

How will web and social media usage affect the future of museums?

Case Study: The Museum of Islamic Art in Cairo

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Abstract

Museums worldwide are starting to explore the potentials of web and social media as new channels for marketing, communication and collaboration with their target audiences. The overall objective of this study is to describe the current usage of web and social media by the Museum of Islamic Art in Cairo. The study adopted a mixed research design that integrates both quantitative and qualitative approaches. First, (15) semi-structured interviews were conducted with the museum staff members. Second, an exploratory survey was administered to (140) participants that addressed questions about the overall assessment of the website design. The main findings indicated that museum staff was actively implementing a high advanced, innovative technological strategy. Besides, the results of the survey showed that participants were partially satisfied with the current design of the museum's website. Based on the previous findings, the researchers recommended strategies for museums' managers that could guide them to introduce new technologies.

Keywords Museum of Islamic Art, Museum Websites, Museum 2.0, Social Media, Social Networking Sites.

Introduction

Introducing new technologies based on web and social media can assist museums in reshaping their traditional products and creating new cultural experience for their audiences (Padilla-Meléndez and Del Águila-Obra, 2013). Through the internet, museums may be able to use their online presence to enhance their relationship marketing practices in more innovative and less expensive ways (Chung et al., 2009). The website of the museum can be considered as an important marketing tool and also an effective way for reaching new target market segments (Corbos and Popescu, 2011; Lehman and Roach, 2011). Museums can easily provide online information concerning the exhibitions and objects, besides other additional information about the subject of the museum, which is not directly related to the

museum's physical collections (Morse, 1999; Ke and Hwang, 2000). Museum professionals and directors should think critically about their websites and the information they provide from the perspective of museum visitors both before and after museum the actual visit (Marty, 2007; 2008). The experience resulted from visiting the museum websites can significantly influence users' intentions to revisit websites for personal and professional purposes and actually to visit the museums themselves (Pavlou, 2012). Social media usage has been widespread for a long time within the archaeological and museum sectors (Pett, 2012). Social media were identified as the emerging technologies that have a great impact on the museum environment, especially in terms of education and interpretation (Whelan, 2011). Social media are considered as one sign of the so-called "Museum 2.0" (Srinivasan et al., 2009). Museum 2.0 is neither tool- nor application focused (Srinivasan et al., 2009: 269). Museum 2.0 creates an environment in which museums improve people's lives by facilitating the construction and strengthening of diverse communities, and by supporting social interaction among members of those communities (Srinivasan et al., 2009). Social media has been adopted so easily by museums for its potential to help visitors co-create and interact non-personally with museum exhibits themselves (Stuedahl and Smørðal, 2011). The majority of museums have limited resources, thus usage of social media becomes particularly interesting as they can achieve great impact with limited financial resources (Hausmann, 2012).

Less attention has been devoted to the usage of web and social media technologies by the Egyptian museums. Gomma and Yousef (2014) evaluated the websites of Egyptian museums and concluded that many Egyptian museums still lack the technical expertise to participate in the digital revolution. To this purpose, the recent paper presents a case study of a medium-sized cultural institution, the Museum of Islamic Art (MIA) in Cairo; which owns an outstanding, well advanced website design. This website provides the visitor with all information he/she needs along different consumption phases such as: visiting times, mission and vision, history, collections, maps, videos and photos of the museum. The website linked to the pages of the museum on different social media such as: Facebook, Twitter, YouTube, Pinterest, Google+ and Instagram. Moreover, some publications and periodicals of the museum's library are available for downloading through a number of links on this website. The rationale of the study is to understand how web and social media tools can affect the future of museums and propose some strategies with regard to their value as service delivery tools. In keeping with the purpose of the study, three research questions were formulated:

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**How do the museum staff members utilize web and social media?
What is the role of web and social media in marketing the Museum of Islamic Art?
How do visitors perceive the overall design of the museum website?**

Literature Review

Web Usage and Museums

Nowadays, many museums have already established websites and advocated to invest increasingly more money to improve their quality (Pallud and Straub, 2014). Museums can develop their websites to be new channels with online communities such as museum amateurs and professionals (Nuo, 2013). Moritz (1996) listed three reasons for the establishment of museums' websites: marketing museum's art works, raising visitor's awareness of their exhibits and improving their educational and research mission. Through their websites, museums would inspire an environment in which visitors can gain new original experiences and ideas, besides exploring the exhibited objects and art works (Fotakis and Economides, 2008). A successful website must sustain technological advances, meet visitors' expectations and deliver several essential features to encourage a better online experience (Zafiropoulos and Vrana, 2005; Fotakis and Economides, 2008). Goals of museum websites may include life enrichment, knowledge enhancement, online learning, entertainment and ultimate experience (Belanger et al., 2006). There was a fear that museum websites would discourage people from visiting the museum (Marty, 2004). It is hard to define why the museum guests physically visit museums and virtually directed to the museum websites (Kravchyna and Hastings, 2002). Some people go to museums to explore temporary exhibits and permanent collections, while others go to meet people and museum staff (Kravchyna and Hastings, 2002).

However, most museum experts assured that websites offer unique opportunities for encouraging people visiting the museum (Marty, 2004). In general, the well-designed website should keep; dynamic, stable updating, managing and innovative approaches (Lazarinis et al. 2008). Websites dealing with more information are more likely to get picked up by famous search engines (Lovelock, 2000). Schweibenz (2004) classified museum websites into four main categories: the (brochure museum) through which the website contains the basic information about the museum, the (content museum) where the website gives detailed information about museum's collection and invites the virtual visitor to explore its exhibits online, the (learning museum) upon which the website offers different points of access

to its virtual visitors according to their age, background and knowledge , the (virtual museum) through which the website provides not only information about the institution's collection but also links to digital collections of others. However, some museums design their websites without deep strategic planning and with little impact on museum-visitor relationships (Lehman and Roach, 2011). Museum directors and professionals may face many challenges when designing their websites, only some of which are technical (Coburn and Bacam, 2004). For this purpose, several studies for evaluating museums' websites have been conducted (Kabassi, 2017). The main problem is represented in the deficiency of a satisfying and adequate website design (Fotakis and Economides, 2008). Hertzum (1998) suggested that museum websites may suffer from three main problems:

- The majority of museum sites have been established without a clear vision.
- The sites have not been evaluated to find out whether they match the users' needs and wishes.
- The material on the sites tends to duplicate material in the physical museums rather than to rethink it, given the possibilities provided by the new medium.

By evaluating the museums' websites, the web designers and museum staff would identify the shortages and deficiencies of their design (Fotakis and Economides, 2008). Pallas and Economides (2008) found out that websites provided a satisfactory content while many sites had incomplete content when they evaluated art museums' websites worldwide in North America and Europe. Mason and McCarthy (2008) concluded the main features of the New Zealand museums websites to be: technical competence, navigability, visitor information, collections, mission, visitor relationships and marketing. Holdgaard and Simonsen (2011) evaluated Danish museums; they found out that significant differences were recorded depending on size and purpose of the website. Many websites are simply brochures holding ordinary information, while others pose high advances of Web 2.0 applications (Holdgaard and Simonsen, 2011). Capriotti and Pardo-Kuklinski (2012) examined the degree of dialogic communication developed by Spanish museums on the Internet, they found out that vast majority of the museums is simply using the Internet and the web 2.0 as new means to create and present old media. Filippini et al., (2012) have focused on a better understanding of people's motivation for visiting a museum website and whether this motivation has an influence on the way they engage online. Planning a museum visit is ranked as the primary reason people visit museum websites (Goldman and Schaller, 2004). Kravchyna and Hastings (2002) found that (57%) of museum website users visit museum websites both before and after they visit physical museums. Similarly, Thomas and Carey (2005) found that

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(70%) of museum visitors specifically looked for online information prior to a museum visit. Moreover, Gomma and Yousef (2014) designed a conceptual model based on a range of advanced services and technological facilities to be examined when analyzing the Egyptian museum websites. The study concluded that the existing museum websites are very limited as most of the Egyptian museums still have not constructed their websites yet (Gomma and Yousef, 2014).

Social Media Usage and Museums

In recent years, many museums have started adopting various forms of social media tools, like social networking sites, blogs, wikis, photo and video sharing, podcasts, virtual environments and tagging, for the following reasons: to engage people with museum content, broadcast cultural propaganda, communicate and marketing their campaigns, influence target audiences, provide interactive cultural experience and create new relationships between museums and the public (Dicker, 2010; Gu, 2012; Pett, 2012). Museum visitors may express their opinions and experiences, and post their own photos and videos taken during their actual visit (Pett, 2012). Consequently, using social media transforms them from passive observers into active participators and creators (Villaespesa, 2013).

In this issue, social media could be used to encourage audiences to respond to museums efforts and relate their experiences back to themselves, to other communities of interest and to the museum itself in meaningful ways (Kelly and Russo, 2008). Broadly speaking, social media provides accessibility and the opportunity to engage with the historical content even outside the physically barriers of the museum (Knell, 2003).

In 2004, Web 2.0 was first introduced to describe a platform whereby content and applications are no longer created and published by individuals, but instead are continuously modified by all users in a participatory and collaborative approach (Kaplan and Heinlein, 2010). In 2005, User Generated Content (UGC) was applied to describe the various forms of media content that are publicly available and created by end-users (Kaplan and Haenlein, 2010). Hence, social media are defined as "the group of Internet-based applications that are built on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content" (Kaplan and Haenlein, 2010:61). Social media can be also defined as those applications that foster online communication, networking, and/or collaboration with target audience (Russo et al., 2008). The usage of social media by museums has been categorized into three main fields (Kidd, 2011): marketing (which promotes the face of an institution), inclusivity (which develops a real and online community) and collaborative (which goes beyond communication and promotes collaboration with the audience). Additionally,

the integration of social media into museums' curatorial and practices preserves a situation in which these media are primarily used to engage visitors in short-term voting and rating, or to engage communities in collecting images (Stuedhal, 2014). Social media have been used to create a participative cultural experience (Russo et al., 2008). With many museums undertaking digitization initiatives, it is easy to upload this content onto the Internet (Whelan, 2011). It was stated that social sites also facilitate conversation surrounding the document, making the content and the collection more accessible (Whelan, 2011). Thus, social media have the potential to become a learning experience (Whelan, 2011). Furthermore, social media can tap the collective intelligence of a museum's community to uncover facts and stories that would otherwise be lost (The Marcus Institute for Digital Education in the Arts, 2010). This can be done on sites such as Flickr where visitors may be able to identify people or places in archival photographs (Whelan, 2011). Generally speaking, social media have become an important tool of cost effective marketing for museums (Whelan, 2011).

There are several studies focused on museums and how they apply social media platforms. In this issue, Zafiroopoulos and Vrana (2005) classified the information features into six dimensions according to their thematic similarity: Contact -communication, Visit the museum, The museum, Education, Website features and Use of social media. While, Boost (2009) examined how museums used social media in Belgium. Additionally, Kelly (2010) explained how Web 2.0 and social media were changing the ways of engaging and communicating with audiences in museums. Moreover, Vogelsang and Minder (2011) investigated why Swiss museums would not use social media and how to solve the problem. A comparative study among several European countries and the USA was conducted by López et al. (2010). Kidd (2011) highlighted the use of social media in the museums sector in the UK and explored the challenges of utilizing social media. Furthermore, Fletcher and Lee (2012) investigated social media uses in American museums. According to their findings, museums mostly use one-way communication strategies at Facebook and Twitter focusing on event listing, reminders, and reaching larger or newer audiences by increasing the number of fans and promotional messaging (Fletcher and Lee, 2012).

Pett (2012) demonstrated how social media can be implemented within the museum sector for marketing, for a participatory multi-vocal dialogue, for creating a strong online brand and for creating a research presence. Kaplan and Haenlein (2010) categorized the social media tools into the following:

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1- Collaborative projects

Collaborative projects can be either wikis such as the online encyclopedia Wikipedia, or social bookmarking applications such as the web service Delicious (Kaplan and Haenlein, 2010). Virtual Museum Worlds can be considered as one famous example for museum wiki (Mancini and Carreras, 2010). It was created by San Francisco's Exploratorium to be a virtual space for education and a web resource for professionals (Mancini and Carreras, 2010).

2- Blogs

Blogs are special types of websites that usually display date-stamped entries in reverse chronological order (OECD, 2007). They are the social media equivalent of personal web pages and can appear in different forms, from personal diaries describing the author's life to summaries of all relevant information in one specific content area (Kaplan and Haenlein, 2010). Museum blogs often include posts about specific subjects (e.g. the conservation process, the stories surrounding an object, or other supplementary contextual information) (Walker, 2014). However, blogs are still little used by museums to communicate with their audience for a number of reasons (Kaushik, 2007):

- High maintenance and time requirements;
- Fear of negative comments and of dissemination of an image of the institution that contradicts its real/intended image;
- Non-interest in an overly direct relationship with users.

3- Content Communities

Content communities exist for a wide range of different media types, including text (e.g., BookCrossing.), photos (e.g., Flickr), videos (e.g., YouTube), and PowerPoint presentations (e.g., Slideshare) (Kaplan and Haenlein, 2010). **Flickr**, first appeared as a tool to collect images from the web and publish them on other pages, offers another advantage to share files and organize large collections of pictures, indexing them using passwords, tags or places (Mancini and Carreras, 2010). Many archives, museums and libraries have used this application to disseminate images of old documents and objects that are not normally accessible (Mancini and Carreras, 2010). **Instagram**, first launched in October 2010, includes dedicated mobile applications that allow users to take and direct photographs by adding filters and frames, and to share them online where other users can react through comments and likes (Weilenmann et al., 2013). **YouTube** is considered as the main social network dedicated to video sharing, where users can upload,

view and comment videos (Lazzeretti et al., 2015). Museums increasingly used YouTube for affecting and maintaining interests in institutional activities and events (Lazzeretti et al., 2015).

4- Social Networking Sites (SNS)

"They are applications that enable users to connect by creating personal information profiles, inviting friends and colleagues to have access to those profiles, and sending e-mails and instant messages between each other" (Kaplan and Haenlein, 2010:63). SNS can assist museums to maximize the effectiveness of their marketing practices (Lopez et al., 2010; Lehman and Roach, 2011). Many SNS focus on specific topics (e.g., gapyear.com for travel-related topics) and are developed around specific functions such as location-based services (e.g., Foursquare provides reviews for establishments or attractions based on the user's geographic location) or visual image-oriented communication (e.g., Pinterest) (Chung et al., 2014).

According to Wikipedia, the largest social networking sites are U.S.-based **Facebook** and MySpace (Kaplan and Haenlein, 2010). Facebook provides a platform for connecting with friends through a variety of tools (posting, private and instant messaging, photo sharing, comments, group pages, etc.). Facebook is especially valued for not only its ability to maintain a relationship with users who may have been only briefly interested in a particular collection or have visited the museum once in their life time but also for having an opportunity to keep up with museum's events (Pett, 2012). There has been an increase in the number of museum groups at Facebook, formed both of enthusiasts (I Love Museums, UW Museology) and of professionals, members and curators (Museum Professionals Unite Across Facebook, International Museum Web Professionals) (Mancini and Carreras, 2010). **Twitter** is "the most popular micro-blogging platform that enables users to exchange text-based messages of up to 140 characters" (Lazzeretti et al., 2015: 275). Most museums start using Twitter to improve the museum's ability to reach new audiences and to connect with visitors in a more meaningful way (Angus, 2012; Fletcher and Lee, 2012). Fletcher and Lee (2012) revealed that museum staff adopted Twitter for multiple reasons: displaying event listings or reminder notices, posting online promotions or announcements and presenting games and quizzes to foster dialogic/conversational engagement with users. To sum up, Twitter and Facebook perform the double role of increasing one-way communication (such as the dissemination of information about collections and events) and two-way communication (such as invites to contribute and reply to followers' comments) between the museum and its visitors (Lazzeretti et al., 2015).

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Pinterest was launched in March 2010, ranked as the third most popular social network in the US behind Facebook and Twitter (Experian Marketing Services, 2012). The social networking features of Pinterest are built around the activity of collecting digital images and videos, and pinning them to a pinboard (collection) (Hall and Zarro, 2012). Pinterest was defined as a social curation site that combines the social media features, such as sharing, liking, commenting with collecting capabilities like creation and curation (Hall and Zarro, 2012).

5- Virtual Game Worlds

Virtual worlds are platforms that reproduce a three dimensional environment in which users can appear in the form of personalized avatars and interact with each other as they would in real life (Kaplan and Haenlein, 2010).

6- Virtual Social Worlds

The virtual world of Second Life allows people to stay in contact with members of a community and to collaborate with museums in developing ideas and events (Mancini and Carreras, 2010). Many companies and universities, including some museums, have established a presence in Second Life to attract virtual residents to their courses and products (Mancini and Carreras, 2010). Concerning the challenges of adopting social media, Haussmann (2012) identified shortage of resources, difficulties in the measurement of cost-benefit ratio and success of media campaigns as the main obstacles against a further use of social media in museums. Similarly, Fletcher and Lee (2012) mentioned shortage of time, staff and support from other staff members as the main limitations for social media usage. When social media tools are used in museums, they provide an open-ended cultural information space which is structurally unclear. This structural uncertainty can result in many unforeseen issues (Russo et al., 2006):

- The museum is unable to predict the ways in which social media will be used;
- It is difficult to predict the number of people who will participate (affecting download speeds and time);
- It is difficult to plan for consistent length/duration of participation.

Moreover, the usage of social media is threatened with potential risks (Pett, 2012).

- Copyright
- Privacy concerns
- Exposure of young participants to audiences
- Lack of expertise in implementing the right social media solution for a particular situation

- Maintenance of an archive can be difficult or impossible
- Choice of software for interactions can be harmful to the cultural experience.

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Background

The Museum of Islamic Art (MIA) in Cairo is considered one of the world's largest museums specialized in Islamic Art (Bier, 2017), as it contains one of the richest and most beautiful collections of Islamic artifacts worldwide (more than 100000) (O'Kane, 2006). These collections dating to the different eras of Islamic history include various types of objects, such as ceramics, metalwork, textiles, carpets, woodwork, glass, carved stone and ivory, jewelry and weapons (O'byrne, 1981). These artifacts were collected throughout the Islamic world, such as Egypt, China, India, Andalusia, Iran, the Arabian Peninsula, the Levant and North Africa (O'Kane et al., 2012). Furthermore, the museum houses a very important and rich collection of manuscripts and objects related to various Islamic thematic sciences such as medicine, geometry and astronomy (O'Kane, 2006). The Museum is considered the oldest museum in the world for Islamic art (Bier, 2017; Ministry of Antiquities, 2017). The idea of foundation a museum for Islamic arts firstly emerged in 1869 during the reign of Khedive Ismail (Herz, 2006; Leturcq, 2014).

This idea was accomplished in 1880 during the reign of his son Khedive Tawfiq, when Frantz Pasha collected a number of Islamic artifacts and masterpieces (111 pieces) in the eastern Iwan of al-Hakim Bi Amr Allah Mosque in Gamalia (Leturcq, 2014). In 1892, a small building space was erected in the courtyard of the mosque and was called House of Arab Antiquities or The Museum of Arab Art with Frantz Pasha as its manager (Herz, 2006). In 1903, the museum's collection was moved to the current building in Bab al-Khalq square during the reign of Khedive Abbas Helmi (Bier, 2017). In 1951, the museum's name had been changed from The Arab Museum to the Museum of Islamic Art to prove that the museum's collections represent all Islamic regions not only the Arab countries (Mostafa, 1979; O'byrne, 1981). The display layout was modified in a way that the masterpieces were displayed in 23 halls according to their historical era and the material of which they were made up (www.miaegypt.org). In 2010, the museum was reopened after 8 years of renovation and comprehensive development (O'Kane et al., 2012; Leturcq, 2014). This renovation project involved the construction of a new administrative building and reorganization of the exhibition halls (Berger, 2017). After this phase of renovation, the new

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display layout becomes including approximately 2500 masterpieces (Bier, 2017).

Unfortunately, on 24th January of 2014, the Museum's building and some of its collections (179 objects) were heavily damaged as a result of a terrorist attack which had targeted the Cairo Police Headquarters that stands across the street (Berger, 2017). The Museum was reopened again in January 2017, after a rehabilitation project to repair its building and restore its damaged objects (Bier, 2017). This project was carried out with the support and generous donations offered by the UNESCO, ARCE, the United Arab Emirates, Switzerland, and Italy (Ministry of Antiquities, 2017).

By this renovation project, the display layout was modified, that the new display is comprised of 25 Galleries including Islamic coins and armor (Bier, 2017) and accommodating approximately 4400 objects (Ministry of Antiquities, 2017). Moreover, the display showcases were improved, interactive computer stations were employed and a specially designed tour for the blind was introduced. Finally, two catalogues were published in Arabic and English targeting both the adults and children (www.miaegypt.org). In the field of technology, a distinguished web site has been launched for the museum (www.miaegypt.org). This website is representing a response to its mission, as it provides the user with all information he/she might need in terms of museum's history, collections, maps, videos and photos.

Description of the Website (www.miaegypt.org)

The animated dome of the Nilometer is shown on the homepage of the website with the museum's logo in the center of it. This homepage contains some news about the museum, as well as, its mission and vision. The mission of the MIA is to display, preserve and interpret Islamic artifacts, and to reach a maximum number of national and international visitors. MIA also aims to develop education programs, encourage scientific research and collaborations as well as foster a greater understanding and appreciation of the contributions made by the Islamic civilization to world heritage in the fields of arts and sciences (www.miaegypt.org).

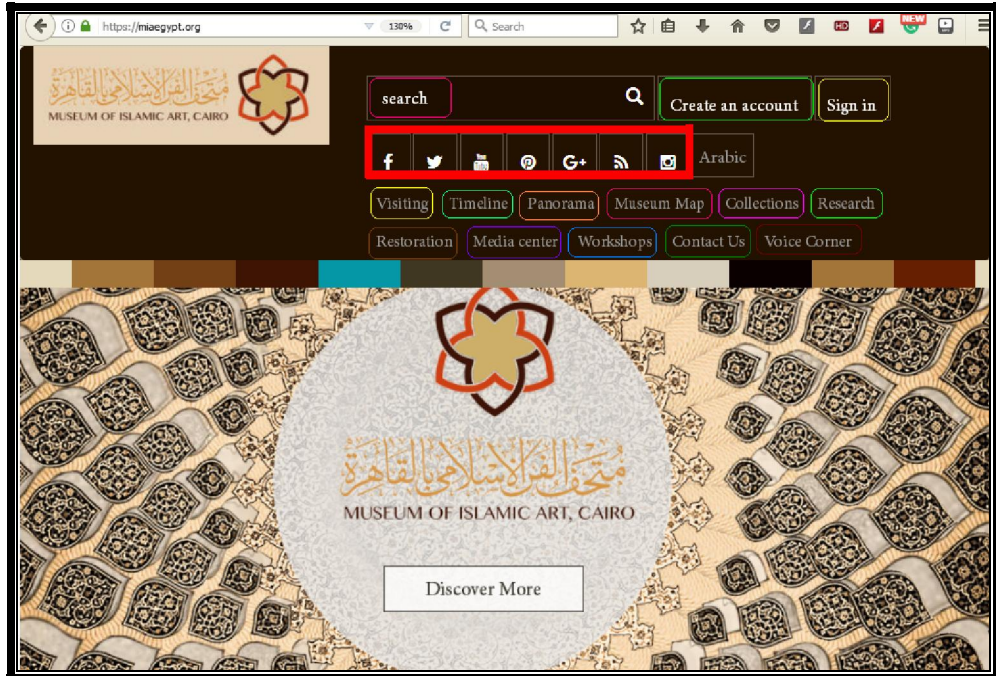


Fig. 1 The Homepage of the Museum's Website

Source: www.miaegypt.org

As shown in figure (1), the website contains the following features:

Visiting: tells the user about the museum opening times, museum entrances and the disabled parking.

Timeline: provides the user with an interesting storyline about the museum's history and the renovation phases.

Panorama: contains a panorama for some exhibition halls such as the Hall of Eastern Islamic World, The Halls of Coin and Weapon and Medicine

Museum Map: describes the museum's main plan.

Collections: shows a virtual tour about the museum's various artifacts and objects, such as textile and carpets, stones, pottery and ceramic, ivory, metals, wood works, glass, coins, weapons, jewelry and manuscripts.

Research: is very important for students and researchers because it contains the museum's official scientific magazine and some publications of

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its library such as books and periodicals specialized in the Islamic art and civilization. These publications are available for downloading through a number of links on this website.

Restoration: gives documentation to the restoration works that happened to the museum's building and objects throughout the different eras.

Media center: contains a number of photos and videos of the museum.

Workshop: provides variable information and photos about the scientific and practical workshops and training courses that are organized by the museum.

Contact us: offers the contact information such as location, phone numbers and mail.

Voice center: contains some voice records about the museum's mission and vision, important news and some halls of the museum.

In addition, the website provides the user with a direct access to pages on different social media sites such as Facebook, Twitter, YouTube, Pinterest, Google+, and Instagram. Users can also download the museum flyer, which contains links of the museum on web and social media. Moreover, the MIA was the first museum in Egypt to offer Mobile Application which can be downloaded for free from the Google Apps. Besides it offers a variety of services including directing the user from his/her place to the museum, sending notifications for the museum's workshops and seminars. Furthermore, it provides the user with all information about the museum and its collections, panorama for some exhibition halls, direct contact details with curators to serve researchers everywhere in the world along with many more advantages options (www.miaegypt.org).

Research Methods

This study adopted a case study approach to investigate the implementation of web and social media technology at the (MIA). This website was specifically chosen due to its numerous features and esthetic characteristics. Yin (2003) defines a case study as an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident. Data were collected using a mixed research method design based on semi-structured interviews and an exploratory survey. Professional researchers have started to create mixed method design to gain a more complete set of information and to reach more practical findings (Mayo, F.B,

2014). In order to answer the research questions, the empirical research was undertaken at two stages:

Stage One: A qualitative methodology was selected because it allowed for in-depth data collection directly from participants. Semi-structured interviews were a suitable method to collect data from museum staff members because they offered plenty of flexibility for in-depth responses, provided the interviewees with the opportunity to share their experiences and allowed interpretations. A total of (15) museum staff member was interviewed from February to March 2018. The interviews were conducted with the General Manager of the Museum, Director of Information Center, Director of Marketing Department, Director of Guidance Department, (3) Marketing Staff, (5) Information Technology Staff and (3) Curators. The interview schedule was divided into two main parts; web and social media usage. Categories of interview questions included participants' job titles and responsibilities, education and experience, role of web and social media in marketing the museum, types and purpose of social media utilized informants' perceptions of the effectiveness of using web and social media, and challenges of adoption new technologies. Years of experience in the current position ranged from 1 to 10 with an average of 3 years. The contents of each interview were transcribed and analyzed.

Website usage at MIA

The website of the MIA was launched in August 2016 by E-motion agency which was firstly established in June 1998 in Egypt as one of the digitally most creative agencies that is specialized in web design and development. The funding of the website's construction was an initiative donation from the Ministry of Communication for Egyptian Small and Medium Enterprises. The total costs of establishing the website was approximately (250000) EGP. The MIA was also stated to be a member of the following global web pages:

- www.eternalegypt.com
- www.discoverislamicart.org
- www.qantara-med.org

In response to a question about the responsible authority for managing the website, the interviewees indicated that the E-motion agency has the upper hand in managing the website with the assistance of the museum information staff. The existence of the Information Center in the museum guarantees the success of this website. As the director of information center commented that many Egyptian museums lack the internal expertise in the field of managing new technologies. Regarding the kind of resources that were utilized for

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presenting information on the website, interviewees listed three types of them; **Expositive** (Graphic and Audiovisual), **Hyper-textual** (the use of links, which allow a greater degree of interaction than Expositive resources) and **Participative** (interactive and immersive resources through virtual tours, organized systems for virtually visiting the museum).

Concerning the multiple uses of the website, the interviewees showed high appreciation to the significant role of web technology in communicating and interacting with the changing and modern audience. Museum visitors are now searching for more sophisticated and satisfying cultural experience. The interviewees also accepted the notion that their website can play an integral role in bringing the tactical and strategic aspects of their marketing and communications efforts. They assured the use of the web as a means of facilitating information and data access, in relation to collections cataloguing and research management. The website also serves the mission of the MIA in various facets; displaying, preserving and interpreting Islamic artifacts, reaching a maximum number of national and international visitors, developing education programs, encouraging scientific research and enhancing dialogue with external audience. However, some interviewees were partially satisfied with the current level of the website because it was not updated since its first construction due to the lack of financial assets.

Regarding the tracking methods for measuring the performance of the website, the interviewees stated that they applied different quantitative and qualitative methods for tracking by using Google Analytics. It is a free service offered by Google that generates statistics about website, including visits, views, bounce rates, and average time on site. The analysis also included data for sessions, users, page views to distinguish between new visitors and returning visitors to the website. When asked about the challenges facing museum staff in developing their website, the insufficient financial resources for updating were at the top of the list, beside, the rigid thinking and regulations and lack of cultural awareness. The director of the guidance department declared that not all the collections of the museum were exhibited on the website due to several reasons including financial constraints and the fear of decreasing the actual visits to the museum. Regarding the future plans for the website development, the interviewees expressed their great intentions toward updating the website to modify the current information and add more photo albums for collections. Moreover, the museum staff members are preparing to include special section in the website for disabled users "Blind Area". They are also intended to enhance the animation options at the homepage of the website.

Social media usage at MIA

The museum staff assured that social media has proven to be very effective outreach marketing and communicating tool. Social media keeps the museum staff in touch with new occurrences in the field of genealogical research. Overall, the museum staff indicated that the MIA increasingly utilizes the features of social media to seek feedback from the community. There are different types of social networking sites on the website of the MIA, such as: Facebook, Twitter, Instagram, Pinterest and Google+. It is worth to note that the social tools appeared on the website since its first construction. The museum information staff stated that they used to be the sole managers of the content on social media sites. However, they all welcomed ideas, suggestions, and information from other staff members in other departments of the museum. When asked about the effectiveness of the social media tool which was formulated as to help museums to achieve their goals, the museum staff stressed the cost-effectiveness of using social media in decreasing the marketing expenses. The Information Technology team is usually responsible for the regularly maintenance, the creation of content, and the interaction with audiences via social media. Using a wide range of social media tools involves the decision of whether or not to repeat the same content on different platforms. To fulfill audience expectations, the interviewees often use planned and strategic policies accordingly to match with the features of each tool in terms of effective timeframe, voice, length, frequency, format, and content. The interviewees mentioned that the advantages of social media can be as the following:

- Increasing visibility for potential visitors;
- Promoting of collections and exhibitions;
- Managing and strengthening relations with visitors;
- Encouraging interactivity;
- Attracting the audience to visit the museum;
- Recruiting volunteers;

Concerning disadvantages of new technologies, when everyone can post his or her opinion freely on the public page of an organization, the organization is faced with the risk of negative reviews. The interviewees thought that the advantages outweighed the disadvantages because constructive criticism could improve the services at the MIA. The findings of the interviews with the museum staff revealed the multi-roles that the social media could play in the museum's marketing activities. It provides the museum with the platforms to develop a two-way communication flow with the audience which is considered the major difference between the website and social media as it is

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difficult for the museum to have a real conversation with the audience on the official website with its specified structure, whereas the usage of social media enhances the communication to be more dialogic. In this issue, the director of marketing added that the main functions of social media tools in managing marketing practices include building awareness, engaging with community and networking. All interviewees clarified that Facebook is the most used social network at a global level as it enables the richest experience of online interaction compared to other social networks. In general, Facebook seems to perform the same functions as Twitter for the MIA in terms of sharing of the posts. The director of marketing identified two important marketing initiatives that were organized via the museum Facebook page. The first one was a competition for amateurs and photographers was developed at the museum's Facebook page in September 2017, thus succeeded in increasing the number of fans for the page and attracting this new market segment. The second one was an organized post for the MIA in January 2018 as a storyteller on the page entitled "**Best Places in Egypt**", in which the curator wrote a short article about an unknown piece or artist, and an 'ask the curator' post was developed through which people could ask the curator some questions in real time. These methods of communication helped engage community members in the context of relationship marketing. Accordingly, this leads to a remarkable increase in the actual visits to the museum itself as the post was marked by 10000 "Likes" and 8000 "Comments". On exploring the potentials of Facebook, the director of the guidance department stated another marketing initiative entitled "**My museum in your classroom**" which began in 2017. This trial aimed to attract many schools' students from different countries such as India, Jordan, United Arab of Emirates, European countries and the United States of America. This initiative was organized by the four main Egyptian Museums: The Egyptian Museum, The Museum of Civilization, The Museum of Islamic Art and The Coptic Museum. The initiative page appeared on Facebook published the steps of processing which are listed below:

- Establishing an account for the MIA at Microsoft Education;
- Publishing the MIA account so that any user can find it easily;
- Receiving any request for virtual visiting to the museum from any school;
- Arranging the virtual visit in the pre-arranged time by using the application of "Skype", whereas the curator starts to guide the virtual tour at the museum and the students listen to him as if they are actually presented in the museum.

Concerning the type of information that could be presented on social media, the museum staff mentioned that the contents have been classified into the following categories:

- Information and reminders about museum collections, activities and special events;
- Management of relations with visitors and followers;
- Section-related information;
- Thematic quizzes and calls for contributions;
- Comments on current news and general interest events;
- Discussions, and
- Post photo and video content.

Concerning the tracking methods for social media, the MIA uses Google analytics and the built-in analytic feature of Facebook to get quantitative measurements of social media activities. The tracking systems provide information on the number of clicks and the time that a browser stay on each single post and the trend of web traffic in a week, month, or other time period. Followers' statistics were also collected through the Facebook Insights service and compared with those of actual museum visitors. Regarding the future plans for developing social media, the museum staff advocated the idea or the possibility to aggregate users around common conversation topics through the 'Hashtag' facility. This has been supported as a means for cultural museums to activate and maintain real-time, two-way discussions with visitors and collective knowledge construction processes (Fletcher and Lee, 2012).

Stage Two

A quantitative approach here was used to assess the overall usability and functionality of the website from the user s' perspective. The most common form of a quantitative approach is survey research which involves the administration and collection of questionnaires to determine opinions and attitudes (Mayo, F.B, 2014). To attract more visitors to the museum, a measure of web service quality is important to successful web marketing (Kabassi, 2016). Website evaluation is an important phase of a websites' life-cycle and many studies have paid a lot of attention to different aspects of this phase. For example, Fotakis and Economides (2008) present a quality evaluation framework named (MuseumQual), using 35 criteria specialized in museum websites that are classified into the following six categories: Content, Presentation, Usability, Interactivity & Feedback, E-Services, and Technical. Pallas and Economides (2008) in their study used a similar approach, named the Museum's Sites Evaluation Framework (MUSEF). This specific framework uses the same criteria as (MuseumQual) in evaluating museums' sites from the user's perspective (Pallas and Economides, 2008).

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This study depends on the website's usability for museum items adapted from the researches of (Pallud and Straub, 2014) and (Agarwal and Venkatesh , 2002). Their framework uses six categories: (1) Content, (2) Ease of use, (3) Promotion, (4) Made for the medium, (5) Emotion (6) Esthetics. "Made for the medium" is a construct that relates to offering a unique and personalized service to online users (Pallud and Straub, 2014). However, the construct of "Promotion" was excluded from this survey because the website of the MIA did not increasingly appear on the promotional media. The sample of this study consisted of (140) college students (undergraduate and postgraduate) enrolled in two different departments (Tourism and Guidance Sections - Faculty of Tourism and Hotels). Students' participation was voluntary. College students were chosen as the sampling frame for three reasons. Firstly, museums are increasingly targeting young people to widen their audience. Secondly, young people tend to remain the age group that is most likely to go online. Thirdly, this population needs to feel highly sensory experiences and thus is more demanding in terms of user experience. The participants were invited to engage with the website of the MIA as if they were a potential visitor of the museum website. Data were collected using a self-administered questionnaire. The questionnaire form includes four sections: demographic characteristics, users' familiarity with the museums' websites, website's usability items (content, ease of use, made for the medium, emotion and esthetics) and users' attitude toward the available museum's resources on the website. Section 3 was measured by a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Section 4 was also measured by using a 5-point Likert scale ranging from 1 (Very Unlikely) to 5 (Very likely). A pretest with (30) subjects was conducted one month before the launch of the study and led to the reformulation and clarification of some questions. (140) copies of the questionnaire were distributed to the selected sample. Only (116) respondents agreed to complete the survey with a response rate of (82.8%). Descriptive statistics were computed using SPSS (16.0).

Data Analysis

Regarding the demographic characteristics of respondents, the sample included (62.1%) female and (37.9%) male. The majority of respondents fell in the age category ranged from 20 to 30 years old (93.8%). In terms of education, the sample included (69%) undergraduate students and (31%) postgraduate students. Respondents were then asked to identify the role of the museum website in formulating their intention to visit this museum. A percentage of (77.6%) decided to visit the museum because of its website, whereas (22.4%) mentioned that the museum website did not affect their visit decision. Moreover, respondents were also asked to determine the importance

of having a website for the museum, all respondents (100%) agreed that it is very important for museums to have a website. Concerning the evaluation of the website, respondents were asked to indicate their level of satisfaction toward the following constructs. Reliability analysis was performed to ensure internal validity and consistency for the items appeared in this section. As shown in table (1), Cronbach’s Alpha reliability values were all above (0.8).

Table 1 Cronbach’s Alpha (Reliability)

Constructs	Cronbach’s Alpha
the website's usability	.84
Content	.87
Made for the Medium	.87
Ease of Use	.85
Emotion	.87
Esthetics	.85

Table 2 Descriptive statistics of the website's usability constructs

Statements	Mean	Std. Deviation
Content	4.2	.41
The website offers content that is relevant to the core audience.	4.3	.51
The website uses media appropriately and effectively to communicate the content.	4.2	.58
The website provides current and timely information.	4.1	.63
Made for the Medium	4.1	.50
The website offers you the opportunity to be part of an online group or community.	4.0	.85
The website offers personalized/customized products.	3.8	.87
The website reflects the most current trend(s) and provides the most current information.	4.1	.75
The website provides you with the latest social media tools.	4.4	.72
Ease of Use	4.3	.47
The website offers clear and understandable goals.	4.5	.67
The website is well structured and organized.	4.6	.58
The website provides clear and understandable results and feedback regarding your progress.	3.9	.71
Emotion	3.8	.52
The website offers you an element of challenge.	3.5	.83
The website provides an interesting story line.	4.2	.74
The website ties to individuals, within and outside the organization, who have credibility.	3.7	.80
The website allows you to control the pace at which you can interact with the presented information.	3.9	.80

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Continued		
Esthetics	4.6	.48
I find that the design of the website looks pleasant.	4.7	.48
The layout of the website is attractive.	4.6	.74
I find the design of the website to be creative.	4.5	.73
I find that the design of the website looks artistic.	4.7	.54
Total Mean	4.2	.38

Table (2) demonstrates the descriptive statistics of the website's usability constructs through the mean and standard deviation. According to the mean value, the constructs were descending arranged; Esthetics (4.6), Ease of Use (4.3), Content (4.2), Made for the Medium (4.1) and Emotion (3.8). Besides, respondents also considered the constructs of Ease of Use and Content as important indicators for their evaluations. In the construct of Made for the Medium, respondents were keen of finding more social media tools with mean value (4.4) at the website of the MIA. Finally, respondents were interested in the concept of storyline in the construct of Emotion with mean value (4.2). Respondents were also asked to indicate whether they were willing to use certain kinds of online museum resources when visiting the website of MIA.

Table 3 Descriptive statistics of online museum resources

Online Museum Resources	Mean	Std. Deviation
Online images of artifacts / collections data.	4.5	.50
Online tours of galleries / interactive exhibits.	4.1	.68
Smartphone applications for the museum audience.	4.2	.77
Online educational activities / learning resources.	4.1	.71
Online research materials / archives.	4.2	.69
Information about hours of operation / location / directions.	4.5	.65
Information about admission fees / pricing.	3.6	1.3
Information about museum facilities / gift shop / restaurants.	3.6	1.0
Information about current and future exhibits.	3.5	.97
Information about programs / tours / special events.	3.9	.89
Information about employment / volunteer opportunities.	3.3	.73
Information about donation / membership opportunities.	3.3	.90
Total Mean	3.9	.44

As shown in table (3), the total mean value for Online Museum Resources was (3.9). The results indicated that the highest mean value with (4.5) was recorded for the following items: "Online images of artifacts / collections data" and "Information about hours of operation / location / directions", followed by a mean value with (4.2) for the following items: "Smartphone applications for the museum audience" and "online research materials / archives". While the lowest mean value with (3.3) was computed for these two items: "Information about employment / volunteer opportunities" and "Information about donation / membership opportunities".

Results and Discussion

Cross tabulation for the relevant findings from both methods (semi-structured interviews and research survey) clarified that the website of the MIA supports technological advances, satisfies visitors' expectations and delivers several essential features. This result corresponded with the studies of (Zafiroopoulos and Vrana, (2005); Fotakis and Economides, 2008). The museum staff also confirmed that the website of the MIA was used as means of marketing, raising audience awareness and improving the museum educational and research mission. This result supported the reasons for having a website (Moritz, 1996). Moreover, (Corbos and Popescu, 2011) and (Lehman and Roach, 2011) considered the website of the museum to be an important marketing tool and also an effective way for reaching new market segments. The interviewees classified the information on the website into Expositive, Hyper-textual and Participative. This classification was similar to the study of Capriotti et al. (2016). The website also achieved the main goals of the MIA especially in developing education programs, encouraging scientific research and enhancing communication with external audience. Similarly, Belanger et al., (2006) emphasized that goals of museum websites include knowledge enhancement, online learning, entertainment and ultimate experience. However, some interviewees were not satisfied with the current level of the website because the website was not updated since its first launch. This finding confirmed the study of Hertzum (1998) that identified the common problems of museums websites. The main features of the website matched those found in the studies of (Zafiroopoulos and Vrana , 2005; Mason and McCarthy, 2008; Theocharidis et al., 2014).

All interviewees advocated the vital role of social media usage for museums, thus they actively implemented different social media in order to; communicate, collaborate and engage with their audience. This result corresponded to the studies of (Knell, 2003; Kidd, 2010; Dicker, 2010; Whelan, 2011; Gu, 2012; Pett, 2012). They also indicated that social media replaced their traditional tools for marketing the museum. The museum staff put more emphasize on Facebook in executing their marketing campaign.

As for the main findings from the exploratory survey, all respondents assured that it is important for the museum to have a website. This finding matches the results of (Nuo, 2013; Pallud and Straub, 2014). After experimenting the website of the MIA, survey respondents ranked the constructs of usability as follows: Esthetics, Ease of Use, Content, Made for the Medium and Emotion. The construct of "Esthetics" was at the top of the list. This result advocated the study of Marty and Twidale (2004) who confirmed that museums are supposed to be beautiful places and in turn, visitors will also expect their

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websites to be beautiful. Supporting this view, museums should also provide beauty not only in their physical displays but also in their websites (Pallud and Straub, 2014). Moreover, respondents ranked the items in each construct of usability according to their importance as follows:

- The website offers content that is relevant to the core audience.
- The website provides the user with the latest social media tools.
- The website is well-structured and organized.
- The website provides an interesting storyline.
- The overall design of the website looks pleasant, attractive and creative.

Concerning the available online museum resources of the MIA, survey respondents found the following items respectively according to their mean value; Online images of artifacts / collections data, Information about hours of operation / location / directions, Smartphone applications for the museum audience, online research materials / archives, Online tours of galleries / interactive exhibits, Information about programs / tours / special events and Information about admission fees / pricing. This is a logical understanding for the resources as the website of the MIA actually includes plentiful of images and photo albums for the artifacts and the collections. Furthermore, it includes information about hours of operation / location / directions. And perhaps, the MIA website is considered to be the first Egyptian museum to include the Smartphone Application Service. On the other hand, the museum website lacks the presence of information for employment / volunteer opportunities and donation / membership opportunities. This result supports the findings of Marty (2007).

Conclusions and Recommendations

Exploiting the potentials of the new technologies paves the way for museums to achieve their goals. The prime concern of this study was to clarify the usage of web and social media in museums. In order to examine the phenomena in its real context, the research adopted a case study approach for the website of the Museum of Islamic Art. This museum is considered to be one of the largest museums specialized in Islamic Art in the world. Besides, its website owns an outstanding and well advanced design. It provides the user with essential information such as visiting times, mission and vision, history, collections, maps, videos and photos of the museum. The website also has links to the pages of the museum on different social media tools such as: Facebook, Twitter, YouTube, Pinterest, Google+ and Instagram. The literature reviewed most of the theoretical previous studies related to the usage of web and social media in museums. To go one step further, the empirical study was carried out by mixed research design. First, semi-structured interviews were undertaken with the museum staff members to

explore their ideas, opinions and attitudes toward the usage of the web and social media. Second, an exploratory survey was designed to examine the website's usability from user s' perspective. The main findings of both methods indicated that the museum staff members actively behaved through web and social media to build and maintain two-way communications with their target audience. Moreover, survey respondents described the website of the MIA to be; having an esthetic interface, providing valuable core content, enhancing the usage of social network sites and possessing an ease of use.

Based on the forgoing views, the researchers proposed some recommendations for the responsible authorities (Ministry of Antiquities, The Supreme Council for Antiquities and Ministry of Communications). A strategic, innovative and integrated plan should be developed to enhance the usage of modern technologies in the Egyptian Museums. The plan must have certain goals to construct a website for each museum, update and activate the existing websites, eliminate the routine obstacles and increase the financial support for the technological projects in the museums. Moreover, the responsible authorities should customize information teamwork in each museum. Fostering collaborations between the Ministry of Antiquities and the Ministry of Communications should be encouraged. As mentioned before; the construction of the MIA website is a donation support from the Ministry of Communications. The researchers can also propose some strategies for the museum staff members. Choosing the suitable social media tool for the right audience in the suitable time must be considered. Updating the contents on social media tools at regular times is a must. The staff members should evaluate the website's usability and functionality to assure its sustainability. Using the latest methods for tracking should be improved to measure the effectiveness of each tool. The staff members can diversify the museum products through various social sites. Finally, preserving the authenticity for the museum's collections must be considered when presenting them at the social media networks.

References

- Agarwal, R. and Venkatesh, V. (2002). Assessing a Firm's Web Presence: A Heuristic Evaluation Procedure for the Measurement of Usability. *Information Systems Research*, 13 (2), pp. 168-186.
- Belanger, F., Fan, W., Schaupp, C., Krishen, A., Everhart, J., Poteet, D. and Nakamoto, K. (2006). Website Success Metrics: Addressing the Duality of Goals. *Communications of the ACM*, 49, pp.114–116.
- Berger, M.J. (2017). The Museum and the Object: Cultural Commodities in Flux at the Museum of Islamic Art in Cairo. *Museum Management and Curatorship*, 32(4), pp. 395-414.

How will web and social media usage affect the future of museums? Case Study: The Museum of Islamic Art in Cairo

- Bier, C. (2017). Reframing Islamic Art for the 21st Century. *Horizons in Humanities and Social Sciences: An International Refereed Journal*, 2(2), pp. 1-25.
- Boost, A. (2009). Digital Cultural Communication: The Role of Social Media in the Communication between Cultural Institutions and their Audience. DISH2009 Digital Strategies for Heritage, Rotterdam, December 8–10.
- Capriotti, P., Carretónb, C. and Castillo, A. (2016). Testing the Level of Interactivity of Institutional Websites: From Museums 1.0 to Museums 2.0. *International Journal of Information Management*, 36, pp. 97–104.
- Capriotti, P., and Pardo Kuklinski, H. (2012). Assessing Dialogic Communication through the Internet in Spanish Museums. *Public Relations Review*, 38(4), pp.619–626.
- Chung, J., Wilkening, S. and Johnstone, S. (2009). Coming Soon: The Future, the Shape of Museums to Come. *Museum*, 88, pp.38-43.
- Chung, T. L., Marcketti, S. and Fiore, A.M. (2014). Use of Social Networking Services for Marketing Art Museums. *Museum Management and Curatorship*. 29 (2), pp.188-205.
- Coburn, E. and Baca, M. (2004). Beyond the Gallery Walls: Tools and Methods for Leading End Users to Collections Information. *Bulletin of the American Society for Information Science and Technology*, 30 (5), pp.14-19.
- Corbos, R. and Popescu, R. (2011). Museums, Marketing, Tourism and Urban Development. The British Museum-A Successful Model for Romanian Museums. *Management and marketing*, IX (2), pp.303-314.
- Cunliffe, D., Kritou, E. and Tudhope, D. (2001). Usability Evaluation for Museum Websites. *Museum Management and Curatorship*, 19 (3), pp.229–252.
- Dicker, E. (2010). The Impact of Blogs and Other Social Media on the Life of a Curator. Archives & Museum Informatics: Proceedings Museums and the Web 2010:
<http://www.archimuse.com/mw2010/papers/dicker/dicker.html#ixzz0suhEz1>. [Accessed on: 8 November 2017].
- Experian Marketing Services. (2012). The 2012 Digital Marketer Trend and Benchmark Report. Available from:
http://go.experian.com/forms/experiandigitalmarketer2012?WT.srch=PR_EMSDigitalMarketer2012_040412_Download [Accessed on: 20 November 2017]
- Fletcher, A., and Lee, M. (2012). Current Social Media Uses and Evaluations in American Museums. *Museum Management and Curatorship*, 27(5), pp.505-521.
- Filippini-Fantoni, S., Stein, R. and Bowman, G. (2012). Exploring the Relationship between Visitor Motivation and Engagement in online museum audiences, Museums and the Web: The International Conference for Culture and Heritage Online, San Diego, CA, USA.

-
- Fotakis, T. and Economides, A. (2008). Art, Science/Technology and History Museums on the Web, *International Journal of Digital Culture and Electronic Tourism* 1 (1), pp. 37–63.
- Goldman, K.H. and Schaller, D.(2004). Exploring Motivational Factors and Visitor Satisfaction in Online Museum Visits. In D. Bearman and J. Trant (Eds.).*Museums and the Web 2004*, (pp.223-235). Toronto, CA: Archives and Museum Informatics.
- Gomaa, H. A. and Yousef, M.A. (2014).Exploring the Features of Digital Cultural Heritage Tourism, Egyptian E-museums: Case Study. *Journal of Faculty of Tourism and Hotels*, Fayoum University, 8 (1), pp.89-102.
- Gu, B.A.M. (2012).Engaging Museum Visitors through Social Media: Multiple Case Studies of Social Media Implementation in Museums. Master of Arts. The Ohio State University.
- Hall, C. and Zarro, M. (2012). Social Curation on the Website Pinterest.com. *ASIST*, October, pp.28-31.
- Hausmann, A. (2012). The Importance of Word of Mouth for Museums: An Analytical Framework. *International Journal of Arts Management*, 14(3), pp.32-43.
- Hertzum, M. (1998). A Review of Museum Websites: In Search of User-Centered Design. *Archives and Museum Informatics*, 12, pp.127-138.
- Herz, M. (2006). Catalogue of the National Museum of Arab Art. Houston: Rice University
- Holdgaard, N., and Klastrup, L. (2014). Between Control and Creativity: Challenging Co-creation and Social Media Use in a Museum Context. *Digital Creativity*, 25(3), pp.190-202.
- Kabassi, K. (2017). Evaluating Websites of Museums: State of the Art. *Journal of Cultural Heritage*, 24, pp.184–196
- Kaplan, A.M. and Haenlein, M. (2010). Users of the World, Unite! The Challenges and Opportunities of Social Media. *Business Horizons*, 53(1), pp.59–68.
- Kaushik, A. (2007). Blog Metrics: Six Recommendations for Measuring your Success', Blog: Occam's Razor, Available from: <http://www.kaushik.net/avinash/2007/11/blog-metrics-six-recommendations-for-measuring-your-success.html>. [Accessed on: 2 February 2018].
- Kelly, L. and Russo, A. (2008). From Ladders of Participation to Networks of Participation: Social Media and Museum Audiences, In J. Trant and D. Bearman (Eds.). *Museums and the Web 2008: Proceedings*, Toronto: Archives & Museum Informatics. Available from: http://www.archimuse.com/mw2008/papers/kelly_1/kelly_1.html. [Accessed on: 20 November 2017]

How will web and social media usage affect the future of museums? Case Study: The Museum of Islamic Art in Cairo

- Kelly, L. (2010). How Web 2.0 Is Changing the Nature of Museum Work. *Curator: The Museum Journal*, 53 (4), pp.405–410.
- Ke, H.R. and Hwang, M.J. (2000). The Development of Digital Libraries in Taiwan. *The Electronic Library*, 18 (5), pp.336-46.
- Kidd, J. (2011). Enacting Engagement Online: Framing Social Media Use for the Museum. *Information Technology and People*, 24(1), pp.64-77.
- Knell, S. J. (2003). The Shape of Things to Come: Museums in the Technological Landscape. *Museum and Society*, 1(3), pp.132 - 146.
- Kravchyna, V. and Hastings, S. (2002). Informational Value of Museum Websites. *First Monday*, 7 (2).
- Lazarinis, F, Kanellopoulos, D. and Lalos, P. (2008) . Heuristically Evaluating Greek E-tourism and E-museum Websites. *The Electronic Journal Information Systems Evaluation*, 11 (1), pp.17-26.
- Lazerretti, L., Sartori, A. and Innocenti, N. (2015). Museums and Social Media: The Case of the Museum of Natural History of Florence. *International Review Public Nonprofit Mark*, 12, pp.267–283.
- Lehman, K., and Roach, G. (2011). The Strategic Role of Electronic Marketing in the Australian Museum Sector. *Museum Management and Curatorship*, 26(3), pp.291-306.
- Leturcq, J. G. (2014) .The Museum of Arab Art in Cairo (1869–2014): A Disoriented Heritage. In: F. Pouillion, and J. C. Vatin, (Eds.) *After Orientalism: Critical Perspectives on Western Agency and Eastern Re-appropriations*, (pp 145-161). Brill.
- López, X, Margapoti, I., Maragliano, R., and Bove, G. (2010). The Presence of Web 2.0 Tools on Museum Websites: A Comparative Study between England, France, Spain, Italy, and the USA. *Museum Management and Curatorship*, 25(2), pp.235-249.
- Lovelock, C. (2000). *Service Marketing, People, Technology, Strategy*, (4th ed.), Upper Saddle River, NJ: Prentice-Hall,
- Mancini, F. and Carreras, C. (2010). Techno-society at the Service of Memory Institutions: Web 2.0 in Museums. *Catalan Journal of Communication and Cultural Studies*, 2(1), pp.59-76 .
- Mason, D., and McCarthy, C. (2008). Museums and the Culture of New Media: An Empirical Model of New Zealand Museum Websites. *Museum Management and Curatorship*, 23(1), pp.63-80 .
- Marty, P.F. and Twidale, M.B. (2004). Lost in Gallery Space: A Conceptual Framework for Analyzing the Usability Flaws of Museum Websites. *First Monday*, 9.
- Marty, P.F. (2004). The Evolving Roles of Information Professionals in Museums. *Bulletin of the American Society for Information Science and Technology*, 30(5), pp. 20-23.

- Marty, P.F. (2007). Museum Websites and Museum Visitors: Before and After the Museum Visit. *Museum Management and Curatorship*, 22(4), pp.337-360.
- Marty, P.F. (2008). Museum Websites and Museum Visitors: Digital Museum Resources and their Use. *Museum Management and Curatorship*, 23(1), pp. 81-99.
- Mayo, F.B. (2014). Planning an Applied Research Project in Hospitality, Tourism and Sports. John Wiley & Sons: New Jersey.
- Ministry of Antiquities. (2017). Newsletter of the Egyptian Ministry of Antiquities, 8, January 2017. Available from: http://www.egyptologyforum.org/MOA/MoA_Newsletter_8_English.pdf [Accessed on: 14 November 2017].
- Moritz, T. (1996). World Wide Web Development in the Museum Context: An Overview. Canadian Heritage Information Network (CHIN), Heritage Forum.
- Morse, V. (1999). Untangling the Web: Comparing the Impact of the Internet on the National Archives, the National Library and the Museum of New Zealand Te Papa Tongarewa. *Archives and Museum Informatics*, 13, 1–21.
- Mostafa, M. (1979). The Museum of Islamic Art. A Short Guide, Cairo: General Egyptian Book Organization.
- Nuo, Y. (2013). Contemporary Art Museum Websites in Amsterdam and Beijing: Personalization and Interaction. Master Thesis. Earsmus University, Rotterdam
- O'byrne, P. (1981). Islamic Art Museum, Cairo. UNESCO, Paris.
- OECD (2007). Participative Web and User-Created Content: Web 2.0, wikis, and Social Networking. Paris: Organization for Economic Co-operation and Development.
- O'Kane, B. (Ed.). (2006). The Treasures of Islamic Art in the Museums of Cairo. American University in Cairo Press.
- O'Kane, B., Abbas, M., and Abdulfattah, I. (2012). The Illustrated Guide to the Museum of Islamic Art in Cairo. American University in Cairo Press.
- Padilla-Meléndez, A. and Del Águila-Obra, A.R. (2013). Web and Social Media Usage by Museums: Online Value Creation. *International Journal of Information Management*, 33(5), pp.892-898.
- Pallas, J., and Economides, A. (2008). Evaluation of Art Museums' Websites Worldwide. *Information Services and Use*, 28(1), pp.45-57.
- Pallud, J. and Straub, D.W. (2014). Effective Website Design for Experience-Influenced Environments: The Case of High Culture Museums. *Information and Management*, 51 (3), pp.359–373.

How will web and social media usage affect the future of museums? Case Study: The Museum of Islamic Art in Cairo

- Pavlou, V. (2012). The Educational Potential of Museum Websites: Building an Instrument for Assessing Pre-service Teachers' Views. *Museum Management and Curatorship*, 27(3), pp.291-309.
- Pett, D.E.J. (2012). Uses of Social Media within the British Museum and Museum Sector . In C. Bonacchi (Ed.) *Archaeology and Digital Communication: Towards Strategies of Public Engagement*, (pp.83-102) Archetype Publications: London.
- Russo, A., Watkins, J., Kelly, L. and Chan, S. (2006). How will Social Media Affect Museum Communication? In *Proceedings Nordic Digital Excellence in Museums (NODEM)*, Oslo, Norway.
- Russo, A., Watkins, J., Kelly, L. and Chan, S. (2008). Participatory communication with social media. *Curator*, 51(1), pp.21 - 31.
- Schweibenz, W. (2004). The Development of Virtual Museums. *ICOM News Focus*, 3.
- Srinivasan, R., Boast, R., Furner, J., and Becvar, K.M. (2009). Digital Museums and Diverse Cultural Knowledges: Moving Past the Traditional Catalog. *The Information Society*, 25(4), pp.265-278.
- Stuedhal, D. (2014). Social Media and Community Involvement in Museums: A Case Study of a Local History Wiki Community. *Nordisk Museologi*, 1, pp.3-14.
- Stuedahl, D. and Smørdal, O. (2011). Designing for Young Visitors' Co-Composition of Doubts in Cultural Historical Exhibitions. *Computers and Composition*, 28 (3), pp.215-223.
- The Marcus Institute for Digital Education in the Arts. (2010). *The 2010 Horizon Report: Museum Edition*. Austin, Texas: The New Media Consortium.
- Theocharidis, A.I., Nerantzaki, D.M., Vrana, V. and Paschaloudis, D. (2014). Use of the Web and Social Media by Greek Museums. *International Journal of Cultural Digital and Electronic Tourism*, 1 (2), pp.8–22.
- Thomas, W.A. and Carey, S. (2005). Actual/Virtual Visits: What are the Links? In D. Bearman and J. Trant (Eds.). *Museums and the Web 2005* Toronto, CA: Archives and Museum Informatics.
- Villaespesa, E. (2013). Diving into the Museum's Social Media Stream. Analysis of the Visitor Experience in 140 Characters. MW2013: Museums and the Web 2013. April 17-20, 2013, Portland, OR, US.
- Vogelsang, A., and Minder, B. (2011). Audience: A Holistic Approach to Developing Social Media Guidelines for Swiss Museums. In J. Trant and D. Bearman (Eds.) *Museums and the Web 2011: Proceedings*, Toronto: Archives and Museum Informatics.
- Walker, D. (2014). Decentering the Discipline? Archaeology, Museums and Social Media. *AP: Online Journal in Public Archaeology*, Special Volume 1, pp.77-102.

Weilenmann, A., Hillman, T. and Jungselius, B. (2013). Instagram at the Museum: Communicating the Museum Experience through Social Photo Sharing. *ACM*.

Whelan, R. (2011). The Use of Social Media in Museums. Final Report. Peterborough Museum and Archives. Trent Centre for Community-Based Education.

Yin, R. K. (2003). Case Study Research. London: Sage.

Zafiroopoulos, K., and Vrana, V. (2005). Information Services Offered through the Hotel Websites: A Comparative Study between Cyprus and Greece. *The Cyprus Journal of Sciences*, 3, pp.225-247.

Websites

www.miaegypt.org