Enhancing visitor awareness and experience to the South African Armour Museum through eMarketing and new media

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Abstract

The paper examines how the South African (SA) Armour Museum can make use of eMarketing to reach the next generation (Y and Z) of vistors, who are predominantly computer literate and tend to be impatient and seek instant gratification. Furthermore the paper explores how new media technologies can be utilised to satisfy the needs of Y and Z generation visitors primarily based on New Media Consortium (NMC) Horizon Report: 2013 Museum Edition. Recommendations are made on how the SA Armour Museum can implement new media to enhance the visitor experience. There are several media platforms available to enhance awareness and experiences of the visitors to the SA Armour Museum. The report examined six emerging technologies which are considered to have potential impact within the next five years (2013 to 2018) on the global museum environment. A multidisciplinary approach was used which combined literature from visual arts and tourism in conjunction with a site visit observation to achieve the aim of this article. The result indicated that the use of new media technologies at the SA Armour Museum could allow visitors to opportunity to engage and learn more about its artefacts history. The use of eMarketing can also be used to introduce, market, educate and communicate the SA Armour Museums services and artefacts to a broader target market.

Keywords: eMarketing, new media, museum, visitors, tourism.

Source:http://triplecurve.com/wp-content/uploads/2013/11/iStock_000011265911Large-1024x629.jpg

Introduction

Historical attractions such as military museums play an important role in preserving South Africa`s military history (Venter, 2014:1). According to Nicolaides (2011:1) military history museums exhibit a wide range of important historical artefacts (such as armoured tracked and wheeled vehicles) that are fundamental sub-elements in any tourism system. According to Venter (2014:1) museums have always been tourist attractions and have served as an educational tool for those who want to learn more. According to Nicolaides (2011:1) museums should be places that stimulate interest and play a key role in anchoring modern society and enlightening visitors about the past. Museums such as the SA Armour Museum serve to impart knowledge and recreate events which influenced present day. People regardless of their background have a desire to see powerful military hardware. Venter (2014:1) states that there is something captivating and thrilling when viewing machines of destruction. The power and grace of military equipment such as armoured tracked and wheeled vehicles inspires the imagination of great battles fought long ago. For those who use/d them it is a more modest experience and brings back memories of destruction, loss and death.

According to Middleton and Clark (2001) museums are precious resources that should be managed for education, pleasure, enjoyment and leisure time. Exhibits in a museum and the manner in which they are displayed must rise above beyond the exhibition halls, capture the imagination of visitors, and recreate the past by bringing it back to life. According to Nicolaides (2011:1) the resent growth in tourism globally has contributed to the drive by many museums to radically alter their exhibits in both content and manner of display. NMC Horizon Report: 2013 Museum Edition identified six emerging technologies with potential impact within the area of museums. These emerging technologies are categorised under three adoption horizons, namely Near-term Horizon, Mid-term Horizon and Far-term Horizon. Near-term Horizon refers to a period within the next 12 months, while Mid-term Horizon is from 2 to 3 years and Far-term Horizon is 4 to 5 years (NMC 2013:3-6). Bring Your Own Device (BYOD) and Crowdsourcing are classified under Near-term Horizon; Electronic publishing and location-based services are grouped under the Mid-term Horizon; lastly Natural user interface and preservation and conservation technologies are regarded as Far-term Horizon. The SA Armour Museum has a significant advantage as it is a living museum, with many tracked and wheeled vehicle in operational condition to explore such emerging technologies.

Background to the museum

Instituting a Museum and Research Library for the South African Armoured Corps (SAAC) started as early as 1994 and was officially approved by the Chief of the SA Army on 12 October 1995. Approval for the use of the historical buildings located at the School of Armour, Tempe was granted in April of 1995. The main museum building is home to various static displays of South Africa`s armoured warfare history. Several fundraising projects were launched for restoration purposes, manufacturing of showcases and other items. Contributors included private businesses and arms manufacturers. Members of the Armoured Corps donated different items to the museum for display. With assistance from personnel from the School of Armour, the museum was opened by the Chief of the Army on 13 September 1996 which also coincided with the 50th anniversary celebration of the South African Armoured Corps. The museum has grown steadily as its collection of armoured tracked, wheeled and other vehicles increased.

The museum consists of the following buildings which will be discussed to facilitate

the readers understanding their history and importance:

- *The main historical building*
- *The research library*
- *Hull-Down*
- *Lesakeng*
- *Outside displays*

The Main Historic building
The main historical building dates back to 1902-1904 where the British Occupying Forces garrisoned after the occupation of Bloemfontein on 14 March 1900. The large British Garrison (soldiers and families) soon had a need for a military hospital which led to the construction of three large pre-fabricated wood and corrugated zinc buildings. Soon after administration blocks as well as nurses quarters were added. The hospital was used during the second South African War (1899-1902) to care for women and children who became sick in the concentration camps which were situated adjacent to the area. The British Garrison made use of the complex until 1912/13. After the establishment of the SA Union Defence Force in 1910, the hospital was declared a Military Medical Service training facility in 1912. It also served as a military hospital until it closed in October 1921. During 1923 it was sold to the Bloemfontein City Council which used it as an isolation hospital during several epidemics such as the polio epidemic of 1934 and 1943. During the latter outbreak the hospital received the first "Iron Long" machine in South Africa to treat patients with lung conditions. In 1966 the hospital stated scaling down and was closed down in early 1967. The then 2nd Armoured Car Regiment moved in to occupy the buildings. Soon after the regiment was incorporated into the School of Armour and in 1970 the final historical building was incorporated. In 1985 several buildings were demolished to make way for more modern development for the School of Armour. The historical building was restored in 1995 and declared a National Monument on 5 February 1999. Presently the historical building which is used by the SA Armour

Museum houses several indoor displays, an auditorium and function hall.

The Research Library
Adjacent to the main historical building and part of the museum is the research library, which specializes in the gathering of information, documents, periodicals, books, etc., which emphasis on Armour warfare and equipment. The library also accumulates information of personnel, vehicles and archive books of the SAAC. The library has a vast collection of books, periodicals, documents, etc. for research purposes. The library also responds to requests from around the world regarding equipment and history of the SAAC.

Hull-Down
Officially opened on 2nd of September 1999 the building houses additional equipment and training aids which cannot be housed in the museum building. Hull-down is only opened on prior arrangement with the curator.

Lesakeng
Officially opened on 30 March 2001 the aptly named Lesakeng translates to the "Corral for old horses" and houses numerous working prototypes and retired armoured tracked and wheeled vehicle as well as other military vehicles. The now enclosed building was constructed with donations from private individuals and good friends of the museum. The development of the building is on-going.

Outside display
Adjacent to the School of Armour and the 1st South African Tank Regiment are more than 60 armoured and tracked vehicles showcasing the historical development and use of armoured vehicles in South Africa. Included in the outside display are captured soviet armoured vehicles both tracked and wheeled from the Border War (1966-1989).

Tourism service offerings

According to Nicolaides (2011:4) museums are closely associated with the leisure sector as tourists visit them for leisure purposes. Stebbins (2001) as referenced by Nicolaides (2011:4) differentiates between two types of leisure visitors namely "casual" and "serious". Casual visitors account for the largest portion of the market and seek to have a short, enjoyable experience and often need to be enticed to generate a visit. Serious visitors for example to the SA Armour Museum on the other hand would include historians, military analysts, current or former military personnel who require little encouragement if any to generate a visit. Serious visitors only account for a small portion of the market.

Service offerings such as those found in the tourism industry are intangible in nature. George (2013:24) explains that tourism offerings consist of experiences rather than physical goods which mean that they carry an element of risk when purchasing. As these service offerings cannot be test by consumers beforehand they tend to rely on word-of-mouth recommendations from those that have made use of the service offering. It is therefore vital that any service offering provider ensures the customers' needs and wants are met. For example if visitors perceive a museum to be boring, uninformative and unentertaining they will not make a repeat visit and would warn others to stay clear.

According to George (2013:25) the absence of direct tangible offerings steer visitors to seek tangible elements to satisfy their needs such as brochure, display layouts, staff uniforms. Due to the intangible nature of tourism, tourists or visitors leave only with memories of what they experience. According to Beldona, Nusair and Demicco (2009) demographic differences is an important consideration with regard to the adoption of technology. Their study refers to

a generational cohort, which is composed of individuals emanating from a similar experiential or contextual background. Groups mentioned in this study include "generation X" (people born between 1960 and 1980) "generation Y" (people born between 1981 and 1998) "and generation Z"(people born after 1999). The Y and Z generation of visitors are predominantly computer literate and tend to be impatient and seek instant gratification (George, 2013:54). According to Schroer (2008) the Y generation can also be described as Boomers or Millenniums. They are known to be incredible sophisticated and technologically wise. Schroer (2008) describes them as immune to most traditional marketing pitches (seen it all, exposed to it all). They are more segmented as an audience due to the expansion in internet, e-zones etc. They are les brand loyal, flexible in changing fashions and style consciousness. Importantly they were more involved in family purchases from groceries to new cars. According to Shaughnessy (2014) and Waterworth (2009) there is as yet not a lot of information on the characteristics of generation Z because, they haven't been on earth yet for very long. It is however predicted that generation Z will be highly connected living in an age of high-tech communication, technology driven lifestyles and be prolific users of social media (Waterworh, 2009). According to Shaughnessy (2014) generation Z doesn't as yet hold any purchasing power however they do influence their parents' choices when purchasing items such as toys and entertainment. Generation Z are by far the most technological capable generation yet and can multitask across five screens daily compared to generation Y`s two Shaughnessy (2014).

With the advent of social media such as Facebook and Twitter, visitors can now instantly share photos and videos with their friends which can either have a positive or negative connotation. It is therefore critical to ensure that visitor's experience of SA

Armour Museum exceeds their expectations. In the case of the SA Armour Museum which is located on a military base, clear guidelines need to be set down to ensure that visitors can take photos and videos of their experience without undue hindrance. A poor visitor experience could lead to an avalanche of bad publicity on social and formal media.

It is in this context that we questioned ourselves about the methods the SA Armour Museum can use to introduce, educate and communicate to the public or visitors about its products and services. According to the curator of the museum the number of public visitors at the museum is low; however group visits such as schools, international dignitaries are reasonable. In addition the museum experiences more visitors during the events such as open day. As a result there could be a number of challenges that museum is experiencing, (a) the museum survives through donations from private businesses and arms manufacturers, (b) inadequate marketing materials, (c) the place in which the museum is situated, a military base (d) limited new forms of innovative exhibitions to engage the visitors among others. For the purpose of this paper we will concentrate on the marketing materials and new forms of innovative exhibitions through new media platforms which can play a role in educating and regenerating interest of the public to visit the SA Armoured Museum.

The two key questions that will be answered in this article are:
- How new media can be used to create awareness of an intangible product such as offered by SA Armour Museum experience?
- How can new media be used to enhance visitor's experience of the SA Armour Museum?

According to George (2013:534) technological innovation may be one of the most significant factors to affect the South African tourism marketer in the years to come. The impact of technology will not only affect the way in which marketing is done but also how museums can educate and entertain its visitors. As was previously mentioned the Y and Z generation with their technical savvy want instant gratification and it is this market which will dominate the tourism industry in the years to come. Several of the most exciting new trends in museum tourism and components of new media are virtual reality, self-guided QR Code tours and 3D animated displays.

Attracting visitors using eMarketing and new media

According to Makwela (2012:17) "the field of new media consists of various disciplines and it remains challenging to define such emerging fields in terms of where to start and where to end". To begin with the word "new", it is referred to as something never existed before (OED, 1999:959). It is problematic or impossible to measure. On the other hand the basic description of the word "media" is a plural form of "medium" (OED, 1999:884). In the same view, in media studies and communication sciences it refers to collective form of mass communication i.e. television, video, film, internet, radio, press and among others (Makwela 2012:18). New media can also be used to describe multimedia, interactive media, online media, digital media and information and communication technologies (Harries 2002; Dijk 2004:9).

Although there is a shared view among authors that the use the computer technology has changed forms of media production processes and the distribution of information (Manovich 2001; Harries 2002; Lister, Dovey, Giddings, Grant & Kelly, 2003). In this context Makwela (2012:6) defines new media as "the transformation of the old media's production processes, distribution, text and consumption of information into a moving image form

through the use of electronic devices and the computer".

In contrast, the meaning of new media technologies can be summed up as "any means of digital delivery of media content via internet, DVD, digital television and CD ROMS" (Harries 2002:1). DVD refers to Digital Versatile Disc, while CD ROMS stands for Compact Disc Read Only Memory. In simpler terms 'the means of delivery' designate the gadgets or platforms or devices the media content is displayed. In addition to the old media platforms, new technologies such smart phones, I pods, PSP, Wi-Fi or RSS and simulators are playing critical role as a means of content delivery.

The SA Armoured Museum currently only operates one form of new media namely their website (http://www.saarmourmuseum.co.za).

It is clear that there is a difference between new media and eMarketing. eMarketing can be associated with a process of communication using digital delivery of content. According to Strauss, El-Amsary and Frost (2008:3) eMarketing is the use of information technology in the process of creating communicating and delivering value to customers and for managing customer relationships in ways that benefit the company and its stakeholders. eMarketing reaches far beyond the Internet and include several forms digital content delivery to electronic devises namely; text, video, audio and graphics (George, 2013:369). One of the benefits of eMarketing is that it doesn't require a huge capital budget which has made the playing field much more equal. According to George (2013:374) the internet combines many of the advantages of print and visual advertising media. Modern day mobile devices such as smart phones and tablets can browse the internet from anywhere a communication signal is found. eMarketing

allows the producer to direct transfer to any digital hand held devices without the need to print expensive colour brochures. This also assists consumers who can browse at their own leisure. Information can also be updated instantly with no wastage associated with hardcopies. The potential benefits for the any user (SA Armour Museum) of eMarketing are surmised by George (2013:374) as the following:

- **Reach**- The nature of the internet allows the user to compete equally against other forms of tourism and can draw global attention with only a small budget.
- **Scope**- eMarketing enables the communication with consumers in a variety of ways and includes information management, public relations, customer services and sales.
- **Interactivity**- eMarketing is a two-way communication channel between the user and its consumers. It has more impact than the traditional communication media as it can use creative text, audio, pictures, animated graphics and videos to deliver a message. Information can quickly be updated or changed.
- **Immediacy**- Response time is fast, bookings could be scheduled in a matter of seconds. Information provision and sales can occur without delays.
- **Demographic targeting**-The majority of Y generation consumers are computer literate and have access to smartphones and tablets enabling the user to reach the desired target market they wish.
- **Monitoring**- The consumer's responses can be monitored via web traffic-analysis software to determine if a successful number of hits are achieved. Detail such as where visits come from and how long they spend can also be determined.

- *Adaptability*- The internet can help the user to react immediately to changing market conditions, providing the marketers the opportunity to change prices as desired. Printed media on the other hand has a long lead time and price changes means the existing material needs to be discarded.

George (2013:375) argues that marketers must also understand and be able to respond to the associated problems of eMarketing namely:

- *High broadband costs*- The relative high cost in installing and renting broadband lines as well as data cost could become a burden if not managed correctly.
- *Present limits of the internet*- Factors such as taste and touch which play a significant role in consumer's decision to purchase are not satisfied.
- *Security issues*-Internet security is a vital concern, especially if bookings are made and money is exchanged electronically.
- *Regular updates needed*-An active eMarketing strategy requires intermediate updating to encourage repeat visits.
- *Limited access*-Low income groups run the risk of being excluded especially people in rural communities.

The term new media, importance, advantages and disadvantages of eMarketing have been explored. Perspective was given on its potential use to capture the attention of generation Y and Z consumers in order to encourage visits to the SA Armour Museum. Capturing consumer's attention is only half of the strategy. The following section will explore the use of new media technologies that can be implemented to enhance visitor experience to the SA Armour Museum.

Using new media to enhance visitor experience

In 2013, NMC co-hosted a conference with the Marcus Institute for Digital Education in the Arts (MIDEA) in a research effort to identify emerging technologies and practices with a potential impact in museum environment. The report grouped the identified emerging technologies into three horizons namely:

- *First horizon*- near-term refers to BYOD and Crowdsourcing provide the visitors with great opportunities to engage with museums in many ways. Museums could use these technologies to engage and reach visitors through smartphones technologies by means of sharing museum content, sharing ideas amongst others. While crowdsourcing in the social media and crowd funding websites setting could play a significant role by allowing visitors to partake in the developments catalogues and databases. Crowdsourcing can be defined as "a set of methods that leverage the ideas and work of a community of individuals around a common goal" (NMC, 2013)
- *Second horizon*- mid-term comprise of electronic publishing and location-based services. According (NMC, 2013) the electronic publishing presents endless possibilities in rich digital media assets such as video, images, and audio for museum's content. These digital media assets can be assembled or resized for a variety of media formats that can be made to reach wider target audience market. Location-based services are not new concepts either, mobile technologies have already been developed to the

extent that could track and direct visitors to a precise position in both outdoor and indoors in a form of GPS.

- *The third horizon*- far-term are natural user interfaces and preservation and conservation technologies. It is believed that "Exhibits that make use of natural user interfaces that react to touch; movement, voice, and facial expression are going to be more intuitive for museum visitors, providing them with ways to interact with artworks and installations" (NMC, 2013). Preservation and conservation technologies are also critical due to the rapid developments of technologies. Museums are faced with challenges of developing and archiving metadata in order to be compatible with the advancement of technologies.

In line with the NMC report, the concepts or emerging technologies presented have been implemented by some international museums for example The Oakland Museum of California (OMCA) experimented during 2009 with various technologies including digital interactive exhibits and audio stations for its installations of collections with a goal to set a new paradigm in which the museum can engage its public. Another best form of display is the internet where visitors can explore options on the museum websites before and after the visit of the actual museum (Matsumoto 2015:1). Additional new media platforms include cell phone, MP3, Wi-Fi or RSS, simulators which can access the same material. Museums want the younger generation Y and Z to become more interested in history and in this case the SA Armour Museum. The methods and types of media theses generations grow up with and use to interact with on a day to day basis are important. For the purpose of this article, the use of QR code technology, simulation technology and digital photography for capturing high quality archival metadata will discussed with specific reference to their applications to SA Armour Museum
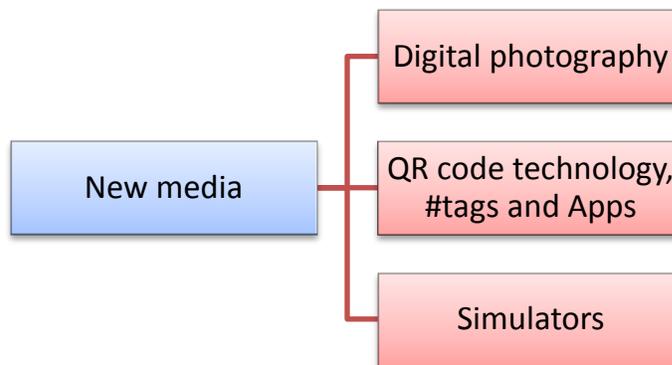

Figure 1: Forms of new media

A) Using digital photography as part of new media

Digital photography forms part of new media and the process archiving metadata and documenting the artefacts. According to The Free Dictionary (2015) digital photography implies the manipulation of photographs by computer. More accurately the taking of a picture with a digital camera and storing and printing them on digital devices. This promiscuous relationship between computers and digital cameras are referred

to by Freedman (2008:6). Indicting that digital cameras evolved because of technology that made it possible and this is the very same reason why we have chosen to make use of this new media where images are captured in a process able way. It allows for the easy correction and manipulation of images. Supporting this argument Langford (2000:266) noted that it can be manipulated and altered into different formats, image sizes and quality in a quicker more direct way than in a dark room. According to a study done by Markowitz and Mizroch (2007:195) on the use of digital photography for scientific studies they concluded that the incentives for and the impediments to adopt digital photography illustrated the interpretive flexibility around the artefact of digital cameras which is regarded as impressive, efficient and practical. Applying this technology will enable the use of the images that have been captured and manipulated to be transferred to almost any new media format available. Whether visitors will be using an SLR camera or their cell phone camera with all the pre-editing software build into the device. The level of manipulation will still imply the altering of a recoded image referring to that image as a digital photograph.

Practical application for the SA Armour Museum includes the incorporation into websites and digital media to stimulate visitor's expectations. It should be noted that such application needs to be done in an ethical manner as not to portray artefacts in a misrepresented way or generate undue hype.

B) The use of QR code technology #tags and Apps as part of new media

QR Codes (Quick response" or 2D barcodes) can be read by any smart phone reader with a camera scanning capability (Kubacki 2013:185). Their study focus specifically on the X and Y generation consumers as they are regarded as more tech savvy, more educated and resourceful in the use of new technology. By implementing the use of QR codes and new technologies such as #tags the next generation of visitors should automatically be drawn to explore the museums attractions.

According to Wheeler (2011) QR code usage in museums has recently started to take shape and is a great way to enhance visitor experience. QR codes bring exhibits to life and allow communication between visitors on all educational levels. The application of QR code technology in conjunction with smartphones has transformed the museums who implemented them from a linear into a more interactive experience. According to Kubacki (2013:348) new generation smartphones have revolutionized the way museums can be experienced and has set a global trend that should be applied at the SA Armour Museum.

The museum of Indianapolis incorporated QR codes to do the simple task of redirecting the smartphone user to a Wiki page with more information about an exhibit. A later addition redirected users to a museum staff produced video that explained the lesson they wanted children to learn. QR code`s stimulate interaction and allows individual users the opportunity to make use of their mobile phones to learn. Wheeler (2011) argues that interactive kiosks are to open to ambient noises, video disruption which intern makes the learning process to hard.

The Cleveland Museum and Bologna`s Museum of Archaeology make use of QR codes for self-guided audio tours of their exhibits. According to Wheeler (2011) the Smithsonian Natural History Museum used QR codes as part of an exhibit on Neanderthals. Of noted interest is a study done in United Kingdom museums which found that children (Z generation) who

made use of smartphones to enhance their visits, staid an average of 450% longer.

QR code technology is already in use at the SA Armour Museum for artefact inventory purposes. It is recommended that the existing QR code database be used and adapted for visitor access. Visitors could scan the QR codes using their smartphones and in doing so be redirect to either a historical information page, audio or video recording which details the history of the artefact, its use etc. QR codes could also be used to quiz visitors after each exhibition hall. The difficulty of the quiz could be scaled based on the visitor profile, either casual or serious as highlighted by Stebbins (2001). Visitors could be scored and choice given to have it displayed on their Facebook page to show their social circle, which could intern generate more interest. QR codes allow military models on display to be brought to life with 3D animation and famous battles and the strategies could be visually illustrated on the smartphone. By making use of QR codes visitor transform their smartphones into active information retrieval device that can be operated without any assistance from the museum staff. They key to successfully implementing QR code technology lies in the interactive engagement of visitors and creating a fun leaning atmosphere for the young and a stimulating experience for those more serious.

Tags for those followers of Twitter can be added to any images taken by visitors to the museum and shared online. Once they have uploaded their images with a keyword such as museum /armour etc. with a # linked to the image any person viewing images from museums or specifically the armour museum will be able to view any other individuals images online. While the use of #Taggs can be shared across a very wide spectrum for smartphone users with access to their Twitter accounts it does limit the user to only share #images and cannot

provide background information on any given display.

The use of real time applications (Apps) on the other hand provide infinitely more engaging abilities to the user. The use of Apps such as T"ourSphere, World of War and Explorer can connect museum visitors instantly with information on the exhibit they are viewing. Real time Apps allow visitors to have online battles with your buddies, allow for example musicians to perform from their homes to an audience. It allows people to collaborate in a more natural real –world manner (Greene, 2013). Real time networks offer high speed delivery of data, targeted to individual devices or it can be broadcasted to everyone simultaneously. The term presences–as-a-service offers the user an easy way to detect or be notified when other users go online/offline. Such an example is "TourSphere "offering the user not just a typical cellphone tour but instead a rich vibrant multimedia tour that can be accessed from any mobile device with web browser. The user will have access to audio, video, photographs, maps and many other multimedia features from their smartphone. The museum can then offer instant access to educational content to the visitor. Another such real time App was implemented by the American Museum of Natural History, allowing the general public to browse through iconic exhibits from the museum while planning their next visit.

C) The use of simulators as part of new media

It is clear that moving images can capture the viewers' attention more quickly than still photographs or text. According to Reading (2003:78) visitors who are presented with a choice of interactive icons relating to a range of media namely; video, photographs, text, maps they nearly always seek to interact with video materials first, then, digital photographs followed by digitized maps or documents and finally text as a last choice". The video can be in a form of 3D computer generated animation for example

video games, virtual tours and simulators. The word simulator refers to a machine that simulates the controls and conditions of a real vehicle, process, etc. used for training purposes. The process of simulation in this context can be experienced through the interaction and exploration of virtual world. Mirzoeff (1999:91) defines virtuality as "an image or space that is not real but appears to be", while Robins (1996:44) regards virtual or artificial reality as a computer generated realistic three-dimension visual worlds in which an appropriate equipped human operator can explore and interact with graphical (virtual) objects in much the same way as one might in the real world. The space or three-dimension visual world referred to can be seen in different visual forms such as the World Wide Web, cinema, video, and computer animation, among other things.

According to Lister *et al.* (2003:35) virtual reality can be experienced in two ways: it is used to describe "the experience of immersion, in an environment constructed with computer graphics and digital video" in which the use has some degree of interaction, for example LCD screens, wired gloves or where body suits providing tactile and positioning feedback remain in physical space. And the screen-based 3D worlds explored by computer game players or the images that are perceived by a technician or pilot when their physical bodies are in place while they act remotely on an object or event using data and imagery produced by cameras, sensors and robot vision. With the advancement of new technologies, virtual reality systems enable both the viewer and the creator to experiment with the dynamic integration of different perceptual modalities. The perspective images in virtual reality connect the real world, construct space and one becomes the other. The virtual reality leads to a new kind of relationship between viewer and images. The perspective images change as the user moves in virtual games. The binoculars of Liquid Crystal Display (LCD)

screens, for instance, carry the image to the eyes of the viewer in a way that no borders and surfaces can be detected. It becomes evident that virtual reality presents the viewer with the disappearance of sight of the frame and the surface of the image perceptually and physically.

Sedano, Leendertz, Vinni, Sutinen and Ellis (2013:4) discuss four motivational factors that draw people to gaming (simulators):

- **Challenge** as participants face a situation with an uncertain outcome where effert is required to overcome it. The situation is neither too easy as to be boring, nor is it too hard forcing players to surrender.
- **Curiosity** serves as a strong desire to learn more about something. It compels the participant to learn, explore and investigate the subject matter.
- **Fantasy** transports the participant to a simulated world.
- **Personal control** allows the participant to feel in charge of a situation such as the pace the game is played at.

The implementation of such simulator technology at the SA Armour Museum would propel the visitor experience well beyond the scope and scale of similar museums elsewhere in the world as they are engaging in history for learning puposes while having fun.

There are three options available:

- **The first option** would comprise of a generic stand or cubical which will be equipped with a desktop PC and controls to operate a simulator tank.
- **The second option** will be far more tangible and offer a longer lasting personal experience. It requires the use of static armoured vehicles at the museum such as the iconic

M3A1 Stuart (Figure 4), M4A1 Sherman and T-34\85. The digitalisation would require that the vehicles would be fitted with a desktop PC; two LED screens each and a mobile LTE dongle (for internet connection). One screen would be located at the driver's location and the other outside the commander's hatch. The driver's station will be equipped with a steering wheel and paddles to drive and operate the tank and the commander's station with a mouse

and keyboard to aim and fire the simulators tank gun.

- ***The third option*** follows the same principle as option two but the desktop PC screen is replaced with a virtual headset such as Oculus Rift (Figure 2) which offers the user the next generation of virtual reality in the form of a full 3D stereoscopic view of their virtual surroundings (OCULUS; 2015). The users head movement translates into corresponding head movement inside the virtual world (Figure 3).

Figure 2: Oculus Rift

Figure 3: View from M4A1 commanders hatch in War Thunder

Given the abundance of static armoured vehicles available at the SA Armour Museum (60+) the repurposing would be easy. Visitors could be taught the history of the armoured vehicles and principles of armoured warfare from museum staff as part of the experience. The simulator program that will be used is War Thunder, a next generation MMO (Massive Multiplayer Online) free to play combat game for PC and Mac dedicated to World War II military aviation, armoured vehicles, and fleets, developed and published by Gaijin Entertainment. It puts the user in control of vehicles used by the Axis and Allies during WW2. The vehicles used in the simulator would correspond to the real world vehicles the users will be occupying. In other words visitors who sit in the M4A1 Sherman will be

operating the same vehicle in the virtual world while having a virtual view sitting in the designated seats just as in real life. The visitor will experience the claustrophobic conditions that tank operators had to deal with while being fired on by the enemy, thereby gaining a better understanding of the conditions they worked under. The added benefit of such a setup will be the required co-coordination of the crew in order to survive just as in real life. Simulated battles could be held exclusively between the museum vehicles or for a more challenging experience a network of museums could operate their vehicles against each other.

Figure 4: M3A1 Stuart at SA Armour Museum (Left), M3A1 Stuart in War Thunder (Right)

According to George (2013:534) some opponents of the virtual or simulated experience believe that it could one day destroy the tourism industry. It is therefore vital that a culture of real life tangible experiences merge with that of simulated experiences as suggested above.

Conclusion

Museums in South Africa are predominantly tailored for generation X visitors. In order for museums to stay competitive with other tourism, leisure and recreation activities in an ever evolving technological driven world it needs to adapt and to remain vibrant. Museums need to throw of the stereotypical assumptions the public might have such as that they are boring and only for the elderly. This can be achieved by embracing eMarketing which speaks directly to the Y and Z generation. Once a communication link has been established with the public, museums must ensure they can satisfy the expectations that they create. The Y and Z generation require instant satisfaction and use technology to achieve their needs. By incorporating new media technologies the SA Armour Museum will leap into the 21st century by becoming the first ever such a military museum in South Africa which caters for the needs of the Y and Z generation visitor. The SA Armour Museum will also be at the forefront of military museums on the global theatre and set the trend others military museums will follow.

Although the article focused on the SA Armour Museums, the use of eMarketing techniques and the application of new media technology in other museums is just as relevant.

The need for further study into the rapidly expanding world of new media, eMarketing and smart phone technology have been prompted. Investigating what to expect next in terms of new emerging techniques and technologies will be of paramount importance to the tourism industry and its affiliates. This article in part has shown that the needs of the next generation has not been met yet and the responsibility and the opportunity to act accordingly has been emphasised. It is recommended that the impact of virtual reality and the responsibility of using optimum quality digital imaging through the use of the latest digital photographic techniques to replace that of the already aging technologies such as QR codes, #taggs and simulators be explored in tourism.

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