Abstract

This research is conducted about the role of technology in museums. As museums are intended to provide learning and entertainment experiences to the visitors, therefore, this research has analysed how the technology used at the museums is helping in increasing the learning and entrainment experiences. The present research aims to investigate how the use of technology at museums influences the learning and entertainment experience of tourists. This research has examined the previous studies related to role of technology in learning and experience of museum visitors. It has analysed how technology is used for enhancing the tourists learning at museum. Further to this, it has analysed the how use of technology at museum is influencing visitors that has various learning styles (i.e. visual, auditory and kinaesthetic). With the empirical survey, this research study has examined how technology can enhance the guest's interaction for purposes of entertainment. Moreover, it has investigated how technology is important for the future of museums and if so how it should be used. For completing this research, both quantitative and qualitative methods are used. The sample of 50 tourists of UK Museums is studied in this research. The results have proved that the role of technology in enhancing the tourists' learning and entertainment is quite important. Therefore, it must be adopted actively. At the end, the recommendations and future research directions are provided.

1.Introduction

1.1.Background:

Tourism is defined as the temporary movement of people from their home destination to outside destinations which are away from their residence and work sites. It also involves all activities which are undertaken by them during their stay along with the facilities that they use (Horner and Swarbrooke, 2016). According to Estol and Font (2016), tourists are those who stay at least twenty-four hours in any destination, given that their stay is temporary. McKercher (2016) defines that tourism has demand and supply; tourists are

those people who have the ability to travel and they comprise of the demand side, on the other hand, supply side consists of transportation, accommodation, tourism services and other facilities. Tourists experience is critical in both business world and academic research (Uriely, 2005). It is of utmost importance to understand how experience in tourism industry is influenced as tourists visit destinations for gaining experience (Neuhofer, Buhalis and Ladkin, 2012). In the last decade the role of information technology has increased in tourism industry and it has revolutionised this industry (Buhalis and Law, 2008). Therefore, the present research considers how the role of technology is helping in enhancing the experience of tourists while they visit the museums. Other than entertainment, museums are source of learning. Museums are institutions that do not only perform function of scholarship but they are also used for education (Fletcher, 2016). These both functions are essential but they had become separated. With the help of digital technologies, both functions are revitalised. The examples of technologies that are helping in enhancing the learning are simulations, presentation, internet and multi-media. The learning tasks have been facilitated and accelerated with the help of technologies (Mulcahy, 2016). The digital technology adopted by museums influence the all learning styles including visual, auditory and kinaesthetic (Bevan, 2016). However, this is not empirically studied yet how the technology is influencing the entertainment experience and learning of tourists. Therefore, this research is about analysing the importance and value of technology for entertainment experience and learning of tourists.

1.2.Research Rationale

In the era of globalisation, tourism industry is rapidly changing. Therefore, it has become important for this industry to re-organise itself as per the needs and demands of the customers. One of the most important changes that has potential to bring change in this industry is the use of technology in museums (Butler and Hinch, 2007). But up till now, reluctance has been observed in researchers regarding exploring this critical perspective of role of technology in learning and entertainment. Angkananon, Wald and Gilbert (2016) mentioned that tourism is expanding with a rapid pace and the rate of growth for travellers is also accelerating with a huge speed. Now, there are over

billions of travellers that travel all over the world as tourists. The number of visitors to tourists is also increasing and visitors have various rationales for their visit to museums (Lien et al., 2016). There is a need to study how use of technology is enhancing the entertainment and learning of (Vera, Sánchez and Cervantes, 2016). As time is passing, the modern technological advancements are adopted by Museums. This research explores the role of technology in in museums. It will analyse how technology is used in museum. It will shed light on how technology can be used for educating visitors. It will also analyse the influence of technology on learning styles. The importance and value of technology for improving learning, entertainments and future of museums will be further explored.

1.3.Aim and objectives

The present research aims to investigate how use of technology at museums influences the learning and entertainment experience of tourists.

1. To examine the previous studies related to role of technology in learning and experience of museum visitors
2. To analyse how technology is used for enhancing the tourists learning at museum.
3. To analyse how use of technology at museum is influencing visitors that has various learning styles
4. To examine how technology can enhance the guest's interaction for purposes of entertainment
5. To investigate how technology is important for the future of museums and if so how it should be used

1.4.Research question

The following research questions are answered in this research.

1. What does literature state about the role of technology in learning and experience of museum visitors?
2. How technology is used for enhancing the tourists' learning at museum?
3. How use of technology at museum is influencing visitors that has various learning styles (i.e. visual, auditory and kinesthetic)?

4. How technology can enhance the guest's interaction for purposes of entertainment?
5. How technology is important for the future of museums and if so how it should be used?

1.5.Research Significance

The results of this research are beneficial for all both practitioners and academicians. The managers of tourism organisations especially museums will get valuable insight from this research. The managers of museums will become better able to understand that how they can improve the learning and experience of visitors through the adoption of technology. Moreover, it has been found that there exists a literature gap and there is a need to fill this gap which is related to use of technology at museums (Vera, Sánchez and Cervantes, 2016). Hence, this research will become a foundational study which will allow future researchers to explore many related concepts.

1.6.Delimitations

This research only focuses on only museums of United Kingdom. The selected tourists for this research are those national and international tourists who has ever visited any museum of U.K. This museums of U.K. has started to rely on technology for enhancing the experience of tourists. This research has a limited scope and it only focuses on museums of U.K.

2.Literature Review

2.1.Introduction to Museum

According to Cockarilltest and Tester (2012), there are different institutions made for general public like parks, schools and museums. Museums are

considered to be the institutions that are for storing the past. While, schools are the places where one can learn and study, museums are considered to be the places where important items related with art, past or science are studied, preserved and exhibited. The purpose or aim of a museum is not only to store things or items but it serves various aims (Zhao, Sintonen and Kynäslahti, 2015). Museums are useful in the formation of new information (research) and its spreading (learning). Once these were closely assimilated, both purposes were reliant on upon the items or things. Due to the beginning of obligatory education, though, learning was seen as the domain of schools and museums were considered as locations only for the storing the current understanding and information (Meyer, 2014). Currently, digital technologies are being used at the museums. The current study is related with the use of technologies at museums.

People make visit to museum with a view to learn something new. They do not have any prior guess about what they will learn something exceptional. People allow themselves to free their minds so that they can grab learning from new experience. Each individual expects different from his visit to museum (Cockarilltest and Tester, 2012). Voyagers, for instance, tend to attempt to see the whole exhibition hall; schools, then again, tend to target visits to a specific display or a subject. The self-coordinated solitary guest may have a particular objective identified with long haul interests in, said, Rembrandt's pictures, and might expand on long haul information. By and large, visits are brief and relaxation arranged. In any case, as indicated by Giasemi et al. (2009) profound, trans-developmental learning happens over the long haul; subsequently, individuals need strengthening encounters.

According to Dirk and Christian (2005), there are two new concepts being formed to create interesting museum experience. The first concept is media-enhanced on-site experience: multi-tactile, contextualised, experiential and immersive. It is story driven. It draws differing qualities of individuals together and gives an aggregate affair. The latter is the media-driven off-site encounter that is customised, on-interest, worldwide and empowers a limitless sharing of data and individual experience. These sorts of experience mirror the new vision of historical centres that are currently guest focused, concentrated on connecting different crowds, extending their part of on location and on-line social innovators (Alfaro et al., 2004).

2.2.Use of technology at museums

The theme of galleries and innovation is a convenient one - as historical centres of all sizes and sorts hurry to grasp advances - furthermore a testing one, as these organisations endeavour to grasp a participatory society encouraged by new computerised advances, while in the meantime hold their skill and power as watchmen of our way of life and legacy (Decker, 2015). With the start of third millennium era, the digitalisation has surrounded every activity of an individual. Devices like smart-phones, tablets, I-pads are now loaded with flood of new applications on continuous basis. The IT companies are striving in highly competitive market by retaining users with latest applications. The communication trend has been changed with rapid expansion of media technology, the continuous online presence in social media and easy access to internet. In this era of advanced technology when user is well-informed, the concept of museum has also been changed. The new museum age is using latest technologies in order to entertain its visitors with the aim to deliver history knowledge. On the other hand, the use of modern technology is narrowing down the communication process between the museums and their visitors. The new methods of visitor interaction with the collections and art works have been derived (Chia-Chen and Tien-Chi, 2012).

Today people are standing at the vanguard of the model shift which is driven by digital media technologies. They are continuously and significantly changing the modes and tools which are used for interpretation, representation and accessing the cultural and historical paradigms. For enhancing and better understanding about modernised and ancient cultural aspects, there are variety of novel innovations have been made which have the potential to do so. Besides the beneficial part, these modernised ways can often delude and make things ambiguous to people. This is the most attention seeking area that how to use better technologies to make museum setup digitalised rather than the issue to decide whether to use digitisation or not (Decker, 2015). Affordable and accessible media technologies are rapidly expanding which are universally accessible to the internet in different countries that are modifying the museum experiences primarily all over. Isolated artefacts which are acknowledged by a number of very small object

labels are swiftly vanishing from the platform of annex gallery accompanied by introverted films. Keeping in view all the aspects discussed it can be justified that now-a-days museums are not only seen as a place or building where ancient things, scientific specimens, valuable and artistic works are displayed, rather they are enduring to a fundamental shift towards modernised presenter of objects and enhancing experiences (Johnson and Witchey, 2011).

Technology at museums consists of extensive variety of structures and devices, categorised by, but not restricted to, the PC. Other word abounds, like ICT (information and communication technology: note the singular) is being used by the National Curriculum for England & Wales (Lisney et al., 2013). Various types of apps including databases and search engines make more available and more quick jobs that were previously sluggish and boring. Numerous replace prior alternate or correspondent forms like simulation, auditory, film, visuals, filmmaking, TV, cinematography etc. Various other enable fundamentally new actions that would else be difficult; this is particularly correct for apps that generate material on request (Decker, 2015). Underneath is a summary relative to learning inside the museums segment.

- The WWW delivers access to a variety of digital resources containing online books, papers, databases, and datasets, with the help of internet. Numerous museums integrate some kind of intranet within shows, to offer a devoted and limited resource that is similar through function/job (Padilla-Meléndez and del Águila-Obra, 2013).
- Multimedia resources may comprise of visuals, films, photos, simulations, picture, movie, and sound together with manuscript and can possibly support a range of ways of learning (Thompson, 2015).
- Computer mediated conferencing (CMC), comprising of electronic mail as well as dialog boards, notice boards and discussion rooms are focused to support various kinds of conversational or cooperative actions (Parry, 2014).
- Technologies used for presentation comprising of digital projectors, and may be entirely collaborating or wholly unidirectional (Wang, Liu and Hwang, 2016).
- Models permit communication with and management of real world settings. They allow field tours, trials and other actions related with a

museum's group and investigation that are else unviable for aims of time, area, security or expenditure.

- Micro worlds as well as competitions offer an addition of the simulation by integrating a case study situation. In these types of games, the student contributes openly as a virtual character (an avatar) rather than as a simple viewer (Garham, 2016).
- Streaming digital audio and video brought through the internet can give access to actual circumstances (Wang, Liu, and Hwang, 2016).
- Visualisation techniques can signify difficult sets of information in a graphic approach (Decker, 2015).

The advancement and use of technology based digitalised museum setups are altering the museum experiences all over and more significantly how they are altogether revamping the entire perception of museums. The model shift is not unexpectedly driven by societal and cultural needs rather mostly they are user-driven. Why today the museum setups are being made digitalised? This is very important to attract the visitors and for that motive now-a-days museums are using technology based setups and working in a more visualised way. Museums use technology to revolutionise the museum experiences all over (James, 2007).

2.3.Use of technology for enhancing learning at Museums

It is a fact that museums are using advanced and new technologies as well as techniques of learning. On the other hand, schools are focusing on providing an out-of-date syllabus. Museums are a diverse set of institutes whose new identical purposes of learning and education, once intimate, but then separated, are being united by digital technologies as well as techniques. These types of technologies also include an extensive range, containing audio visual aid, models and presentations as well as the web. These technologies are not only useful in long term learning but disapprovingly, they allow actions that would else not be possible. It contains new methods to learning by diverse audiences and for diverse aims and objectives (Charitonos et al., 2012). Museums are considered to be the most excited suppliers of digital learning prospects.

According to Chen and Huang (2012), museums have a number of logical and applied deliberations when planning learning prospects, specifically to:

- involve in learning as productive conversation rather than as an inactive procedure of broadcast
- take on the part of advantaged contributor rather than that of professional
- wisely assess the importance of the formal school program
- enable lifelong learning by giving a free-choice learning setting that allows an excess of ways and prospects.

Museums play a significant part in easing long term learning, in terms of creative as well as traditional and rational action beyond any only vocational sides. There are wide number of attributes and characteristics that are common in lifelong learning as well as museums along with digital technologies (Martin and Ertzberger, 2013). It is enough to say that the emphasis on learning in museums needs an extensive clarification of the term and is not limited to the attainment of official curricular aims but includes the inspiration of an extensive variety of actions, aids, characters and skills (Kearney et al., 2012).

According to Agnes et al. (2010), concept of museology focuses on the social role of museums and on their interdisciplinary profile with the help of new methods of communication. The concept of museology is underscoring an open platform that deals with the active participation of the visitors to bring about more social changes. The old concept of museum was to remind the younger generation about scarifies made by their ancestors and to appreciate the history. Now this concept has been replaced with the appreciation of current achievements and discoveries. The social changes inside the mediatised society produced genuine alterations in the exhibition hall's constitution and a crucial move from an establishment with an instructive reason towards a foundation with a recreational reason fixated on the gathering of people and its needs. Moreover, the new era museums are providing bigger platform to its visitors with the aim to entertain them along with seeking knowledge (Ramesh, et al., 2009).

Nowadays, museums have to focus on its visitors, public and contemporary individual beside the collection of objects. The importance and value of technology for museum cannot be ignored in 21st century. Museum serves as a platform to make dialogues on different researches, interpret and create new experiences. Museums encourage free-choice learning environments that may define identities by accessing objects, information and knowledge. The visitors are able to experience their culture in the past and can also foresee in the future (James, 2007). These days, exhibition halls are included in a genuine discourse with their group of onlookers, construct preferably in light of translation than on total truths, sharing perspectives and welcoming people in general to spend progressive, endless encounters, to ponder, experience and learn. Still, the learning result of the historical centre visit is second after its amusing quality. Research has found that solid inspirations to visit exhibition halls are recreation and excitement, as individuals visit historical centres for new encounters, beneficial relaxation, learning and diversion in an energising and empowering environment (Alfaro et al., 2004).

Unstructured or semi-structured information spaces include online databases, museum collections and web which guide the users by navigating them through the museum experiences entirely. Advantage with technology based system provides in web navigation or benefits in the over place-based learning with a set of proper recorded history and structures searches. The technologies provide a great support in the learning process and educational programs but not alone. They are equipped with some strong structures around their set up (Sylaiou, et al., 2009).

Museums which turn into technology based setups enhance the visitors' experiences and besides that influence the visitors' ease level by giving personal digital assistant that is called PDA. It is widely used tool in the digitalised museum setups. Mostly museums are now aware of using different technologies like web browsing, web-based conventions such as the hyperlinks and page based navigations to maximise their experiences and prospective knowledge. One way information delivery is continued to be used by the portable technological tools. When visitors are given command and access to the knowledge and the tools used in the museum, it augments their experiences and escort them to develop better understanding through play, creation and collaboration (James, 2007). The shift model of the

contemporary museums to technology museums and along with that shift from content delivery to social construction and technological adoption highly reflects the societal need and demand of content that is generated by the user to the personalised learning prospect. The social aspects of the learning are becoming paramount and museums are adopting technologies accordingly which are a clear sign of enhancing the visitors' experiences and emerging visualised setups. These web learning tools and technology are vital aspects in museum enhance experiences (Zhang and Zhang, 2008).

Everywhere today museums are using and exploring the modern technologies and digitalisation to enhance the experience for the visitors. Initiatives are made for the visitors which include more interactive and advance ways of technology to create amazing experiences for the visitors' and as well as the Museums are exploring digital and mobile technologies to enhance visitors' experiences (Griffiths, 2003). Museums are a great way of learning and visitors go to museum for learning something. It connects them with the cultural heritage and scientific specimens. Visitors generally do not have a good idea about what they are going to learn and how because they don't have all or some knowledge regarding the art gallery or other exhibited structures. They allow the museum setup to enhance their learning through a proper visualisation and displaying manner (Hall and Bannon, 2006).

Christian and Dirk (2008) validate that mismatch between the content on the available devices and the user reality prospective or the real world visitors' imaginations are the frequent problem with the digital mobile devices and enhancing the museum experiences. Visitors' are mediated by the technologies they acknowledge the use of the effective media tools in the museum setups because they have enhanced the ways of learning and seeing the museums from a new paradigm. This is the main reason that in audiences usually the younger audiences are targeted often by the museum advancement and they get amused at a larger scale then the other population does. The reason of younger audience targeting and acceptance is that they adapt frequently the changes and are more eager to the new technological advancements and learning the educational development programs (Zhang and Zhang, 2008). New technological advancements let them learn and hook to more new things such as graphics, artefacts and other smart things around the world. As it is said that in the museum when visitor go, it is not necessary

that they carry the whole information with them about the cultural heritage and displays rather little. When the exhibition carries visualisation and animations and proper web development programs and user friendly atmosphere it will be more appropriate and easy way for learning and getting through the heritage and also the scientific specimens. However this is not necessary that learning is only done this way and the conventional way is not appropriate, rather it is being debated that more animations and visuals will aid to effective learning rather than the ancient ways.

2.4.Learning theories

Museums can be a source of learning for the audiences and visitors. Falk?and?Dierking?(1995)established 7 main influential elements that are applied to the audience of museum. ?One of the major factors among them is the effect of previous?information?and?understanding?on? perception.??It was pointed out by?Roschelle?(1995)?that prior knowledge as well as understanding are considered to be highly useful along with influencing factors for learning process. The information or knowledge that a person already has in his/her mind is useful in leaning. It was argued by Falk?and?Dierking?(1995) that memory as well as perception have a connection with?learning.??The?capability?of?the?museum?tourist?to?observe?and?recognise anything?is directly affected by?his?or?her?past?knowledge.??Earlier?information?and?understanding?support?and?form?new?knowledges?and?moreover?generate?personal?importance? for?museum?guests.??As per view of Hein (1998), there is a great impact of personal meaning?making?is?on building?the?guest's?own? understanding. This is considered to be highly relatable with the constructivist?pedagogics,?which?assumes?that?learning?needs?lively contribution?of?the?learner?in?both?the?way?that?the?mind?is?working?and?in?the?performing?that?action,?the?knowledge?that?is?developed.?Principal?alternate?education theory?supporters?consider constructivism?as?one?of? the?most?useful techniques for ?museum learning.?In the view of Hein?(1998),constructivism?is highly useful theory and it focuses on the learning of the individuals by focusing on their

former?views?and?understanding?to?create?new implications?and? how?they?can?vigorously?perform?this?procedure.

There are different types of factors that act as motivators for learning at museums. As per the view of Csikzentmihalyi?and?Hermanson(1995),?interest?as well as?curiosity?are two main? intrinsic?motivators with respect to museum learning.?These two factors are given importance by the people that focus on museum exhibitions. Interest and curiosity are used to inspire the?museum?guest's?communication?with?exhibit?constituents.?Communica tion?is considered to be?vital?for?learning process. It is demonstrated by?Hein(1998), that if there is no interaction or communication then no learning can ever happen. ?

There are various philosophies as well as theories of learning, few are actually more appropriate for casual learning and to museums in specific, few apparently more applicable to the use of digital technologies. Different well-known and popular models offer useful understandings, at least into recognising matters worthy of concern. During past few years, museum learning has been the topic of significant consideration: news(e.g. Anderson 1999), initiatives, records (Falk and Dierking, 2000) and research cases (e.g. Moussouri 2002; Hooper-Greenhil, 2004). While the reasons, viewpoints and terms may vary, the comprehensive decisions are unexpectedly alike. It is nearly half a century from the time when Bloom and his co-workers issued classifications of educational aims. It was recommended by them that learning can happen in any or all of 3 fields, named as intellectual, psycho-motor as well as affective. The official subdivision usually stresses the previous while museums have important prospective for the later. Additionally, inside the intellectual area, accurate recall (containing technical language) is the lowermost of 6 stages (Hawkey, 2004). It is important to note that regardless of this, and 50 years on, college league tables are constructed chiefly on the results of typical assessment jobs, colleges are disapproved for too much stress on factual recall, information quiz games focus on radio and TV, while museums continuously convey the understanding of professionals supervisors to their in active guests (Hawkey 2001). Further, Bloom (1971) has recommended a 5 category classification of museum learning understandings: intellectual, affective as well as social along with personal and expertise

development. Latest study at the University of Leicester (Hooper-Greenhil, 2004) has produced a related set of 5 zones:

- information and understanding
- expertise
- values and approaches
- pleasure, encouragement and inspiration
- action, conduct and development.

These studies share much with multiple intelligence theory proposed by Gardner (2006). The 7 kinds include:

- logico-mathematical
- verbal
- spatial
- melodic
- kinesthetic
- intra-personal
- inter-personal

In today's reign with the emergence of new technology like Smartphone's, tablets and all sort of applications, museums have a clear knowledge that they are competing in the surfeit of a "Smart" world where information is accessible at the tap of one finger. This has opened doors for museums to use visualisations and smart technology in the museums for enhancing and revolutionise the museum experience for the visitors. Now visitors expect more. Museums have more opportunities to make cultural and historical displays visualised for their visitors for the purpose of making the collections and displays more accessible, promoting knowledge and education for the visitors in the better enhanced ways and cost effective manner (Hein, 1998). This is the area which needs to be compelled that how effectively technology can be used for making the museum experiences more attractive for the visitors. Constantly rethinking and redefining the ways how museum technologies can be more appealing in the exhibition displays and it will

ultimately show that how much agile the museum setups and exhibitions are to the visitors. However technology is not a magic which can change all over museum outlook and experience within no time, in fact these are the ways and methods which constantly need to be considered and not just used for only the sake of it (Ishiguro, et al., 2001).

2.5.Use of technology at museums for enhancing entertainment

Museums imitated as buildings that displays a mass of items with ancient, creative, or technical importance. They have meanwhile changed into considerately intended experiences that take a person on a trip through time and a mass of themes through thematic walkways. Different from other places, museums have the distinctive honour of displaying few of the world's best cutting-edge design. Museum design is a zone of immense prospective: several museums are rigid and old-fashioned, this section focuses on the study issue that how technology is aiding in engaging people via entertainment (Thorburn and Jenkins, 2003).

A shift from manual museum to a digitalised museum has taken place astonishingly in a fast pace. Marty (2007) from Ontario Art gallery validates after conducting an informal poll that today nearly 100% of museums have already started planning to use digitalised and technology based visualised museums. Institute of Museum and Library services (2006) states that 43% of United States' museums are digitalised and used technology based visual modes of cultural and historical representation.

There is a huge difference in contemporary museums and digital museums (Csikzentmihalyi and Hermanson, 1995.). Today a wide number of contemporary museums are incorporating and adopting numerous new media technology, animated visuals, graphics, high definition videos, 3-D and 4-D setups, lightings and sets, sounds and effects, animations, imaginary graphics, gaming, stimulation and a lot of other new tools for emerging the new museum setups and making the whole new experience for the visitors, increasing their means of amusements and entertainments. Smartphone apps and new multimedia setups have taken place of the old audio guides (Thorburn and Jenkins, 2003). These new smart technologies have

augmented the more improved ways for the provision of complex information on the tap of finger and on the instant visitors' demand. Many museums are exceeding the experiences of the visitors by using ultra technologies like cyber case, they are taking the museum experiences beyond the borders. This visualisation and technology based setups of the museums provide the essential supplementary information, educational and learning programs, connecting the direct connections and access to the global audiences and museums are offering visual experiences and digitalised exhibitions (Paul, 2008).

There are different types of roles and functions that are performed by technology in the museum perspective. It assists to make items available to incapacitated visitors who fight with graphic, auditory, or motion related injuries. Auditory, graphical, and mobile applications have produced the chance for customers to take a deep dive into the past, importance, and perspective of any work that benefits them (Tang and Qiu, 2015). Such types of abilities are appropriate particularly in a time when finance needing museums are probable to be short on workforce that can answer queries, offer trips, and aid the public associate with items. Digital collections attach viewers across the world to items, experiences, and exhibitions; academics benefit from these competences in their study as well (Amato et al., 2013).

The development of digital technologies and the expansion of new media helps museum to undergo a major shift to a site for experience. The advanced technologies such as wireless web, virtual medium, enlarged substances overlaid on physical ones, propelled recreations and organised information have changed reality of everything, the ability to sense our surrounding, our reasoning capacity and perception about this world. The exhibition halls are re-assessing their position in association with their groups of onlookers, while the new media advancements are changing the very idea of the historical centre. The issue is no more whether to utilise this innovation to reproduce the gallery experience, however how to utilise it for a most extreme effect on the gathering of people (Christian and Dirk, 2008).

Fujita (2001) studies the transformation of museum from being about something to being for somebody. He observed that the current age museums offer visitors to effectively make their own particular significance from the accumulations, urging existing gatherings of people to communicate in new

courses with the articles, and also connecting with new groups of onlookers. In this manner, museums are adopting different strategies to practice, explore creative ways to use new technologies. These practices create impressive impacts on the social life of individuals.

2.5.1.Innovative devices and entertainment

In this age of technology, museum exhibitions adopt new media technologies in to entertain its visitors. The most used technologies are animations, high definition videos, sounds effects, 3 dimensional movies, 3 dimensional interactive, high definition videos, hologram, simulations and visual games. Smart phone applications, Global Positioning System (GPS) locators are replacing the traditional audio guides (Wang, et al., 2009). Using the internet, most historical centres are broadening the guest experience past their fringes: sites give supplementary on-line data, shows or instructive projects, making associations and direct access to a worldwide gathering of people, while the Newseum and others offer virtual encounters on Second Life, where one's symbol may join a docent symbol on a voyage through a digitised display. Distinctive gadgets are utilised to customise the gallery experience, guests calling for prompt individual significance encounter that outcomes in unmistakably distinguished information pick up. The gallery nearness in online networking such as Facebook, Twitter, MySpace, produces direct input and new types of participatory client experience, individual and shared. The utilisation of new advances request another kind of proficiency for the guest, in any case, in the same time, they empower an abnormal state of inventive yield and imaginative utilisation (Zhang and Zhang, 2008).

Mobile phone applications as well as smartphones are a useful prospect in current important traditional organisations and work as an entry to deeper commitment and knowledge. However just as museums have modified to this portion of the digital revolt, innovative technologies are proposing improved potentials for how visitors can adore and associate with exhibitions. Wide range of institutes are discovering the prospective of wearable tools – from Google Glasses to fitness devices including Fitbit (Griffiths, 2003).

Likewise, Body Metrics exhibit at the Tech Museum of Innovation is considered to be one of the most important exhibitions. This everlasting

exhibition by Kaiser Permanente influences the continuing development of the wearable technology. However more intensely, it is related with the knowledge that how wearable technologies can influence the lives of people. Visitors are provided wearable tools that assist them track both their emotional and physical situations and responses. Visitors are then told that how their health and lives can be effected by the minor variations. Fundamentally, the exhibition is a sensibly created instance of the types of response loops that persons selecting to involve with wearable devices often create (Johnson et al., 2015).

Visitors check out a Sensor Kit, that measures 6 elements which are named as action level, intellectual emphasis as well as stress, talkativeness, outlook, and the sum of persons that are nearer. A smartphone is present inside the kit that discovers the wearer's surroundings, a NeuroSky wireless headset that calculates waves of a person's brain, and a Somaxis device that calculates the rate of hear as well as tension of muscle (Liu et al., 2016). The exhibition also contains a data pool, a great twelve feet foot custom-established touch screen that shows body metrics among guest avatars. Distinctive characteristics permits visitors to effort to sync their heart rates with other guests, and to discover specific zones of the museum like an earthquake emulator to see how that influences their body metrics. These few examples are highly useful in understanding that how technology is playing its role in making the museums effective (Sheng and Chen, 2012).

By focusing on the Internet of Things (IOT), it can be seen that it is generating prospects for museums to test with smart settings that respond to a supporter's closeness and foot traffic to provide an improved museum experience. Museums are focusing on the technology for the exhibitions that display visitors the influence of these tools to influence the lives of people, however assessing the physical as well as emotional responses to the museum experience and knowledge (Roberts, 2014).

There are some new smart phone applications being used by museums. These applications are helping museums to increase the number of visitors. The British Museum Application "The Gift of Athena" or the Tate Modern "Pocket Art Gallery" is highly appreciated by audiences. Among the primary historical centres which embedded this innovation were the Stedelijk Museum in Amsterdam which utilised AR to introduce works of art as a part of a nearby

stop (AR Tours), and the San Francisco Exploratorium which transformed a night occasion into a strange AR play area (Get Surreal) (Wang, et al., 2009).

Gadgets like Google Glass and a couple others are en route to totally changing our everyday life. The new gadgets will have as the fundamental capacity conveying increased reality to the client in a way no different gadgets could do as such some time recently, and in particular at a cost that numerous will have the capacity to bear. Google Glass is a portable wearable innovation made by Google that empowers clients to catch pictures and video, to get email, SMS messages, and online networking upgrades, and to discover headings or skim the Internet (Sylaiou, Liarokapis, Kotsakis and Patias, 2009). In spite of the fact that it's ostensibly the most celebrated, it's one and only of numerous new cell phones that have developed in a field of wearable cameras, brilliant watches, and wristbands. As these gadgets are proposed to improve the encounters of the client, the adjustment of these gadgets for diversion and more in accordance with our line of exploration, the historical centre experience will be direct. Portable innovations have begun to be broadly utilised as a part of exhibition halls these days, encouraging the visits and giving extra data and producing distinctive sorts of gallery experience (Stella, et al., 2010).

The utilisation of new advancements, from Smartphone applications to Google Glass and their consequences for the clients, conceptualising five classes of crucial subjects that subsume diverse sorts of uses and distinctive sorts of imagined historical centre encounters (and their hero's characters) (Sylaiou, Liarokapis, Kotsakis and Patias, 2009). The vast degree to which Smartphone applications have been spread in exhibition halls demonstrates that this propensity has as of now been appropriated by galleries and constitutes the eventual fate of the association between the gallery and its group of onlookers. According to Museum News, the main 5 most popular historical centres in 2012 and 2013 have given since 2009 around 50 applications that we have considered in our examination. Cell phone applications can possibly advance the gallery, to bolster the guests' importance making by confining and centring their exercises and connections, and also to develop the guests' dynamic interest and catch up past the exhibition hall. What's more, particularly with the insertion in the application innovations of increased reality,

the guest experience of the exhibition hall is exceedingly improved as far as learning, excitement and imagination (Brown, 2014).

Due to innovation and creativity, the museums are being changed. The above examples denote some of the most advanced tools, theming, as well as exhibition placement. Finance is required to use technology and innovative tools in museums. One of the easiest means a museum can involve its guests is by generating mobile friendly apps. As per research conducted by American Alliance of Museums, thirty-six percent of museums provide free mobile characteristics like “carry your own device” (Ray and van der Vaart, 2013). Museums can involve and make people make engaged by focusing on mobile apps and changing them into different types of programs. For example, museums can focus on QR codes as well as push notifications along with discounts. In addition, technology is being used at the museums to view that what visitors are observing at in the museum and distributing knowledge that aids them cooperate with the items in a more useful manner (Brown, 2014). Technology is being used at the museums in different ways. It has been observed that corporations are evolving refined techniques that are serving museums more efficiently in understanding their viewers. Eventually, this leads towards high revenues, better goodwill as well as improved experience of visitors (Chochliouros et al., 2013). Therefore, this research further analyses how technology is helping museums to enhance entertainment for their visitors.

2.6.Summary

In the above literature, it is analysed that now the trend of using technology at museums has increased. There are many types of technologies which are being used at museums. The crux of the above discussed studies is that the technology is providing more opportunities for learning. This technology is also a source of increased entertainment for tourists. There is lack of empirical studies related to this research issue, therefore, it could not be concluded whether technology really enhances learning and entertainment or not. hence, this research further analyses the role of technology in museums for increasing learning and entertainment.

3.Research Methodology

In this chapter, research methods are outlined. It does not only list the methods which are selected but it provides the comprehensive justification for selecting these methods.

3.1.Research philosophy

This research uses the pragmatism research philosophy. According to this philosophical approach, only those assumptions and concepts are considered relevant which supports the action. It is assumed that there are many different ways that could be used to interpret the world and reality (Bryman and Bell, 2007). Therefore, those ways should be adopted which could help in answering the research question. This is believed that entire picture could not be drawn with the help of one single method, as there are multiple realities, therefore, appropriate methods should be adopted for fulfilling the research questions (Blaxter, Hughes and Tight, 2010). Usually, business research either relies on positivism or interpretivism but there is also occasional need to modify the philosophical assumption and move over the continuum of positivism and interpretivism (Angen, 2000). Hence, for exploring the role of technology in learning and entertainment in museum industry, the research question is the determinant of the research philosophy. Therefore, combination of both positivism and interpretivism could be used as per the need of the research aim and objectives.

3.2.Research approach

There are two approaches which could be adopted in the research. One approach is inductive approach while other one is deductive research approach. In inductive approach, the researcher moves from the specific to the broader conclusions. Basically, the specific observations are used for making broader generalised theories. (Saunders, Lewis and Thornhill, 2007) This is a bottom up approach. In this approach, first step is to collect the data. Then data is observed with patterns and regularities. On the basis of this,

tentative hypotheses are constructed. The end stage is about giving some theories and general conclusions (Collins, 2010). On the other hand, the other approach is known as the deductive approach. This is an approach where the researcher moves from the general to specific approach. It is known as the top-down approach. The first step in this approach is to select a theory which is related to the research issue which is under study. The theoretical arguments are then converted into the specific hypotheses. These hypotheses could be tested. Then the data is collected. On the basis of the results of the hypotheses, the conclusions are made regarding the theory or theoretical arguments (Cooper and Schindler, 2007). This research has used the deductive research approach. The literature related to role of technology in museums is reviewed. After this, hypotheses are being made. These are further studied in this research.

3.3.Data collection method

There are two data collection methods that could be adopted for any research. The names of these data collection methods are primary and secondary data collection. The primary data collection is to collect the first hand data while the secondary data collection is to rely on already collected data. The present research relies on primary data. It is always important to ensure that the collected data is representative. When the primary research is conducted, it could be ensured that research relies on the representative data (Saunders, Lewis and Thornhill, 2003). Therefore, this data is selected so the data could be observed in the real time and it could be ensured that collected data reflects the reality. Moreover, the rationale for selecting the primary data source is that it could be ensured that collected data is closer to reality. Therefore, reliability and uniqueness of data could also be ensured. For many research studies, it is not possible to ensure the desired level of depth with the secondary data, only. It is always not possible to get the necessary and appropriate depth of the research through secondary data. therefore, primary data collection method is selected to ensure the appropriate depth of the study. The comparison and contrast could be done in a better way through primary data. Furthermore, another rationale to select the primary research methods is that the bias of the researcher could be minimised. As the researcher is better aware of the fact that where bias could be brought out,

hence, the researcher could minimise the bias. Likewise, the primary data method also provides the maximum control over the data collection process. Therefore, considering these aspects of the primary data collection method, this research uses the primary data sources for exploring the role of technology in museums for learning and entertainment of the tourists and visitors.

3.4.Mixed Research Methods

In this research, a combination of quantitative and qualitative research methodologies is used. The rationale for selecting this mixed methods approach is the nature of this research. This method allows to ensure exploration and analysis in the same research. As said by Guba and Lincoln (1994), with the combination of both methods, a broader perspective is gained. This is a common fact that qualitative research methods involve personal bias hence this is controlled through the amalgamation of both quantitative and qualitative research methods (Creswell, 2009). It has helped in gaining more data hence the research questions are answered in a more effective manner (Goodwin, 2002). As aim of this research can be fulfilled through mixed methods, therefore, it is considered the appropriate choice for this research. Moreover, this mixed method helps to collect more data hence the research becomes more comprehensive. Only quantitative analysis looks for one answer throughout the answer. On the other hand, qualitative analysis looks for a variety of information (Kumar, 2005). Hence, when both methods are combined, this provides to answer the research problem in a in-depth manner.

3.5.Research strategy

There are plenty of available research strategies that could be adopted for social science research studies. Most commonly used research strategies are case study, survey, ethnography and observation (Creswell, 2012). This research has selected the survey strategy for collecting both the quantitative and qualitative data. The purpose of selecting the survey strategy is that it is easier to administer and it could be developed in a short period of time. The cost of conducting the research through survey is also quite less. Through

this, a large data could be gathered. It provides the opportunity to collect ask various questions about the research subject. It also provides extensive flexibility in the data analysis (Sapsford, 2007). Considering this, survey research strategy is considered appropriate for analysing the role of technology in museums for enhancing the learning and entertainment of visitors.

3.6.Questionnaire

The research strategy which is adopted for this research is survey questionnaire. The questionnaire is administered to tourists who have visited the museums of UK. There are thousands of tourists visiting museums of UK. As Saunders, Lewis and Thornhill (2012) stated that to gather the larger set of data, questionnaire method is more appropriate for understanding the perspective of tourists regarding role of technology in enhancing learning and entertainment at museums. The rationale for selecting questionnaire is that it is practical and allows to collect large amount of data in a cost effective and timely manner (Remenyi et al., 1998). It allows to collect more reliable and valid data hence results have higher generalisability (Saunders, Lewis and Thornhill, 2009).

There are two parts in questionnaire i.e. demographics and main variables. The questionnaire have Likert scale ranging from strongly agree to strongly disagree. Moreover, there are also open ended questions in the questionnaire. The quantitative part is the Likert scale while open ended questions intend to collect the qualitative data [Appendix A]. The combination of both open and closed ended questionnaire is used to get the reliable, valid and in-depth data using the one research instrument.

The rationale for using the open ended questions is that it helps in including more information in the research. The participants can also provide the data related to their feelings and attitudes. Hence, the feelings could be accessed in a better manner (Sekaran, 2003). Unlike the close-ended questions, the open ended questions allow to explain their feelings and raise the issue if they do not understand anything. Likewise, they can give their opinion related to the research issue in a better manner. Moreover, the open ended questions were added in the questionnaire to get the unlimited number of possible

answers (Saunders, Lewis and Thornhill, 2009). Such questions help in getting the detailed response from the participants. Hence, the unanticipated findings could be revealed. Furthermore, as Bell (2010) stated the open ended questions has helped the researcher to shed light on the logic, frame of reference and thinking process of the respondents related to the use of technology at museums.

The rationale for using the close ended questionnaire is that it is easier for respondents to answer. They can provide answers in a quick manner. the answers through the close ended questions could be easily coded and statistically analysed (Sapsford, 2007). Moreover, the comparison could also be done. There are fewer chances of getting the confused and irrelevant answers to the questions. Even the less articulate respondents can provide the answers of the close ended questions (Kumar, 1999). Therefore, close ended questions were also added in the questionnaire.

The questionnaire is designed using the themes from the literature. The literature related to the use of technology at museums is critically analysed. After reading the theoretical arguments again and again, the questionnaire is designed such that the research aim and objectives could be fulfilled.

3.7.Sample and Sampling Technique

The population of this research are all those tourists who have recently visited the museums of U.K. The sample for this research is tourists visiting museums of UK. The sample size is 50 tourists which are selected on the basis of convenience sampling technique. The convenience sampling technique is to select the respondents on the basis of convenience. Those tourists and visitors of museum are selected as the participants those were willing to participate and were easily available. Though, it is always recommended to use the probability sampling technique for having the generalized findings. But, it was not possible to collect the data using probability sampling due to unavailability of sampling frame.

3.8.Pilot study

Pilot study is the small scale preliminary study which is conducted to evaluate effect size, cost, time, and feasibility of the research study. It further guides the process of full-scale research project. Before conducting the large-scale quantitative research, pilot experiments are carried out. It basically helps to confirm whether the design of designed instrument is appropriate or not (Kumar, 2005). Therefore, to check the feasibility of the full scale research project, the pilot study is being conducted for this study. The pilot study is conduct on sample of 10 tourists who have visited the museums. On the quantitative data which is collected through the questionnaire, the reliability is also assessed. Once the reliability of the questionnaire was proved, the actual data was being collected for this research study.

3.9.Data analysis technique

For analysing the collected data, both quantitative and qualitative data analysis techniques are used. This research has collected both quantitative and qualitative data. quantitative data is collected through close ended questions of the research instrument. The quantitative data was being analysed on MS Excel 2013. Firstly, the descriptive analysis was being performed for the demographics variable. Then, the descriptive analysis is performed for main questions of this research. The data was coded in 1, 2, 3, 4 and 5. Strongly agree was coded as 1; agree was

coded as 2; neutral was coded as 3; disagree was coded as 4 and strongly disagree was coded as 5. On the other hand, qualitative data is collected with the help of open ended questions of the questionnaire. As per suggestion of Altheide (1996), for the qualitative data, thematic analysis technique is used. The content of the answers which are given by the respondents is searched for the theme. These themes are analysed such that the research questions could be answered. As Alvesson and Deetz (2000) also told, The combination of quantitative and qualitative data analysis techniques have helped to analyse the research issue in a better manner. hence, the results have both i.e. rigor due to quantitative analysis and in-depth analysis due to qualitative analysis.

3.10.Limitations

No study could be completed without facing certain limitations. Same has happened with this research study. There were many limitations which the researcher has tried to minimise. The sample size could not be increased. The researcher has relied only on the sample size of 50. Though, as Sapsford

(2007) stated this sample size is fair for the social science research studies, therefore it was considered appropriate. However, the research findings generalisability could have been enhanced through the larger sample size. So, one limitation of the present research is its small sample size. Another limitation is that it selects the sample through non-probability sampling technique namely convenience sampling. It does not assign the known probability to all elements of the sampling frame. The participants were being selected as per the convenience of the researcher. This has further raised the issues for generalizability. However, to deal with this issue, the normality of data is ensured. Researchers recommend to use the probability sampling techniques because that has more chances to provide the normal data. In this research, after collecting the data through non-probability sampling, it is assured that collected data is normal.

3.11.Ethical considerations

According to Creswell (2012), the ethics of conducting the research must be considered by all the researchers. Therefore, this research complies with all relevant standards of conducting an ethical research. It is ensured that privacy and confidentiality of the participants is not harmed. Every participant was being given the right to withdraw from the research, if they wanted. They were not at all being forced to take part in the questionnaire. Their consent was being taken before their participation in this study. they participants were also being communicated about the aim and objectives of this study. Furthermore, their questions regarding this research were also answered. The collected data is not fabricated in any manner. Especially for the qualitative data, the bias of the research is kept to minimum. It was tried hard by the researcher to not use any preconceived notions while analysing the open ended questions. For secondary data which is used in other chapters also considers the ethical standards. The original author is being given credit for his/her work, through out the research.

3.12.Conclusion

This chapter has outlined the methods which are selected for this research study. This research uses the pragmatism research philosophy. It uses the

deductive research approach. It relies on primary data sources. It relies on the questionnaire which has both close and open ended questions. Data analysis is done through both quantitative and qualitative techniques. This chapter has also discussed the limitations which were faced during this research study. All of the ethical standards are considered and implemented during this research.

4.The Research: Use of Technology at Museums

4.1.Introduction

In this chapter, the research findings are presented. This chapter provides both quantitative and qualitative results. It does not only describe the results, but the analysis of findings is also done side by side. Findings are compared and contrasted with the pervious research studies findings.

4.2.Demographics Analysis

This section provides the overview of basic information about the respondents that have participated in this research.

The below table and graph presents the age statistics of the participants of this survey which were basically the tourists of UK Museums. The results have depicted that majority of respondents were from the age group of 36-45 years and 26-35 years.

Table: Age of Tourists of UK Museums

Age	Frequency	Percentage

Below 25 years	5	10%
26-35 years	12	24%
36-45 years	18	36%
46-55 years	10	20%
Above 56 years	5	10%
Total	50	100

Source: created by author using survey data (2016)

Graph: Age of Tourists of UK Museums

Source: created by author using survey data (2016)

The below table and graph is about gender of tourists of UK museums. The results have depicted that majority were females. Though, it could also be said that both gender equally participated as there is difference of one respondent only.

Table: Gender of Tourists of UK Museums

Gender	Frequency	Percentage
Male	24	48%
female	26	52%
total	50	100%

Source: created by author using survey data (2016)

Graph: Gender of Tourists of UK Museums

Source: created by author using survey data (2016)

The below table and graph are presenting which types of tourists have participated in this research study. The results are showing that there are both local and international tourists of UK Museums who have participated in this study. However, the proportion of international tourists was greater than local tourists.

Table: type of tourists of UK Museum

Type of tourist	Frequency	Percentage
Local Tourists	20	40%
International Tourists	30	60%
	50	100%

Source: created by author using survey data (2016)

Graph: Type of tourists of UK Museum

Source: created by author using survey data (2016)

The purpose of visiting the museum could be any. The below table and graph reports the findings of purpose of visiting museum. This question provided few basic reasons to explore why tourists are visiting the museums. The results depicted that many of them are either visiting for knowledge or entertainment. Thus, it could be said that selected participants are able to provide accurate answers as this research is also about learning and entertainment at museums.

Table: Purpose to visit Museum by tourists of UK Museums

Purpose	Frequency	Percentage
To gain new knowledge	20	40%

I was interested in visiting a specific attraction in the museum	6	12%
No particular reason	4	8%
For entertainment	20	40%
Total	50	100%

Source: created by author using survey data (2016)

Graph: Purpose to visit Museum by tourists of UK Museums

Source: created by author using survey data (2016)

The below table and graph tells about the frequency of visits to UK Museums by the selected participants. The results have depicted majority of them are visiting the UK Museums every six month. There were fifty percent tourists of UK museums who stated that they visit it every six month.

Table: Frequency of visits to museums by tourists to UK Museums

Frequency of visits	Frequency	Percentage
Every month	6	12%
Every six month	25	50%
Every year	15	30%
More than a year	4	8%
	50	100%

Source: created by author using survey data (2016)

Graph: Frequency of visits to museums by tourists to UK Museums

Source: created by author using survey data (2016)

4.3.Technology and learning at museums

Firstly, the close ended questions related to the impact of technology on learning at museums are analysed. Secondly, the analysis of open ended questions is done.

Question Statement:

3D technology and digital exhibitions are helpful for enhancing the learning experience at museum.

Table: 3D technology and digital exhibitions and learning

	Frequency	Percentage
S.A	20	40
A	15	30
N	2	4
D.A	8	16
S.D	5	10
Total	50	100%

Source: created by author using survey data (2016)

Discussion

The literature has established this argument that the use of 3D technology and digital exhibitions if helpful for increasing the learning experience. The results of the survey have showed that majority of respondents who were the visitors of museums believe that their learning experience is improved with the use of 3D technology and digital exhibitions. In a similar manner, a large number of respondents have also agreed with the statement that 3D technology and digital exhibitions are helpful for enhancing the learning experience at museum. On the other hand, sixteen and ten percent visitors of UK museum were disagreed and strongly disagreed with the effective role of

technology in enhancing the learning experience. These findings are consistent with the views of Decker (2015) and Chia-Chen and Tien-Chi (2012).

Graph: 3D technology and digital exhibitions and learning

Source: created by author using survey data (2016)

Question statement

The use of museum films and mobile phone apps at museum is interesting and appealing.

Table: Museum films and mobile phone applications

	Frequency	Percentage
S.A	18	36%
A	22	44%
N	2	4%
D.A	5	10%
S.D	3	6%
Total	50	100%

Source: created by author using survey data (2016)

Discussion

Smartphones and films are few of the common technologies of this century. Almost every person is inspired by the films. Pertie (2013) stated that 74% of the UK visitors to museums possess the smartphones. Therefore, many of

museums are exploiting this technology and they have introduced innovative exhibits and effects which are visible through different applications of smartphones. Further to this, it is found that there are 58% people living in the UK that has smartphones with them (Pertie, 2013). Therefore, this question was asked from the visitors of UK museums to investigate whether they believe that this is helping them in learning or not. The results have showed that most of visitors of UK museums believe that the use of films and smart phone applications have increased the learning for them. There were thirty six percent respondents who stated strongly agreed films and mobile phone applications at the museum is interesting and appealing. Likewise, forty four percent UK respondents who are visitors of UK museums have stated that they agreed with the statement that the use of museum films and mobile phone applications is helpful for increasing the interactivity and appealing.

Graph: Museum films and mobile phone applications

Source: created by author using survey data (2016)

Question Statement:

Hand held guides used at museum are helping in personalisation of your learning experience.

Table: Hand held guides and learning

	Frequency	Percentage
S.A	15	30%
A	12	24%
N	3	6%
D.A	15	30%
S.D	5	10%
Total	50	100%

Source: created by author using survey data (2016)

Discussion

As it was also said by Johnson and Witchey (2011), hand held devices and guides are considered effective for learning as they allow the users to customise the content and information as per their needs. These are commonly used for historical places. Visitors can get access to the required information in an easier manner. therefore, it is expected that when museums use this technology, visitors' learning experience could be enhanced. There are thirty percent respondents who stated that they strongly agree that such technology is helping in customisation and personalisation of their learning material. However, there were also thirty percent respondents from visitors of UK museums who disagreed with this statement that hand held guides at museums helps them to enhance their learning. Therefore, it is difficult to conclude anything regarding the effectiveness of hand held guides at the museum for the purpose of learning.

Graph: Table: Hand held guides and learning

Source: created by author using survey data (2016)

Question Statement:

The use of multimedia technology at museums is supporting your learning style.

Table: Multimedia technology and learning

	Frequency	Percentage
S.A	9	18%
A	11	22%
N	10	20%
D.A	12	24%
S.D	8	16%
Total	50	100%

Source: created by author using survey data (2016)

Discussion

According to Amato et al., (2013), multimedia is the combination of two or more media in one subject. The media could be the texts, graphics, pictures or anything. This basically helps in information providing and exhibiting the work of arts in a better manner. The extensive information about themes of exhibition could be provided in quite easy manner through this technology. The use of combined technologies help visitors to learn as per their learning styles. Therefore, this question was asked from the respondents to investigate whether or not multimedia technology is helping the visitors of museums of UK to learn as per their learning style. Though, the results are not as per the expectations. The results showed that most the visitors of UK museums do not agree with this statement that multimedia technology enhances their learning as it could support their learning style. There were twenty four percent visitors of museums who participated in this study and they disagreed that the use of multimedia technology at museums is supporting their learning style. While twenty two percent also agreed. So, it can be said that mixed findings are observed for this particular question. For almost half i.e. forty percent multimedia technology is helpful while for other half i.e. forty percent multimedia media is not supporting their learning style. The results of Chen, Chang and Huang (2014) have also stated that multimedia technology use in museum is helpful for learning.

Graph: Multimedia technology and learning

Source: created by author using survey data (2016)

Question Statement:

The use of computer mediated conferencing at museum helps in collaborative activities which aim for learning.

Table: Use of computer mediated conferencing and learning

	Frequency	Percentage
S.A	3	6%
A	7	14%
N	5	10%
D.A	20	40%
S.D	15	30%
Total	50	100%

Source: created by author using survey data (2016)

Discussion

As literature tells that technology is helpful for increasing the learning experience of the visitors at museums. One of the technologies which are used at museums is named as the computer mediated conferencing. This technology is a computer based messaging system which allows the users to get engage in asynchronous text-based communication which is not dependent on the time and place (Parry, 2014). Therefore, the purpose of present question was to investigate whether or not the computer mediate conferencing is useful for learning of visitors of UK museum or not. The results depicted that this not that helpful for learning purposes. There were forty percent respondents of this study who were basically the visitors of UK museum who stated that they disagree that use of computer mediated conferencing helps them to increase their learning. Moreover, thirty percent has strongly disagreed that this technology is helpful for their learning. Therefore, it could be concluded that this technology is not beneficial for the learning experience of visitors which is consistent with the views of Kaye (2012).

Graph: Use of computer mediated conferencing and learning

Source: created by author using survey data (2016)

Question Statement:

Simulation and models at museums are helping in enhancing the interactivity.

Table: Simulation and models and interactivity

	Frequency	Percentage
S.A	5	10%
A	7	14%
N	15	30%
D.A	10	20%
S.D	13	26%
Total	50	100%

Source: created by author using survey data (2016)

Discussion

Like other technologies, now museums are also relying on simulations with the intention to enhance the interactivity (Dunleavy and Dede, 2014). The results are quite similar to previous one. This technology is not proving helpful for enhancing the interactivity. A large percentage of respondents was quite neutral for this statement of the question; showing that they neither agree nor disagree regarding the role of simulations in enhancing the interactivity.

Graph: Simulation and models and interactivity

Source: created by author using survey data (2016)

Question Statement:

Micro-worlds and games are helping in improving the learning.

Table: Micro-worlds and games and learning

	Frequency	Percentage
S.A	4	8%
A	6	12%
N	6	12%
D.A	14	28%
S.D	20	40%
Total	50	100%

Source: created by author using survey data (2016)

Discussion

Now, there is a trend to implement many games and micro worlds in the museums. There are quite innovative games which are often used in museums. Their purpose is to enhance learning. The purpose of this question was to analyse whether or not this is resulting in improved learning for the visitors. The results are showing that the learning purpose is not achieved with the games and micro-worlds in the museums. Majority of participants have disagreed with this statement of the question which states that micro-worlds and games at museums are good for the learning purposes. This is consistent with the findings of Giddings (2015) who have concluded that such games and micro-worlds are made for entertainment instead of learning.

Graph: Micro-worlds and games and learning

Source: created by author using survey data (2016)

Question Statement:

Web 2.0 technology at museum improves your knowledge and understanding.

Table: Web 2.0 technology and knowledge and understanding

	Frequency	Percentage
S.A	12	24%

A	14	28%
N	4	8%
D.A	12	28%
S.D	8	16%
Total	50	100%

Source: created by author using survey data (2016)

Discussion:

Museums are also incorporating Web 2.0 technology with the intention to increase the knowledge and understanding of the visitors with respect to the objects of the museums. This questions explores whether or not this technology is influencing the knowledge and understanding of the respondents who are visitors of UK museums. There were mixed findings for this particular question. There were twenty eight percent visitors of UK museums that stated that they disagree that web 2.0 technology at museum is helpful for their knowledge and understanding. In a similar manner, twenty eight percent said they agree that this is good for their knowledge and understanding. There were twenty four percent participants of this study that stated that they strongly agree that web 2.0 technology is beneficial for enhancing the knowledge and understanding. This is consistent with the findings reported by Padilla-Meléndez and del Águila-Obra (2013).

Table: Web 2.0 technology and knowledge and understanding

Source: created by author using survey data (2016)

4.3.1.Electronic and interactive displays and visual learning

The subsequent section analyses the responses of open ended questions. Visual learns rely on graphics, symbols, images and pictures to learn new things. They can learn new knowledge, thoughts, ideas, concepts through the

visual memory. Electronic devices and interactive displays are quite useful for the visual learners. The responses of few respondents were that this has enabled them to learn faster. Many visual learners stated that their visual learning has increased with the electronic and interactive displays used in the museums. One of the respondent mentioned the following words:

> *"Now, it has become easier to memorise things. Previously which could not be recalled now it could easily memorise after one visit to the museum."*

Another respondents wrote the following words:

> *"The use of visual displays is attractive for learners like me. I could easily memorise those things which I see through images and pictures."*

4.3.2.Electronic and interactive displays and auditory learning

The electronic and interactive displays are effective for visual learners but their usefulness for auditory learners is not significant. The auditory learning takes place when learners listen something. Very few electronic and interactive displays also let the visitors listen something. One of the respondents have identified that:

> *"Interactive displays are not effective for auditory learners. Few of them might be having some background music, but this does not help the auditory learners to learn something."*

Another respondent wrote:

> *"I am a auditory learner but the electronic displays do not have anything related to the listening or speaking. These are useful for visual learning."*

4.3.3.Electronic and interactive displays and kinaesthetic learning

Now days technology has become quite advanced. The museums often have many displays which have moving objects. The visitors are allowed to do moving, touching and doing certain things with these moving objects. This is

helpful for the kinaesthetic learners. One of the respondents gave the below mentioned response.

> *“Last time, when I visited the museum, there was a electronic display which allowed me to experience the world war environment. By touching many of the ornaments of world war I became able to learn how the actual environment of war was.”*

Another respondent said that:

> *“I don’t think that the interactive displays are good for kinaesthetic learners. They are good for visual learners. Probably, some other technology could be more effective for kinaesthetic learning.”*

4.3.4. The use of technology and improved learning

This section aimed to explore the recent incidents and examples where the technology has helped in improving the learning of the respondents. The respondents have provided answers for this in the survey.

> *“I visited the museum with my family. My 5 year old kid has learnt really wonderful things from the visit the museum.”*
>
> *“I am always interested in science related knowledge and information. Now amazing technologies are used in museums. These have allowed me to increase my information about science”*
>
> *“Probably, museums are meant for learning only. Previously, learning was not much significant. But now the technologies like audio commentary in various language, 3D technology and web 2.0 technology allowed us to learn many new things.”*
>
> *“I visited the museum for my school project with my friends. I could say it with confidence that my learning was much higher than what is in class room environment.”*
>
> *“There are amazing applications and search engines in museums, which could not be accessed outside the museums. Last time when I used the search engine of one museum, it was marvellous. That information was not accessible from other search engines.”*

“the learning projects at museums are based on more clear logics”

“The best learning takes place in free environment. I visit museums because free choice learning could be ensured at museums.”

“we can learn about past and future.”

From these few responses of the respondents, it could be analysed that technology is helpful for learners. It provides new opportunities to learners for enhancing their learning. Many of the respondents have mentioned about the fact that museums provide the opportunity to interact. There exists active participation. This active participation of visitors is crucial for learning and this is what museum is providing to them. This is consistent with the view of Hein(1998) who has stated that without interaction learning could not take place. Respondents also mentioned about the collections of the museums. Every museum has preserved some historical objects. With the use of technology, the way these historical objects are presented are quite different and now these historical ornaments allows visitors to learn about history.

“As a student of history, every museum has many historical objects, which are good for my learning. Technology has helped the museums to present them in a better manner. So these are better for my learning.”

Another respondent written:

“the knowledge which I have from my past experiences is refreshed when I visit museums and see amazing interactive displays. Last time when I saw the Military history in one museum. All of my information which I had previously was recalled again. Now I will never forget this information”

This view is somehow consistent with the learning concept which is given by Roschelle?(1995). It was said by the author that if there is already existing knowledge related to the subject, learning process improves. So those visitors who possess previous knowledge have better opportunities for learning in museums.

Another respondent wrote:

“My personal interest is for electronics. When I visited the electronic museum, I learned many of things from there. With the help of

advanced technology, even historical electronic devices were presented in an excellent manner."

This is consistent with the learning concept presented by Csikzentmihalyi?and?Hermanson(1995) which stated that learners learn what is as per the personal interest. though, it could be said that if learners have enough interest in some subject and they visit the museum which uses the advanced technologies, their learning is better than those visitors who do not have personal interest.

There are many technologies at museums which are meant for the ease of visitors. Examples include PDA. Such devices are quite useful for learning as they provide the ease to customise and personalise the learning content for the visitors. One respondent stated that:

"Since the time, I can use PDA and smartphone at museums for knowing facts and figures, my learning has improved."

From these responses it could be analysed that the shift of museums for technology is quite effective. The museums which have adopted advanced technologies are able to attract more visitors than those who have not equipped their museums with advanced technologies. Museums are source of learning and visitors start increasing their visits to the museums if they know that museums could provide them best learning content and opportunities.

4.4.Use of technology and entertainment at museums

This section specifically analyses the responses of tourists who have visited the UK museums related to the use of technology and its influence on entertainment. In the previous chapter, it is established that now days the use of technology in museums has increased and its aim is to enhance the entertainment experience at the museums. Firstly, the close ended questions are analysed. After this, open ended questions are analysed.

Question Statement:

The high-resolution imagery used in museums enhances the attractiveness of museum objects.

Table: High-resolution imagery and entertainment

	Frequency	Percentage
S.A	13	26%
A	16	32%
N	3	6%
D.A	10	20%
S.D	8	16%
Total	50	100

Source: created by author using survey data (2016)

Discussion:

Previous studies state that museums often use the high-resolution imagery and its purpose is to attract the more visitors. This enhances the experience of visitors. Therefore, it was asked from tourists of UK museums to know whether or not these high-resolution imageries are enhancing the attractiveness of museum objects for them. The results have depicted that consistent with the previous studies, this is useful for enhancing the attractiveness of museum objects. Thirty two percent respondents from UK museum visitors stated that they agree with this statement that the high-resolution imagery used in museums enhances the attractiveness of museum objects while there were twenty six percent who strongly agreed with this. Therefore, it could be concluded that the use of high-resolution imagery is beneficial for enhancing the attractiveness of objects of the museums. This is also found by another study which was conducted by Thorburn and Jenkins, (2003).

Graph : High-resolution imagery and entertainment

Source: created by author using survey data (2016)

Question Statement:

The use of a dozen languages of audio commentary in visitor's palm enhances the entertainment experience for you.

Table: audio commentary in different languages and entertainment

	Frequency	Percentage
S.A	13	26%
A	17	34%
N	6	12%
D.A	6	12%
S.D	8	16%
Total	50	100%

Source: created by author using survey data (2016)

Discussion

The recent trend is that museums introduce a dozen of languages for their visitors. Now many of the UK museums have audio commentary available in many languages. Though this technology is quite expensive, the purpose was to know whether this is useful for entertainment purpose or not. The results are showing that this is quite useful for enhancing the entertainment of the visitors. Most of the respondents have agreed with the statement. This shows that it could be concluded that the role of audio commentary in different languages is critical for museums as it can successfully increase the entertainment of the visitors. Similar was reported by Amato et al (2013).

Graph: Audio commentary in different languages and entertainment

Source: created by author using survey data (2016)

Question Statement:

The use of virtual 3D models of objects augments the entertainment experience.

Table: Virtual 3D models and entertainment

	Frequency	Percentage
S.A	20	40%
A	20	40%
N	2	4%
D.A	3	6%
S.D	5	10%
Total	50	100%

Source: created by author using survey data (2016)

Discussion

According to Wang et al., (2009), another trend is to use the 3D technology in museum. 3D technology is considered quite appealing for young tourists now days. this question observes whether it is attracting visitors or not. the results have showed that there are around forty percent respondents that stated that they agree the use of virtual 3D model is enhancing entertainment for them. In a similar manner, forty percent strongly agreed that The use of virtual 3D models of objects augments the entertainment experience. There were very few respondents who did not agree with this statement, and this indicates that the use of virtual 3D models is good for museums and it is effective.

Graph: Virtual 3D models and entertainment

Source: created by author using survey data (2016)

Question Statement:

The wearable technology at museum enhances your excitement? [hint: examples of such technology are Google Glasses, sensor kits and fitness devices]

Table: Wearable technology and entertainment

	Frequency	Percentage
S.A	16	32%
A	16	32%
N	1	2%
D.A	7	14%
S.D	10	20%
Total	50	100%

Source: created by author using survey data (2016)

Discussion

Now days, many wearable technologies are used in the museums. The purpose of this question was to analyse to which extent the visitors are fascinated by the wearable technology. The results as depicted in the respective table and graph shows that it is exciting for most of the tourists of UK museums. Thirty two percent were strongly agreed and agreed with the statement that wearable technology increase the excitement of the visitors. Majority believes that their excitement for visiting museums increases with the wearable technologies. From this, it can be concluded that it must be promoted for attracting the tourists. The investment which is done on wearable technology will not go waste, hence, it must be adopted as it was also stated by Stella, et al (2010).

Graph: Wearable technology and entertainment

Source: created by author using survey data (2016)

Question Statement:

The use of smartphone helps you to increase the entertainment at museum?

Table: Smartphones and entertainment

	Frequency	Percentage
S.A	12	24%
A	18	36%
N	7	14%
D.A	7	14%
S.D	6	12%
Total	50	100%

Source: created by author using survey data (2016)

Discussion

As majority of population in UK possess the smartphones, therefore, it has been adopted for enhancing the entertainment at museum. Through different applications of museums, the entertainment experience could be enhanced (Sylaiou et al., 2009). Therefore, this question aims to investigate whether the arguments presented in previous studies are true or not. the results have depicted that this is true and smartphones have increased the entertainment for the visitors. There were thirty six and twenty four percent respondents who actually stated that they agree and strongly, respectively, with the statement of the question that the use of smartphone helps to increase the entertainment at museum. Similar was reported by Brown (2014).

Graph: Smartphones and entertainment

Source: created by author using survey data (2016)

The subsequent section analyses the responses of open ended questions. As said by Amato et al (2013), with the use of advanced technologies, the entertainment element of museums is also increasing. Indeed, museums are meant for education and learning purpose. They also play a critical role in entertainment of the tourists and visitors. Many of the tourists visit the museums for gaining fun and entertainment. The findings of the responses of open-ended questions have proved that more and more visitors believe that technology is playing a great role in increasing the entrainment for them when the visit the museum. The respondents have written below answers:

> *"The imagery, lighting and sound effects are not found in the traditional museums. These are quite exciting for me."*
>
> *"I loved the high resolution videos, they were quite entertaining for me."*

This shows that technology is useful for enhancing entertainment. Further to this, as Griffiths (2003) and Johnson et al (2015) stated that a wide range of institutes are discovering the prospective of wearable tools like Google Glasses. This shows that it is quite fascinating for visitors to use the wearable technologies. This was even found in many of the responses of the respondents. One respondent used the following words:

> *"I could not forget the experience of wearing Google Glasses. This was full of entertainment experience for me."*
>
> *"In one museum I get the experience of tracking my emotional response with the wearable technology while I visited the museum. This was marvelous. I could observe my own emotions in hard form. This was quite entertaining for me."*

As Zhang and Zhang (2008) told, the experience of playing games and using social media applications on museums screen is more fascinating. One of the respondents wrote about this aspect in the following words:

> *"I am a fan of Second Life. Amazingly, now many museums allows to play this game on big and advanced devices. The experience of playing Second Life on laptop or mobile phone is not fascinating as it is to play it in a museum."*

Another respondent gave the example of a technology which was entertaining for him and his children. The respondent said that:

> *“In one museum, I was being provided with few devices with which my senses were tracked down. This was amazing entertainment for me and my kids.”*

This example is consistent with the example of Senor Kit which was provided by Liu et al (2016).

> *“With the help of a new mobile application, one of the London museums allowed me to enjoy an historical event. I felt like I am part of that event and it was full of fun for me. I will soon visit the same museum again to experience it again “*

This response is consistent with the view of Tang and Qiu (2015) who stated that Auditory, graphical, and mobile applications have produced the chance for customers to take a deep dive into the past, importance, and perspective of any work that benefits them. Further to this, this response was consistent with the arguments of Wang et al., (2009) who stated that with the help of smartphones applications, museums are in position to enhance the number of visitors in their museums. Such technological devices are attracting the tourists, hence, this is a source of increasing the visitors.

5. Conclusion

4.5.Summary of findings

This research is conducted about the role of technology in museums. As museums are intended to provide learning and entertainment experiences to the visitors, therefore, this research has analysed how the technology use at the museums is helping in increasing the learning and entrainment experiences. The present research aims to investigate how use of technology at museums influences the learning and entertainment experience of tourists. This research has examined the previous studies related to role of technology

in learning and experience of museum visitors. It has analysed how technology is used for enhancing the tourists learning at museum. Further to this, it has analysed the how use of technology at museum is influencing visitors that have various learning styles (i.e. visual, auditory and kinesthetic). With the empirical survey, this research study has examined how technology can enhance the guest's interaction for purposes of entertainment. Moreover, it has investigated how technology is important for the future of museums and if so how it should be used. From the findings of this research, it could be concluded that the role of technology in enhancing learning and entertainment at museums is quite significant, hence, it cannot be ignored. This research was based on both quantitative and qualitative research methods. For quantitative data, open ended questions were asked while for qualitative data closed ended questions were asked. The quantitative data is analysed with the help of tables and graphs. While the qualitative data is analysed using the thematic analysis technique. The results have proved that technology is important hence museums must adopt it, if they want to attract and retain their local and international visitors.

4.6.Fulfilment of research aim and objectives

The present research aims to investigate how use of technology at museums influences the learning and entertainment experience of tourists. This has been achieved. Basically, certain objectives have helped to accomplish this aim. Firstly, this research had the objective to examine the previous studies related to role of technology in learning and experience of museum visitors. In the second chapter of this research, various previous studies from books, articles, journals, online data base are reviewed hence this objective is accomplished. Secondly, this research had an objective to analyse how technology is used for enhancing the tourists learning at museum. Thirdly, the objective was to analyse how use of technology at museum is influencing visitors that have various learning styles. Fourthly, the objective was to examine how technology can enhance the guest's interaction for purposes of entertainment. These three objectives are also accomplished successfully. The survey which included both open-ended and closed ended questions was intended to fulfil these objectives. Hence, this objective is also accomplished. Further to this, the fifth objective was to investigate how technology is

important for the future of museums and if so how it should be used. This objective is accomplished in the current chapter. The last section of this chapter presents the recommendations. Hence, it is could be concluded that all objectives are accomplished.

4.7.Limitations and future research directions

Though, this research is successfully completed but it is important to highlight its weaknesses. It has relied on the small sample size of 50 tourists. Though, this research is effectively completed but the findings could have been better to generalize if the sample size was greater. So, future researchers must have the larger sample size. Moreover, this research is conducted on the tourists. Probably, the better insights could be gained if managers from museums are also studied as the participants. Therefore, their views should also be added.

4.8.Recommendations

This section provides recommendations which were presented by respondents of the survey. Moreover, the recommendations by the researcher are also incorporated with the recommendations of the respondents.

4.8.1.Recommendations for the use of technology

From the analysis which is conducted in this research, it has become prominent that the museums are quite beneficial for the learning of visitors. When the museums adopt the advanced technology, it further enhances the learning experience. Museums have achieved its purpose of learning and education through equipping themselves with the necessary technology. Previously, there were only two parties i.e. learners and digital technology. But now museums involve objects, digital technology learner and places of exploration and discovery. Now, there is no distinction which exists among real and virtual. It is recommended to managers of museums that they should now opt for the personalisation. This customisation will definitely increase the social and intellectual inclusion of visitors. With the personalisation of technology, current constraints would be minimised. when individuals will be able to use that technology which they want, they will become able to use these devices in a better manner. many of the respondents from the survey

actually recommended this personalisation. Therefore, this must be adopted by all museums now. This is found from the current research study results that visitors are fond of technology at the museums. Majority of them has positively highlighted the role of technology for both entertainment and learning. Therefore, this is the time when every museum must adopt the technology. Indeed, this requires investment but it should not be forgotten that the investment done in technology will increase the revenue of museums. Moreover, the more innovations should be brought in the museums. As time is passing and new technologies are coming, these must be adopted by the museums. It is also found that respondents believe that more technology should be imported from the advanced countries like Japan. For this help of government is also required.

4.8.2.Recommendations regarding role of regulatory authorities and government

In this section, the recommendations for regulatory authorities and government are provided. From this research, it has been proved that the technology is quite useful for the learning and entertainment experience of the visitors. Many of the respondents highlighted that government must create further awareness in general public regarding the use of technology for learning. Though, museums have advanced technologies but visitors are taking them as the entertainment source. The government must create enough awareness to tourists. The regulatory authorities should develop the policies to promote the use of technology. This was also recommended by many of the respondents in the survey. Tourism regulatory authorities can develop proper guide books for using the technologies at museums. Furthermore, respondents have also mentioned that subsidies should be provided to those museums who have the innovative and highly advanced technology. This technology attracts both domestic and international tourists, therefore, it is recommended to promote the use of technology through every possible mean.

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Appendix A

Questionnaire

The importance and value of technology for enhancing tourists learning and entertainment experiences at Museums at UK

The aim of this research is to investigate the role of technologies in museum. This research analyses how technology can enhance the learning and entertainment provided by museums. Your participation is valuable for this research. Please provide answers to these questions. We assure you that personal information will not be shared with any third party. It is highly encouraged to provide detailed answers of all questions.

Age

- Below 25 years
- 26 – 35 years

- 36 – 45 years
- 46 – 55 years
- Above 56 years

Gender

- Male
- Female

Type of tourist

- Local tourist
- International tourist

What is the purpose of your visit to museum?

- To gain new knowledge
- I was interested in visiting a specific attraction in the museum
- No particular reason
- For entertainment

How often do you visit to the museums?

- Every month
- Every six month
- Every year
- More than a year

Please show your level of agreement with the following questions.

Technology and learning at museums

1. 3D technology and digital exhibitions are helpful for enhancing the learning experience at museum.

Strongly Agree Agree Neutral Disagree Strongly Disagree

1. The use of museum films and mobile phone apps at museum is interesting and appealing.

Strongly Agree Agree Neutral Disagree Strongly Disagree

1. Hand held guides used at museum are helping in personalisation of your learning experience.

Strongly Agree Agree Neutral Disagree Strongly Disagree

1. The use of multimedia technology at museums is supporting your learning style.

Strongly Agree Agree Neutral Disagree Strongly Disagree

1. The use of computer mediated conferencing at museum helps in collaborative activities which aim for learning.

Strongly Agree Agree Neutral Disagree Strongly Disagree

1. Simulation and models at museums are helping in enhancing the interactivity.

Strongly Agree Agree Neutral Disagree Strongly Disagree

1. Micro-worlds and games are helping in improving the learning.

Strongly Agree Agree Neutral Disagree Strongly Disagree

1. Web 2.0 technology at museum improves your knowledge and understanding.

Strongly Agree Agree Neutral Disagree Strongly Disagree

1. How technology like electronic and interactive displays help in visual, auditory and kinaesthetic learning? [Hint: How technology is helping in touching and viewing]

_____
_____
_____
_____

1. Please quote the recent example where use of technology at museum improved the learning?

_____
_____
_____

Use of technology and entertainment at museums

1. The high-resolution imagery used in museums enhances the attractiveness of museum objects.

Strongly Agree Agree Neutral Disagree Strongly Disagree

1. The use of a dozen languages of audio commentary in visitor's palm enhances the entertainment experience for you.

Strongly Agree Agree Neutral Disagree Strongly Disagree

1. The use of virtual 3D models of objects augments the entertainment experience.

Strongly Agree Agree Neutral Disagree Strongly Disagree

1. The wearable technology at museum enhances your excitement? [hint: examples of such technology are Google Glasses, sensor kits and fitness devices]

Strongly Agree Agree Neutral Disagree Strongly Disagree

1. The use of smartphone helps you to increase the entertainment at museum?

Strongly Agree Agree Neutral Disagree Strongly Disagree

1. Please quote any example where use of technology enhanced your entertainment.

_____
_____
_____
_____

1. Please provide recommendations that how the use of technology can be improved.

_____
_____
_____
_____

1. What do you suggest how the regulatory and governmental bodies should promote the use of technology at museum?

_____
_____
_____
_____