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The museum and digital transformation: reforming national museums in Nigeria towards a new normal

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Abstract

Nigeria is home to 53 National Museums, 65 National Monuments, and 2 world heritage sites. The development of information, communication, and technology (ICT) in the twenty-first century has led to a digital transformation of museums, with the use of digital tools in areas like virtual tours and visits, exhibitions, performances, concerts, and documentation, among others. Unfortunately, for a number of reasons that will be discussed in this paper, Nigeria is still falling behind in this age of digital transformation. This essay examines the history of museums and the idea of 21st-century digital change. It examines the numerous strategies that museums throughout the world have embraced in an attempt to draw in more visitors and maintain their financial viability over time. A comprehensive understanding of digital transformation requires an analysis of its drivers and constraints using a variety of theoretical frameworks. This study uses a qualitative method for data collection and analysis. The historical research design is applied in this study. Primary and secondary sources of data were gathered for this research study from books, journal articles, newspaper editorials, conference proceedings, magazines, websites, and new media are some of the resources that are used in the data collection process drawn from selected relevant museums, cultural agencies, literatures, curators, and scholars. The research comes to the conclusion that national museums must embrace a national model for digital transformation in order to transform digitally. This would ensure that the museum stays relevant in the twenty-first century while protecting its

unique cultural legacy and help save a lot of jobs. Museum stakeholders were given recommendations based on strong evidence, with a special emphasis on Nigeria, about how to continue to be relevant in fostering meaningful debate in the era of digitization.

Keywords: Museum, Digital Transformation, Information, Communication and Technology, National Museum, Digitization

Introduction

History demonstrates that the one constant in all human undertakings is change. From the era of prehistory to the era of the industrial revolution, artificial intelligence and information and communication technology (ICT) have become ubiquitous in the twenty-first century. The digital revolution, sometimes referred to as the fourth industrial revolution, is a new normal. Information and communication technology (ICT) and digital breakthroughs that use tools and technologies to further human endeavor are its defining characteristics. Furthermore, these developments have impacted every industry and had unintended consequences for those who have rejected the advancements brought about by this new century. More specifically, as ICT and digital technologies are being used in fields like print, film, music, museums, and theater, the arts industry is not excluded. Like other industries, the arts sector embraced the new inventions and changes brought about by the COVID-19 epidemic, which was typified by digital transformation. During the epidemic, policies like social separation and isolation allowed digital change to flourish across many industries.

Digital transformation is defined as the transformation of work events, processes, competences, and models by aligning them with the changes and opportunities in digital technologies (Betchoo, 2016). This definition suggests that digital transformation is an era that has come to stay and has affected every facet of human endeavors. Digitalization as it is also called, transforms analogue material into a digital format and double digits (Tilson, et al, 2016). This relates to the changes affecting the Museum industry which from onset has been used to conventional analogue styles but today has started going digital which has attracted more proceeds. Ganguly (2015) and Rogers (2016) reveal that about 84% of organizations are making efforts to develop a vision, plan and application for digital transformation not because they see it as an organizational mission, but because they see Information Technologies as a benefit. In addition, Hrustet et al. (2019) suggest that digital transformation can be realized in three different methods such as: customer-based, organization-development based, and technologically-based.

Customer-based digital transformation can be achieved by the desires and needs of the customers, while organization-development based is developed with the aim of increasing profit, cutting costs and maintaining output and for the last method, technologically based digital transformation entails the changes and opportunities stemming from digital technologies. In relation to this subject matter, museums can integrate these three models of digital transformation in order to respond to the new normal. For digital transformation to take place, information communication technology (ICT) plays a vital role. In the world today, ICT, social media, virtual reality (VR) and artificial intelligence (AI) are contributing significantly to the operations of museums.

The word *museum* originated from the Greek word “mouseion” which meant the “seat of the Muses” which was a designated philosophical institution or a place of contemplation. During the Roman age, it was a place solely for philosophical discussion. The historic museum at Alexandria founded by Ptolemy Soter in the 3rd century was primarily used to preserve and interpret material aspects of heritage (Simmons, 2010). In the 15th century, the word *museum* was revived to describe the collection Lorenzo de’ Medici in Florence, but the term conveyed the concept of comprehensiveness rather than denoting a building. By the 17th century, *museums* were described as collections of curiosities in Europe. During the 19th and most of the 20th century denoted a building housing cultural material to which the public had access (Findlen, 1989). The International Council of Museums ICOM, which is the body that regulates the activities of museums globally adopted the definition for “museum” according to the ICOM Statutes, which was adopted by the 22nd General Assembly in Vienna, Austria, on 24 August, 2007: A museum is a non-profit, permanent institution in the service of society and its development, open to the public, which acquires, conserves, researches, communicates and exhibits the tangible and intangible heritage of humanity and its environment for the purposes of education, study and enjoyment. The International Council of Museums undertook a project to update the existing definition of “museum.” This is the proposed new definition for “museum”:

“Museums are democratizing, inclusive and polyphonic spaces for critical dialogue about the pasts and the futures. Acknowledging and addressing the conflicts and challenges of the present, they hold artifacts and specimens in trust for society, safeguard diverse memories for future generations and guarantee equal rights and equal access to heritage for all people. Museums are not for profit. They are participatory and transparent, and work in active partnership with and for diverse communities to collect, preserve,

research, interpret, exhibit, and enhance understandings of the world, aiming to contribute to human dignity and social justice, global equality and planetary wellbeing". (ICOMS, 2007)

Evolution of museums in nigeria

The origin of museums in Nigeria dates back to the pre-European era. During this time, traditional shrines and the palaces of ancient kings housed cultural artifacts of religious, political, and social significance. These establishments not only functioned as monuments in and of themselves, but they were also in charge of housing these materials. At that time, heads of households and priests who served as curators at different shrines were in charge of maintaining and safeguarding these artifacts. The earliest modern museums appeared in the early 1930s. K.C. Murray, J. D. Clarks, B. E. Fagg, Hunt-Cooles, and Milburn—colonial masters in Nigeria's education sector—were the main players in this. They received invitations to instruct art in high schools and teacher preparation programs. In their effort to protect antiquities, they put pressure on the colonial authorities to establish museums and enact laws prohibiting the export of cultural relics. As a result, on July 28, 1943, the Nigerian Antiquity Service was officially launched, with K. C. Murray served as its first Director. With the adoption of Decree No. 77, which dissolved the Antiquities Commission and replaced the previously established Department of Antiquities with the National Commission for Museums and Monuments (NCMM), a thorough review of the laws pertaining to Nigeria's cultural resources was carried out in 1979. With further responsibilities given to the Commission and more, the NCMM oversaw the construction of monuments and museums in many regions of the nation, including Esie, Jos, Ile-Ife, Lagos, and more. (Nzewunwa, 1984)

Theories of digitalization

Two theoretical frameworks that focus on digital transformation are the technology enactment framework and digital era governance approach. Fountain's (2004) technology enactment framework elucidates on the impact of technologies on organizations through an institutional perspective. The author differentiates between objective and enacted technologies. Objective technology incorporates innovations such as the Internet, whereas enacted technology entails the use, design and perception of those technologies by individuals within the organization. The perception and usage of technology is constrained by institutional arrangements, but enacted technology also influences the organization.

Another framework that explains digital transformation is the “digital era governance” approach coined by Dunleavy et al. (2006) who argue that under the influence of the new public management paradigm, technological change enables change in public sector organizations in several ways. Dunleavy et al. (2006) posit that that technology only does not change organizations, rather the way organizations work and their use of technologies changes work practice.

History Of Digital Transformation In Museums

Digital transformation in museums is still a work in process. But some scholars suggested that the emergence of digital transformation in museums dates back to the early 2000s when various innovations and creativities were adopted by museums to reflect digitalization. According to Museums Report, 2016, digital transformation in museums dates back to 2005 when two disruptive projects emerged. The first of these disruptive projects which transformed museums digitally was developed by a group of students from Marymount Manhattan College who called themselves ‘Art Mobs’. They produced an alternative audio tour system for museums. This innovative project was described as Museum of Modern Art (MOMA) in New York City which was a downloadable podcast which encouraged museum visitors and tourists to preload the podcast into their personal IPODS which they can bring to the museums. This alternative audio tour for the museum of Modern Art was taken advantage of by museums which produced their own tour podcast. (Museums Report, 2016)

The second project which transformed the museum digitally was Walker Art Center’s Art on Call which was a project which delivered an interactive audio tour which was enabled on the visitor’s personal cell phones. This project enabled visitors to use their various personal devices such as MP3 player and phone to enhance their museum experience (Adler, J 2013). These early digital innovations in museums were improved on by Apple through her iPhone and iPod touch in 2007 and other smartphones and tablets began to imitate them in creating visual-audio virtual tour systems which were first developed to aid museum operations and management (Museum Report, 2016).

Effects Of Digital Transformation On Museums

Digital transformation is a new normal that has transformed the nature of every profession. Museums are not left out in this transformation. Marta et al. (2020), and

Benjamin (2008) suggests that this shift and transformation is evident and visible in museums where technological and digital revolutions have gradually affected the aura of originals or prototypes which are threatening their authenticity. The effects of these digital transformations in museums can be seen in how they have begun to adjust their various business practices and models which reflects a comprehensive 21st century model (digital age). Some of the effects digital transformations have played in museums include:

Firstly, the era of digital transformation has significantly contributed to the ways arts objects are perceived and seen by the public and audience who now perceive it to be more interactive, dynamic and democratic in nature. As suggested by Newman (2010), the effects of the digital transformation in museums have been more disruptive in nature. The disruption brought by this era on museums has displaced many old styles and as such threatened those who have failed to adopt these trends and innovations in their work culture. The advent of the COVID-19 pandemic has intensified the transformation digitally which has affected the management of arts objects in Museums, theaters, galleries where historical objects are collected and displayed for the benefit of the public.

Secondly, digital transformation has contributed significantly to profit utilization in museums. The era of digital transformation has created more profit opportunities for those who have transformed their services digitally via social media platforms. Many arts galleries, museums and artists now exhibit their objects and art works on their websites and social media where they make huge profits from sales as a result of a good number of customers that patronize them (Lee and Lee, 2018). Many artists and stakeholders now make use of social media platforms such as Instagram, Twitter, and Facebook to release information on their exhibitions which they use in inducing transactions with prospective buyers (Fletcher and Lee, 2012).

The use of social media has also opened more avenues for artists to showcase their work. Digital transformation has affected the way professionals and artists in museum produce their works as digital transformation has created new spaces and opportunities for new techniques where digital installation art, virtual reality, 3D animations, robots' artistic genres are now model that have emerged in museums which have threatened the place of human beings who are at risks of losing their jobs (Marta et al., 2021).

Additionally, digital transformation has created new tools to facilitate effective and friendly service delivery communications with audiences through art objects. This

disruption is visible in the feedback mechanism which many who have adopted digital transformation provide for their audience. For instance, artists such as Bernulia, Tanaka Tatsuya, and Beccaclason who are Instagram users have expressed that they can easily sell their artworks on social media platforms than selling them offline. They also stated that they do cultural branding which they use in promoting feedback from their various audiences. They stated that their new media art-based forms have successfully “pushed the boundaries of contemporary arts and museum collections” (Samdanis, 2016).

Case studies: tate modern museum, met museum, bristol museum, and british museum

The four examples below shed more light on various digital transformation strategies museums are now adopting across the globe:

Tate Modern museum, United Kingdom

Tate Modern, UK is one of the museums across the globe that has gone digital in its activities through various customers based and technological based digital transformation strategies which has changed the system through which the modern museum carried out her activities. According to a study conducted by Emily Fildes and Elene Villaespesa of Tate Museum, the museum adopts a system of using mobile devices in their galleries to facilitate a technology based digital transformation. From the report, the museum recorded about 91% of their visitors to Tate Museum and 86% of them were used to using mobile phones, tablets while visiting the galleries. It was suggested that about 91% of these visitors connected their devices via a free Wi-Fi made available by the authorities of the museum (Tate Modern Release, 2012). The system of allowing people to bring their mobile devices to the museum premises was to allow them to take pictures, share them and their experiences at the museums on their social media pages so as to enable the public to search information about them on their Tate website which is available to the public. A number of these visitors go to the extent of downloading the Tate Modern application or sometimes use the mobile website of the Tate Modern for virtual tours.

The museum built a mobile web tour in their content management system which is a simple interface where audio or audio files can be uploaded or in addition to images. These enable the visitors to browse or check locations where they can get some artwork or objects. The authorities of the modern museum suggested that the main reason why they chose this pattern was to create a more sustainable and consistent approach to the mobile

offer across the Tate's Four galleries. The authorities of the modern museum argue that this system of building mobile tours is relatively cheap and fast (Museum Reports, 2016).

The Met Museum, USA

The Met Museum located in the USA, is another museum that has gone digital in her activities most especially using customer based and technological digital transformation strategies which are similar to the Tate Modern, UK. The museum adopts audio guides which tourists use in touring round the museum. Grace Tung, a digital media associate at Creative Development, argues against the opinion of some who see audio guides as old-fashioned products which visitors can hold onto while embarking on their tour (Museum Reports, 2016). Rather, Tung suggests that audio guides are compulsory as a resource that should be used by every museum which should combine both digital and non-digital tools. This model is what is usually referred to as a "service design," whereby experiences and services are better created in order to meet visitor's needs within a specific context. This system requires a proper understanding of the user experience in a robust way so as to have a hitch free tour experience (Museum Reports, 2016). This perspective is even corroborated in *Improving the Audio Guide: A Look at our Visitors* which explains the discoveries of the museum through a survey conducted on its visitors on the importance audio guides provided to them (Tung, 2015). Moreover, it was discovered that many of the visitors adopt the system and they see it as a reliable model that aids their tour at the museum which they enjoy and appreciate as it makes it a worthwhile experience.

Bristol museums, galleries, and archives, united kingdom

The Bristol Museum, galleries, and archives located in the United Kingdom is another typical example of a museum that adopted the three models of digital transformation which include customer based, technological based, and organizational based. The museum is one of the few museums across the globe that has up to date data information on her websites as suggested in a finding documented in the Museum Reports, 2016.

The museum, galleries, and archives of Bristol actively used a tool for data importation which has successfully developed a good number of different simple applications and workflows known as Sapphire. The Sapphire, which is a tool that has up to date information about the museum, provides information in the collections directly

to the museum visitors (Museum Reports, 2016). In an effort to digitally transform the organization, the numbers of staff at the Bristol Museum, galleries and archives, UK utilize a simple form to create records in the ‘events module’ and they capture upcoming events and exhibitions at the museum sites. These events are displayed live for Axiell’s Emie collection Management system on screens in the galleries which are brought to the notice of the audience.

The british museum

The British museum is one of the global models of museums that have adopted a well comprehensive digital transformation in her day-to-day activities which has improved the operations and profit of the museum. The museum uses a virtual reality system to transport or take people through the Bronze Age. This was done through a 3D technology built by the museum to aid the process. In 2014, the Guardian reported that visitors in the British museum were invited to walk into a 4,000-year-old roundhouse where fire was lit, the floor swept and some enigmatic objects were laid waiting to be discovered. This system of virtual roundhouses introduced by the museum had a fire flickering and crackling levels of light shining through the open door which was created by Solus Heritage. The Chief Executive Officer of the company shared that they had invented billions in the gaming technology which is connected to smartphones to create a virtual reality. This innovation created 3D scans of the objects in the museum through the British museum pioneering micropasts project where thousands of people across the globe use online models to transcribe information and model museum objects (Museum Report, 2016).

Case study of the first digital museum in nigeria

The concept of digital museum is new in Nigeria, and the trend is now making its way to the arts sector through various innovations. The outbreak of the COVID-19 pandemic created a disruption in the museum industry by creating many changes and innovations in the way things are done. The first digital museum to have been launched in the country was built by a digital driven company known as Art Tech District, which sponsored and launched a museum project for the restoration and preservation of Nigerian culture and artifacts established in 2021 at Abuja. The digital museum was established in the form of an ‘Art Village’ which was named “Discovery Museum”, which synchronized arts history with the aid of technology which showcases Nigerian history to the public in a digital format. During the opening ceremony of the digital museum, the General

Manager, Ms. Faridah Dikko said the museum offers Nigerians a platform to learn their culture, explore new ideas and interact on digital creativities and most especially display their talents to the world. According to Dikko “Arts Tech District recognized the role of Information Communication Technology (ICT) in today’s world and to create roles in capturing the attention of individuals, especially the young minds and decided to employ it in promoting the museum and culture of Nigeria by creating something different and captivating”. While speaking on the company’s concept on digital museum, Ms Dikko said,

“What we did with the museum was to make a typical museum going experience and infuse it with elements of technology and digital media... As we all already know, ICT is the future of the world. So, we felt a museum was the right project because as a country, we felt there is a gap so we wanted to strengthen the Museum culture in the country... We also wanted to focus on our history, and really find a way to share our history, or talents and our visitors within the community. We also wanted to do so in a way that was different, engaging and exciting to the young people and the children as well. These are the different things that we considered” (The Vanguard Newspaper, 2021).

The idea of a digital museum in Nigeria started during the COVID-19 lockdown and has come into reality after its launch in 2021 at Abuja. The Museum contains game arena, virtual reality, art and crafts studios where ‘Adire’ (a local method in making cloth in Nigeria) are made and taught to the public, children’s zones, galleries, archive and a museum for historical objects (The Vanguard Newspaper, 2021). The emergence of the Discovery Museum has showcased that if the stakeholders in the museum industry are determined to adopt digital models in museum practices, this will come into reality.

Recommendations

The recommendations that follow would significantly improve Nigeria's national museums' digital transformation. They outline the path forward for Nigeria's national museums' reform and realignment in order to include digital tools into its daily operations:

Increasing the national budget for museums

There is an urgent need to increase the budget that goes to the national museums by the government if we collectively desire to have digital museums in the country. Digital transformation requires huge funds as it is the heart of any technological innovation and creativity in any given setting. Increasing the national budget that goes to the national

museum will go a long way to assist the management of national museums in Nigeria to transform museums digitally by adopting global standards.

Designing informative and up-to-date websites

Additionally, for museums to be transformed digitally, the management of national museums must build a website to create a friendly public interface where useful information on the museum can be made available to the public who are the main audience of any museum. Digital museums across the globe have their own websites where they use to interact with the public. In Turkey for instance, a study was conducted on about 62 museums, 47 of them have their own corporate website which were used for ticketing, presentation of text and photographs of the museum, news bulletin, blogs and forums, options for sending email request, online product sales, interactive map of the museum and how to get to the museum. If public and private stakeholders are determined to transform national museums in Nigeria to digital ones, the museum management of each of the national museums must have its own website.

Establishing a robust social media presence

There is also a critical need for national museums in Nigeria to have a social media presence. This is a prerequisite for any museum that aims to go digital. Going digital affords the museum with an opportunity to interface and interact with the public in a good way. A social media presence gives the museum the opportunity to strengthen the satisfaction of visitors and customers who pay a visit to the museum. Social media platforms such as Facebook, Twitter, YouTube, Instagram, Google Arts project, Pinterest, Fliker, Vimea, are some of the social media platforms the National Museum can project her image with to the public space.

Training museum staff on how to integrate digital tools in their daily operations

The museum must train its staff on how to handle digital tools and techniques which is a key prerequisite to transforming national museums digitally in Nigeria. Most especially, the effects of the COVID-19 pandemic have posed severe damages to many jobs which have now been taken over by artificial intelligence which has replaced technical skills of humans. What humans can do in the past can now be done better by machines. In order to stay relevant and keep their jobs, management of museums should train their staff on digital tools that can help transform museums digitally. In this day and

age where artificial intelligence and machine learning are pervasive, there is a need for museum leaders to provide organization-wide training to staff. Thus, allowing them to have a competitive advantage in terms of their ability to achieve more positive outcomes at work.

Building a digital catalog system for documentation of records

There is a need for museums to improve on their manual method of documentation of records in museums. The management of national museums in Nigeria should adopt a digital method of documentation and archive which protects the cultural heritage found in the museum. This can be done by adopting a digital catalog system where objects in the museums are documented digitally. The museum has to migrate from documenting on white and black which has a lot of disadvantages to documenting digitally. A digital catalog system should be adopted which should be easily accessible and properly structured. Additionally, the museum website can be used to host details of documentation of objects that can be found in the museum.

Providing a people-centric, digital friendly experience

In the modern world, a museum ought to offer customized digital experiences and services to the public. This can be done by adopting information communication technology tools in the visitors' tours while paying a visit to the museum. Digital tools such as projection screen, touch screen or interactive screen, 3D screen, virtual reality tools can be introduced. Mobile technologies such as audio guides, video guides, tour applications for smartphones, free Wi-Fi, audio guides for visually impaired can be adopted by national museums in Nigeria. If these services are put in place, they will help improve on the numbers of those who visit the museum while improving on user-friendly experience.

Introducing e-commerce stores to increase visitor satisfaction

Museums can increase their revenue generation streams by creating virtual stores to provide online services to visitors. This will help in transforming the operations of museums digitally in Nigeria. The museum website can be used to provide virtual tours to the public at a fixed price using advanced 3D technology where objects can be exhibited virtually. A good number of digital museums offer virtual tours for audiences and generate

a lot of income from the process. Adopting this model will go a long way to address the revenue gaps in national museums in Nigeria which are in need of intervention.

Conclusion

The advent of digitization in museums has caused a disruption that has resulted in a decline in the physical number of visitors. Nonetheless, as the number of individuals using the internet rises every day, more and more people will visit museums virtually. New trends like artificial intelligence and information and communication technology, among other digital tools, have changed the nature of work and resulted in a large loss of jobs. The effects of these digital transformations in museums as discussed in this paper include: The public's and audiences' perceptions of art objects have been greatly influenced by the digital revolution, which has made them appear more dynamic, interactive, and democratic. Museum profit utilization has benefited greatly from the digital shift. The production of art by experts and artists in museums has been impacted by the digital shift. Furthermore, new instruments for friendly and efficient service delivery communications with audiences through art objects have been made possible by digital transformation.

The paper has presented some examples of models of digital transformation in museums that Nigeria can learn from such as: the Tate Museum which created a mobile web tour within their content management system, which has an easy-to-use interface for uploading audio files in addition to photos which allows guests to peruse or verify locations where they can purchase artwork or other items; The British Museum which takes visitors on a virtual reality journey through the Bronze Age; The Bristol museum, galleries, and archives which makes active use of Sapphire, a data importation tool for creating a wide range of straightforward applications and workflows; When visiting the Met institution, visitors can utilize audio tours provided by the institution. Consequently, this paper argues that the idea of a digital museum is relatively new in Nigeria which offers a number of benefits to the sector. The advent of COVID-19 epidemic caused a lot of changes and advancements in the way things are done, which caused a disruption in the museum industry.

A national strategy for digitally modernizing museums must be adopted as a wake-up call to the government, management, employees, and stakeholders in the museum sector in Nigeria. By doing this, many jobs will be saved and the museum's relevance in the twenty-first century will be maintained while its unique cultural history is preserved. It

is recommended that for Nigeria to transform digitally, the following should be prioritized: Increasing the national budget that goes to the national museum, designing informative and up-to-date websites, establishing a robust social media presence, introducing e-commerce stores to increase visitor satisfaction, providing a people-centric, digital friendly experience, building a digital catalog system for documentation of records, training museum staff on how to integrate digital tools in their daily operations.

References

- Adler, J. (2013). *Meet the first digital generation. Now get ready to play by their rules.* WIRED. Retrieved from <https://www.wired.com/2013/04/genwired/>
- Betchoo, N.K. (2016). *Digital transformation and its impact on human resource management: a case analysis of two unrelated businesses in the Mauritian public service.* IEEE International Conference on Emerging Technologies and Innovative Business Practices for the Transformation of Societies held at Mauritius, Balaclava.
- Dunleavy, P., Margetts, H., Tinkler, J., & Bastow, S. (2006). *Digital era governance: IT corporations, the state, and e-government.* Oxford University Press
- Findlen, P. (1989). *The museum: its classical etymology and renaissance genealogy.* J. Hist. Collect.
- Fletcher, A., & Lee, M. (2012). *Current social media uses and evaluations in American museums.* *Museum Management and Curatorship.*
- Fountain, J. E. (2004). *Building the virtual state: Information technology and institutional change.* Brookings Institution Press.
- Ganguly, A. (2015). *Optimization of IT and digital transformation: Strategic imperative for creating a new value delivery mechanism and sustainable future in organization.* European Journal of Business and Innovation Research.
- Hess, T., Matt, C., Benlian, A. & Wiesböck, F. (2016). *Options for formulating a digital transformation strategy.* MIS Quarterly Executive
- Hrustek, L., Tomičić Furjan, M. & Pihir, I. (2019). *Influence of digital transformation drivers on business model creation.* 42nd International Convention on Information

International Council of Museums (ICOM). (2007). Article 3, Statutes.

Lee, J. W., & Lee, S. H. (2019). *User participation and valuation in digital art platforms: The case of Saatchi Art*. *European Journal of Marketing*

Marta Massi, Marilena Vecco and Yi Lin .(2021) *Digital Transformation in the Cultural and Creative Industries Production, Consumption and Entrepreneurship in the Digital and Sharing Economy*. Routledge: New York.

Museum Reports (2016). *Digital Transformation in the Museum Industry*. Axxiel Archives Libraries Museums, United Kingdom.

Newman, B. (2010). *Inventing the future of the arts: seven digital trends that present challenges and opportunities for success in the cultural sector*. *20under40: Re-Inventing the Arts and Arts Education for the 21st Century*

Nzewunwa, N. (1984). *Nigeria: Approaches to Archaeological Heritage Management*. Cambridge: University Press.

Rogers, B. (2016). “*Why 84% of companies fail at digital transformation*” Forbes Retrieved from: <https://www.forbes.com/sites/brucerogers/2016/01/07/why-84-of-companies-fail-at-digitaltransformation/#7530b4e9397b>

Samnadis, M. (2016). “The Impact of New Technology on Art”. In J. Hackforth -Jones, I. Robertson (Eds.), *Arts Business Today: 20 Key topics*. London: Lund Humphries

Sawers, P. (2013). With more than 5m visitors so far, Google’s London Web Lab experiments are still going strong. The Next Web. Retrieved from: thenextweb.com/google/2013/01/13/3-million-visitors-latergoogles-chrome-web-lab.

Simmons, J. (2010). *History of museums*. Encyclopedia of Library and Information Sciences.

Tate Modern Press Release. (2012). Tate Modern blacks out for Olafur Eliasson’s Little Sun. tate.org.uk/about/press-office/press-releases/tate-modern-blacks-outolafur-eliassons-little-sun-0

Tilson, D., Lyytinen, K. & Sørensen, C. (2010). Digital infrastructures: the missing research agenda. *Information Systems Research*, Retrieved from: www.vanguardngr.com/2021/11/nigerias-first-digital-museum-debuts/

Tung, G. (2015). *Improving the Audio Guide: A Look at our Visitors*. Retrieved from: <https://www.metmuseum.org/blogs/digital-underground/2015/improving-the-audio-guide-a-look-at-our-visitors>.