can contribute to the sustainable development of their respective communities and perform other statutory functions. Chitima (2015) identified demotivation of museum staff due to low salaries, lack of resources needed in order to carry out the museum's activities appropriately; the inappropriate attitude of some staff as regards the use of public resources, lack of expertise in the field of collection conservation as a major factor facing the growth and development of the museum industry.

The fact however remains that financial constraints and the intense competition for attracting funds have led many museums in recent years to change their focus from cultural heritage to market (Tsai and Lin, 2018) . In order to collect resources for their survival, museums have started to apply management strategies that often sought to maximize the economic, social, and cultural value they provide for their users (Moldavanova, 2016, Larkin,2016). These strategies allowed museums management to gain a competitive advantage and financial support from tourists, authorities, and community members. Thus management leveraged on this tool which helped museums earn money for preserving the heritage by satisfying the visitors' needs and contributing to the community well-being (Pencarelli, Cerquetti and Splendiani, 2016). However, (Loach, Rowley and Griffiths 2017) posited that the pressure to meet targets and demonstrate value' by becoming socially, economically, and environmentally sustainable could lead museums to neglect their original mission of acquiring, preserving, and researching collections due to financial constraints.

Irrespective of the variety of economic, social, cultural, and environmental benefits generated by museums, Moldavanova, (2016) argued that under funding remained one of the major challenges facing numerous museums. Consequently, it was not surprising that during the last economic crisis, many museums were compelled to apply unwholesome strategies to improve their competitive advantage and effectiveness including being forced to sell their works from their collections, or even merge with other museums to survive. This is so because the limited and often insufficient financial resources of museums and the fact that they must incur certain costs in order to perform conservation and restoration activities made this option inevitable (Camarero, Garrido and Vicente, 2011).

Challenges on Physical Structures and Preservation of Artefacts

Sustenance of cultural artefacts involves the protection of museum heritage through the installation of safety and security systems that guarantees adequate microclimatic conditions such as light, humidity, and temperature which are the most important parameters, that require special attention in exhibitions and warehouses (Pencarelli, Cerquetti, and Splendiani, 2016). However, Zhou, Chen and Guo, (2015) argued that the challenges of climatic changes and natural imbalances in museums such as drought, floods, fires, hurricanes, and landslides were factors that may seriously damage museums' collections if they are not controlled.

Challenges from Chemicals in Contemporary Times

Uwaegbulam et al (2015) observed that Nigerians inhale daily a deadly mixture of

Particulate Matter, asbestos, Sulphur Dioxide Nitrogen Oxide, Carbon Monoxide and partially unburnt hydrocarbons.

At the global level, these substances contributed to the death of about seven million people and their effects and potential damage to historical museums could be through the media of rain or wind. Their effects on museums may be small or may have permanent consequences (Rogers, 2017). Acid rain occurs when fossil fuel emissions containing Sulphur dioxide combine with moisture in the air to form acidic precipitations.

Global warming (Temperature increase) is another challenging factor in the preservation of cultural artefacts in museums. Global warming occurs when greenhouse gases such as carbon dioxide ($CO2$) trap radiant heat at the earth's surface, which causes temperatures to rise. Other factors are humidity which gives the necessary environment for corrosive chemical reactions on museum collections. Sun radiation could increase temperatures on the surface of the artifact and also show the effects of global warming on a specific area of cultural collections (Rogers, 2017).

For instance, PTI (2016) reported that in New Delhi, India, there were evidences of these happening to the Taj Mahal in Agra. In addition, the limestone in the area gradually turned to yellow colour on the walls. Similarly, Biswas, (2015) in Acropolis, Greece, reported that air pollution had negative impacts on historical museums, monuments and buildings, just as the Baha'i worship center in Kalkaji has been slowly turning grey. In San Francisco de Campeche City, Mexico, on the other hand, Reyes *et al*., (2011), reported the degradation of the historic building, while Kanani and Zandi (2011), depicted the effects of acid rain on Alavian dome and the Jewish Synagogue, Hamadan, Iran.

Although Nigeria is blessed with both natural and human resources including some historically and culturally rich monuments which are found across the country, Adedeji and Opeyokun (2010) argued that their maintenance is one of the greatest challenges faced by the museum authorities as their study revealed that part of the monumental building (35% partial collapse) in the South-west of Nigeria is affected by the environmental pollution and parts affected are solid blocks.

Challenges of Pollutions in Contemporary Times

Museums, are vulnerable to risk due to exposures to the gaseous and particulate pollutants (Blades *et al.* 2000), Extensive exposure of cultural artefacts in museums to pollutants could cause severe damage because the depreciations in cultural heritages is

generally slow, continuous and progressive. Pollution of museums and their collections could be airborne from both the indoor and outdoor sources within the museum environment. Abulude et al; (2017) argued that air pollution in and around the museums occur when gaseous pollutants such as Sulphur dioxide (SO_2), Nitrogen dioxide (NO_2), Ozone (O_3), Hydrogen sulphide (H_2S), Formic acid (HCOOH), Carbonyl sulphide (OCS) and Formaldehyde dissolves in moisture or water and forms weak or strong acids. According to these scholars, gaseous pollutants have either acidic or oxidizing effects on both staff, visitors and museum items.

Other challenges of museums in the contemporary times could stem from the acidic substances that are corrosive in nature and may produce the following deleterious effects on the heritage items such as degradation of photographic negatives, weakening of cotton, wool, silk, linen fabrics and corrosion of items made of Iron. Museum artefacts made of leather could also lose strength and flexibilities just as the formation of acid rain could also dissolve materials in the museums.

Another challenge faced by museums in contemporary times could emanate from oxidizing substances, as oxidation reactions take place on the museum items forming acids in organic materials. Oxidants according to Abulude et al, (2017) may have the following effects on museum artifacts, namely, textiles could become brittle, cracking of rubbers and plastics, fading of dyes and pigments, paint binder is attacked, as well as destruction of items through deterioration.

Furthermore, museums in contemporary times are confronted with man-made challenges of gases released into the air. When gases released into the air from vehicles, heating systems, factories, and power stations, get into archives and museum buildings, their impacts cannot be easily quantified over time.

Sulphur dioxide (SO_2) from burning of oil or coal, chemical degradation of natural substances in the environment possesses a serious challenge to museums and cultural heritages. Studies have shown that there could be a significant deposition of calcium sulphate from the atmosphere to large gypsum accumulations in more or less pure silicate sandstone (Fassina, 1988). Museum objects mostly attacked are masonry materials such as many types of sandstone, granite, and brick because of the dry depositions which produces thin black accumulations on these artefacts. Consequently, paints and dyes are damaged, photographic materials are attacked, metal objects are tarnished, papers are embrittled and discoloured, and the strength of textiles are reduced.

Nitrogen Dioxide (NO_2) released through the decomposition of cellulose nitrate, gas heating and cooking appliances or outdoor, nitrogen dioxide produced from car fumes in combination with moisture in the air, produces nitric acid (HNO_3). Van Grieken (2010), has shown that nitrate salts with their high solubility when transported into the inner part of the calcareous stone, undergo phase transformations such as crystallization and hydration, depending on the temperature and relative humidity. Apart from the deterioration which occurs due to the cracks in the stone structures of museums, the strength of textiles is reduced, just as photographic films and textile dyes are negatively impacted.

In contemporary times formic acid (HCOOH) substance which may originate from wood products, paints, lacquers and varnishes, glues and adhesives, pesticides, insecticides, fungicides, and adhesive tape have been shown by Scottish Museums Council, (2003) to be harmful on metals, papers, photographic materials, slides, textiles, magnetic tapes and plastics and should therefore be handled with care to avoid damages on museums. In contemporary times also particulate pollutants such as dusts and aerosols which remains suspended in the air for a very long time could become sticky and abrasive. When they settle on any material whenever the speed of the air is low or still can be so small that they can pass through the tiniest cracks and if they are entrapped or held down by electrostatic attraction (Museums Galleries Scotland, 2017), could produce the following effects on Museum and Monuments:

- Particles in conjunction with sulphur dioxide, form acids which causes corrosion and fungal growth.
- Traces of metals in the particles can also speed up the deterioration of organic materials.
- When dispersed into the air and often cause soiling in urban museums.
- Emitted particles darken oil paint films and discolour many dyes and pigments.
- Some materials lose their strength when exposed to alkalis.
- Salt-containing dust particles can support the growth of fungi and micro-organisms (Abulude et al, 2017).

In some areas, Oluwasegun *et al.,* (2016) reported that the hostile environment with high humidity and the warmth of the sun could combine chemically to have a bad influence on the concrete, which most of the outdoor sculptures are made of. In addition, bacteria, algae, and other organisms that thrive in damp environments thriving on many pieces of outdoor sculptures, and their byproducts are typically corrosive in nature and as erosion occurs, the outer surfaces of the sculptures are chemically altered, especially the fiberglass type, which eventually detaching and falling off completely when not

remedied, such as the *Oduduwa* statue in Ile - Ife (Plate 1), the extinct *Bata* Metal Drummer (Plate 2), Iba Oluyole (Plate 3), Iba Oderinlo (Plate 4) respectively.

Conclusion and Recommendations

Museums represent vital organizations in our societies, as they not only conserve, preserve and protect our cultural heritage but also contribute to the economic growth of countries, mainly through cultural tourism. In contemporary times museums have the task of not only storing and preserving historical values, but also of using them for learning purposes. However, developments in the socio-cultural and economic environments in contemporary times have not only constrained museums to shift emphasis from their traditional and statutory roles to other areas in order to remain afloat. Also developments in the world in recent times such as climate changes and the influence of human activities appear to threaten the sustainability of museums and cultural heritages and their preservations.

Previous studies laid more emphasis on sustainability of museums and paid scanty attention to museums and their challenges in contemporary times. It became necessary therefore to fill this gap in knowledge through this study. This study therefore highlighted the challenges of museums in contemporary times by outlining different types of museums and the few significant roles of museums.

The challenges of museums in attempting to keep afloat with her statutory obligations in the face of paucity of funds and economic recessions' were examined. Environmental challenges such as pollutions and their effects on museums were also attempted.

Recommendations

In order to protect the integrity of the cultural assets and achieve heritage preservation objectives, it is recommended that the natural environment should be kept safe through green practices to control the microclimate conditions within and outside the museum.

In the drive to be socially relevant and up-to date, museums should increasingly use *social media* and adopting *technology* (digitizing their collections, creating user-friendly museum web-sites, hosting on-line forums). This is hoped will help museums to achieve greater relevance, particularly, in their work with the younger generations.

Cultural heritage digitization is one of the best solutions to preserve social and collective memory and extend the public access to collections at the same time.

Deformation monitoring in cultural heritage sites should be carried out by installing electrical sensors in selected structures with automatic systems for data acquisition and recording or by using portable instruments with manual reading of data taken at fixed time intervals.

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