VIRTUAL MUSEUMS AND THEIR USE IN THE TOURISM SECTOR: A CASE STUDY IN TURKEY

SANAL MÜZELER VE TURİZM SEKTÖRÜNDE KULLANIMLARI: TÜRKİYE ÖRNEĞİ

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ABSTRACT

Museums are spaces that are also called cultural memory as they pave the way for easily understanding the cultural diversities of a society and they are essential for the tourism sector. Today, the failure of meeting the need for exhibition areas, efforts for also involving the handicapped in tourism, studies on life-long learning and the advancing technology have revealed the concept of united and virtual museology. Virtual museology is gradually becoming more and more important today, where we live the digital age and could access to all kinds of knowledge. As is known; virtual museums are places that are prepared by using panoramic photographs and various media possibilities, present the space or the environment to visitors from all aspects, enable worldwide communication owing to the internet access and need no physical space for traveling and seeing. While the present study is a theoretical research supported with examples of usage of virtual museums in Turkey and their position in tourism, obtained data collected through literature search.

Keywords: Virtual Museum, Tourism, Turkey, Digital Age.

ÖZ

Müzeler toplumun sahip olduğu kültürel çeşitliliklerin kolay anlaşılmasına yardımcı olmaları nedeniyle kültürel bellek olarak da adlandırılan mekânlardır ve turizm sektörü açısından olmazsa olmazlar arasında yer almaktadır. Günümüzde sergileme alanlarına olan ihtiyacın karşılanamaması, engellilerin de turizme katılabilmesi konusunda gösterilen gayretler, hayat boyu öğrenme konusunda yapılan çalışmalar ve gelişen teknoloji birleşmiş ve sanal müzecilik kavramı ortaya çıkmıştır. Dijital çağın yaşandığı ve her türlüye bilgiye erişimin mümkün olduğu günümüzde sanal müzecilik de giderek önem kazanmaktadır. Bilindiği üzere sanal müzeler, panoramik fotoğraf ve değişik medya imkânlarından faydalanılarak hazırlanmış, mekânı veya çevreyi tüm yönleriyle ziyaretçiye sunan, internet erişimi sayesinde dünya çapında iletişimi olanaklı kılan, gezmek ve görmek için fiziksel anlamda bir mekâna ihtiyaç duymayan müzelerdir. Sanal müzeler ve kültürel miras turizmi kapsamında kullanımıyla ilgili olan ve Türkiye'den örneklerle desteklenen bu araştırma teorik bir çalışma olup, literatür taraması ile elde edilen veriler derlenerek hazırlanmıştır ve literatüre katkı sağlaması amaçlanmaktadır.

Anahtar sözcükler: Sanal Müze, Turizm, Türkiye, Dijital Çağ.

1. INTRODUCTION

Whereas the digital age has been referred by various names such as post-industrial age, late capitalism age, postmodern age, information age and technology age, its essential idea is technologic development which could make social difference leading to social transformation by renewing itself almost every day (Kaplan & Ertürk, 2012). When it comes to digital age, numerous areas find themselves a position in digital environments and even new conceptions have been introduced owing to these digital environments. Museology is considered among these conceptual areas. By the virtue of developing technology, museology has gained a new dimension in the present digital age and virtual museum concept emerged. In our contemporary time, while there are numbers of museums in both Turkey and the world, offering virtual tour opportunity in the internet environment, there are various exhibitions only available on the internet for visitors.

As it is commonly known, museums are essentially important for tourism industry. Especially within the scope of culture tourism, museums tours are fundamental part of the travelers. Virtual museums have substantially important role in terms of allowing individuals with handicap or disease demobilizing them to take museum

tours in virtual environments as well as rising more qualified tourism students. Additionally, virtual museums could guide tourists regarding necessary travel planning.

This study was tried to be developed by presenting virtual museum examples from Turkey. Examples and statistical data from Turkey and the world about virtual museums were tried to be presented with respect to their relation with the tourism industry. It is expected that this study to be guiding to stakeholders of the subject as well as contributing into the relevant literature.

2. CONCEPTUAL FRAMEWORK

2.1. Museum Concept

The word of museum originated from the *Mouseion* in Greek mythology; and it refers the place in which "Muses" live or the place dedicated to "Muses". Muses are fairies of inspiration who are daughters of God *Zeus* and *Mnemosyn*, Goddess of memory. They are nine daughters each of which represents an individual creative profession to protect and inspire them (Özkasım, 2015). In terms of today's reference, museum, in the simplest way, refers a place or building in which artifacts and scientific objects or the things useful for art and scientific practices for the purpose of public exhibition (Turkish Language Society, n.d.). Based on another definition, museum is a non-profit and open institution which collects, preserves, investigates, inherits and displays the tangible or intangible inheritance of human beings and their environment for examination, education and entertainment purposes in line with serving and developing society (International Council of Museums, n.d.).

2.1.1. Historical Development of Museums in the World

It is known that Ancient Greek Temples are preliminary examples of modern museum (Küçükhasköylü, 2015). Aftermath of the death of Alexander the Great, the second successor of the *Ptoleme* Dynasty which ruled Egypt was *Ptoleme Filadelf* who was interested in literature and history. He was collector of hand written plates and animals; and he built a museum and library called "Muzeum/Mouseion" (Alexandria Library) on a long road next to the pier connecting Faro Island and downtown in 300 B.C. (Sağdıç, 2008; Demirboğa, 2010; Ustaoğlu, 2012).

In the medieval age, it is possible to mention in general about collections composed of trophies, valuable goods in churches and monasteries and treasures of kings and princes (Küçükhasköylü, 2015). The community was only able to gain opportunity to see these artifacts when they visit church until renaissance. In addition to church, collection of interesting natural objects persisted along the medieval age. In the meantime, Europeans who were returning home from the crusade exhibited their valuable trophies at their homes (Sağdıç, 2008).

In the renaissance period, discovery of new countries territories, experience of a new era strengthened with introduction of scientific researches and increasing interest into history increased varieties of collecting (Küçükhasköylü, 2015). Again, the Medici family from the Florence/Italy in the renaissance period purchased number of artifact for collection purpose in order to support art and artists (Sağdıç, 2008). In this regard, the Palazzo Medici (Medici Palace/ Medici Ricardi Palace) built in 1440 was considered as the precursor of modern European museums (Küçükhasköylü, 2015).

In the U.S., the first public museums were established under the title of "Charles Museums" in South Carolina in 1773. Similarly in 1785, the private "Charles Willson Peale" Museums were established in Philadelphia. In the great gallery at the Louvre Palace founded by Napoleon on August 10th, 1793, the museum was established and invaluable treasures and trophies were exhibited in here. In 1794, a science museum was established in Paris. In the same period, numbers of museums were established in many European capitals (Madrid, Berlin, Budapest, Prague and Munich) (Demirboğa, 2010, pp. 41-42).

In 1800s, more didactical understanding started to prevail among museums. Museums of this period represented the world encyclopedically rather than symbolically. Thus, specific museums were established to explain art history and science (Rep. by Özen, 2004, p. 68 from Özsel, 1998). In 1852, Victoria and Albert Museums were established in the Great Britain. Up until this time period in the Great Britain, there was only the British Museum serving to scientists and researchers. Then, this museum went public based on the decree issued by the British Government (Sağdıç, 2008). After the second half of the 19th century, museums tended to exhibit objects that could be found interesting by public so that significant developments in industry and technology could be displayed, to educate and entertain people; and they organized conferences, training sessions, special programs for school groups and exhibitions for training purposes. In this period, 100 and 50 new museums were established in the Great Britain and Germany. Furthermore, new museums opened their

doors in the U.S., Japan, China, Latin American countries, India, Sri Lanka, Pakistan, Thailand as well as Zimbabwe and South Africa. The 19th century in which significance of education increased and museums were started to be utilized for educational purposes was remarkable innovation period in terms of museology. Upon introduction of electricity in illumination practices at the end of the 19th century, work hours of museums which were not able to provide public service all day, extended their operation hours until night time (Karadeniz, 2009).

Political and economic changes experienced in the 20th century influenced museums as well. In the first half of the 20th century, two world wars faced one another left numbers of countries economic and social distress. Governments, professional institutions and other public organizations assigned new roles to museums to support social life in line with the evolving social and economic conditions; and accordingly, new museum types emerged. For instance, memorial museums which exhibit personal goods of prominent persons emerged as a new museum type in this period. Another museum type emerged in the last quarter of the 20th century was the science museum which place emphasis on application and share current scientific advancement with public. Another development encountered in the 20th century with regard to museology was transformation of historical buildings into museum buildings. Especially in the European Countries, this tendency was rather evident. For instance, the Tate Gallery in Liverpool, the Great Britain was a famous museum house across the world (Karadeniz, 2009).

While museums were striving to fulfill their responsibilities with respect to protecting, exhibiting, documenting, researching and education, some other organizations which guide museums and other cultural institutions for development and consulting in this field were founded (Karadeniz, 2009). In this context, International Museums Conseil and International Museums Council (ICOM) were founded in 1926 and 1946, respectively so that certain principles and standards could be determined about operation of museums, education and activities of personnel (Küçükhasköylü, 2015).

As museums were preparing to welcome the 21st century, they placed emphasis on education and training, allowed people to take advantage of their leisure time by learning and entertained; museums made their objects touchable and created interactive social environment for everyone from various age groups. Museums expanded their collaborations with conservators for maintenance and repair of their objects, professional curators and designers for exhibition designs, museum educators and pedagogues to organize training activities, information technology experts to collect and store data about collections and marketing experts to promote museum and activities (Karadeniz, 2009).

2.1.2. Historical Development of Museums in Turkey

Museology phenomenon which plays essential role in preservation of cultural values and inheriting them to the next generations emerged in Turkey with collection of objects in parallel to whole world. In the official website of the Ministry of Culture and Tourism of the Republic of Turkey and of the General Directorate of the Cultural Assets and Museums, museology in Turkey was explained as below:

In the Seljukian Period (13th Century), the practice of formal placing objects from previous period around the periphery of the castle walls surrounding the Konya Cairn whose remaining are not present today was considered as the preliminary traces of Turkish museology. Then it is known that late Hittite objects were collected around the Castle in Kahramanmaraş City in the Dulkadir Principality period. In the Ottoman Empire period, valuable heirloom objects, presents and trophies captured during the wars were kept safe in the treasury sections of the palace. As a result of numbers of valuable goods such as sacred relics of Islam to Ottoman Empire afterwards of the conquest of Istanbul, especially transfer of caliphate to Turks after eastern campaign of Yavuz Sultan Selim, part of the palace was reorganized in the form of a treasury house in the period of Sultan Mehmet and these developments resulted in a rich collection at the empire. These collections and rich Anatolian history paved the way of Turkish Museology.

Indeed, foundation of the Turkish Museology relies on Ancient Object Collection which constitutes the ground of the Istanbul Museum of Archeology. Upon Sultan Abdulmecit's encounter with Eastern Roman Inscriptions during his trip to Yalova in 1845, he decided to transfer them to Istanbul and stored in Aya Irini which had been utilized as an arsenal by the date. The museum was organized in two sections one of which constituted foundation of the Harbiye Military Museum. In 1869, the first museum of the empire was established under the title of "Empire Museums". In the very same year, Edward Goold, one of teachers of the Galatasaray High School, was assigned as museum chair. Additionally, a general circular was communicated to the city governors to transfer all historical artifacts to the museum by preserving them from any harm. As a result of the number of objects collected at the museum populated, the museum was moved to *Çinili Köşk* which

commissioned in 1880. Afterward of movement of the museum, Osman Hamdi Bey who has significant place in Turkish museology history was assigned as museum chair upon death of previous museum chair, Anton Dethier.

In 1887, as a result of the excavations implemented in Sayda, a group of tombs including the Alexander's Tomb were exposed and transferred to Istanbul. Upon this development, an initiative was taken to build a new museum building. Architect Alexandre Vallaury was assigned to design the building of the museum the first building designed solely to serve as museum building in the country. The museum was commissioned in 1891. Shortly after opening of the museum, a library, photograph laboratory and model workshop were established. In order to exhibit historical artifacts explored during excavations, two buildings were annexed to the museum in 1903 and in 1907. Again, in this period, some initiatives were introduced to establish museums in Anatolian cities beside Istanbul. New museums were established in Konya and Bursa in 1902 and 1904, respectively. By consulting foreign archeologists and specialists, registry and museum collections, catalogues and exhibitions were developed. In the period of 1912-1914, Gustav Mendel's catalogue with title of "Catalogues de Sculptures Grecgues, Romaines et Byzantines" in three volumes about the stone artifacts were the prominent resource promoting Turkish museums to the world.

Efforts regarding establishment of an art museum in Turkey initiated in the 19th century in Turkey. In parallel, an inventory collection was commenced but opening plans of the museum failed unfortunately. In this regard, the first art museums emerged after proclamation of the Republic of Turkey; Istanbul Art and Sculpture Museum was founded by Ataturk in 1937. In the republic period, The Directorate of Culture under the Ministry of National Education was put in charge about state museums; then, the General Directorate of Ancient Arts and Museums in 1944. Then in 1924, based on the council of ministers decision, it was adopted to open the Topkapı Palace to public visitors together with its current collection of artifacts. As Atatürk requested Hittite Museum to be founded in Ankara, *Kurşun Han* and *Mahmut Paşa Bedesten* Manors were renewed by the Ministry of National Education to assign for the purpose of establishing the Ankara Archeology Museum. Then, it was reorganized and renamed as the Anatolian Civilizations Museum subject to the variety of objects in the museum in 1967.

The first museum building in the republic period was the Ankara Ethnography Museum; while its construction was started in 1925, the building was commissioned in 1930. Subject to the law enacted in 1925, madrasahs and dervish lodges were banned and their valuable goods were exhibited in the Ankara Ethnography Museum; and illustrations of ceremonial and daily public were exhibited by using original goods. On the other hand, Konya Mevlevi Tomb was not closed and instead it was reorganized as a museum with its collection of goods along the instructions of Atatürk. In addition to the aforesaid museums in the early years of the republic, new museums were opened across Anatolia; and special interest was paid to allow them to proliferate around the country.

Today, there are totally 370 museums in Turkey; whereas 187 were under administration of Ministry of Culture and Tourism, 183 were private museums subject to supervising of the ministry. As number of museums increases every day, they are not only the places where artifacts are exhibited or stored, rather they have become educational and cultural establishments for social and cultural events, national and international conferences, seminars for public education and contribute in promotion of the country. Recently, Gaziantep Zeugma Mosaic Museum, the world's largest mosaic museum, Kırşehir Kaman Kalehöyük Archeology Museum, Eskişehir Eti Archeology Museum, Aydın Museum, Tokat Archeology and Ethnography Museums were designed according to the modern museology understanding and commissioned (Ministry of Culture and Tourism of the Republic of Turkey, n.d.).

The European Museum Fund (EMF) has been organized competitions under titles of "European Museum of the Year Award" (EMYA), "European Council Award" and "Micheletti Foundation Award" in order to support newly established museums and to foster innovations and initiatives since 1977. Prizes are awarded to one of the 50-60 candidates newly established or which incurred significant renovation in the last two years. Moreover, building structures of museums, value of artifacts exhibited, and exhibition quality, future plans of museum, financial organization, social responsibility, education activities, marketing and management structure (Santral İstanbul, 2009). For instance, Sinop, Çorum Museums, Sunay Akın Toy Museum, Santralistanbul, Beşiktaş Gymnastic Club and Turkey İş Bankası Museums were nominated for the best European Museum Award from Turkey in 2009. The European Museum of the Year Award which has been interested in by 1500 museums from 40 countries so far was prized to Ankara Anatolian Civilization Museum in 1997; the European Museum Forum Special Award was prized to İstanbul Turkish and Islamic Artifacts Museum, Antalya Museum, Bodrum Underwater Archeology Museum, Rahmi Koç Industry Museum and

İstanbul Modern Art Museum; the European Council Award was prized to Directorate of the İstanbul Archeology Museums and Trakya University Sultan II. Bayezid Külliyesi Health Museum. Moreover, in Turkey, the European Museum of the Year Award was prized to Innocence Museum in 2014; and the European Council Museum Award was prized to Baksı Museum 2014 (Santral İstanbul, 2009; Baksı Müzesi, n.d.; Milliyet Newspaper, 2016).

2.1.3. Museum Types

Museum exhibitions vary with respect to museum types and their utility. Museums could be classified with respect to their majors, locations and exhibitions. According to the current literature, various museum classifications draw attention. For instance, in the meeting referred as "Educational Role of Museums" held in Brazil by the United Nations Educational Scientific and Cultural Organization (UNESCO) in 1958, museums were classified in nine groups based on the relevant science majors. Hence, museum classifications (Report of UNESCO Regional Seminar on the Educational Role of Museums, 1960);

- ✓ Art Museum
- ✓ Modern Art Museum
- ✓ Archeology, History and Cultural Heritage Museum
- ✓ Ethnography and Folk Museum
- ✓ Natural History Museum
- ✓ Science and Technology Museum
- ✓ District Museum
- ✓ Specialty Museum
- ✓ University Museum

On the other hand, Demirel Gökalp (2015) classified museums based on their collections, roof organization, quality of exhibition areas of collections, and area of specialty. Table 1 was prepared based on the classification suggested by Demirel Gökalp.

According to Table 1, there are numbers of distinct museum types structured on the basis of different points of views. Virtual museums, the subject of the present study, were classified under title of "others" together with Specialty Museums and Children Museums according to Demirel Gökalp's (2015) study.

2.2. Concept of Virtual Museum

Virtual museum, a collection of digitally recorded images, sound files, text documents, and other data of historical, scientific, or cultural interest that are accessed through electronic media (Encyclopedia Britannica, 1998). Compared to real museums, virtual museums are still recent and they are referred in the current literature as "On-line museum", "electronic museum", "hyper environment museum", "meta-museum", digital museum", "virtual reality museum" or "web museum" (Schweibenz, 1998, p. 198). Moreover, virtual museums are also known with the concepts of "Museology Beyond Borders", "24-Hour Open Museum" and "Open to all Artists from All Generations" (Barlas Bozkuş, 2014).

Conventional museums, which required admission of visitors physically into the buildings in the past, have become virtual places that could be visited from anywhere in the world and at any time owing to internet technology (Özen, 2004). However, virtual museums are subject to certain criterions to be considered in this classification such as artifacts in this museum need to be exhibited in the internet environment; special links must be prepared for visitors; and special service pages must be prepared for teachers, students and experts. Thus, if individuals do not have opportunity to pay visit to the museum, they could have access to the artifacts and written resources available on the internet environment through their personal computers; and they could utilize from online dialog tools for further questions interactively (Demirboğa, 2010).

Table 1. Types of Museums with Respect to Their Characteristics

Collection	Administrative Roof Organization	Exhibition Area	Service Area	Other
* General Museums * Archeology Museums * Art Museums * Ethnography Museums * History Museums *Natural History and Geology Museums * Science and Technology Museums * Industry Museums * Economy Museums	* Public Museums * Local Administration Museums * University Museums *Military Museums * Independent or Private Museums * Foundation Museums	* Open Air Museums * Monumental Museums * Museum Houses	* District Museums * Public Museums * Eco-museum	* Specialty Museums * *Virtual Museums* * Children Museums

Foundation of the virtual museum practices was established by the project which aimed to interconnect by means of the Extensive European Telecommunication Network called as the Remote Access to Museum Archives (RAMA) (Can, 2015). The first example of virtual museums emerged in the project called "Virtual Museum" organized by Jeffry Shaw in 1990. In this virtual museum, exhibition, objects and chambers are displayed in 3D format in computer environment (Demirel Gökalp, 2015). Tools to prepare 3D imaging of these environments were a platform capability of moving on circular route, a large video projector on this platform, a computer and a chair for the watcher. Watchers sitting on this chair are enabled for controlling their moving in the virtual museum interactively (Boyar, 2006, pp. 63-64). Another early period example of virtual museums was the Museum Beyond Borders (SÖM). The SÖM is a civil society organization established in Vienna by a group of experts working on publishing and public relations in 1995. Visitors of this museum do not only experience the artifacts in the exhibition, but also they gain access to various places under themes, other museums associated with here, the relevant archeological sites and monuments as well. Thus, not only small objects, monumental art crafts, archeological sites and natural patterns could be exhibited (Demirel Gökalp, 2015, pp. 92-93; Boyar, 2006, pp. 63-64). The 24 Hour Museum centered in the U.K. has distinctive role in proliferation of virtual museology. The 24 Hour Museum, which functions as an online portal of all museum collections in the U.K., creates a dynamic virtual environment by promoting the contest of "Web Site of The Week". The virtual museum which allows visitors to access into 360 degree panoramic views of more than 3,000 museums, galleries and cultural heritage areas in the U.K. is open around the clock and hosts more than a million visitors every month. When its number of total visitors and volume of current archive are considered, it is possible to claim that the 24 Hour Museum is the first example in this field. The 24 Hour Museum also undertook news portal task by providing service for following museology, cultural heritage, and art conferences, panels and magazines (Barlas Bozkuş, 2014).

Similar to physical museum types, virtual museums are classified based on various points of views. For example, Özer (2007) described virtual museums as collections of digital objects under certain logic and virtual museums were classified in three different groups;

• Websites of real museums,

• On-line achieves,

• Virtual museums prepared in a real museum concept but without any ties with real museums. Schweibenz (2004) classifies virtual museums in four groups as brochure museum, content museum, learning museum and virtual museum. The brochure museum: this is a web site which contains the basic information about the museum, such as types of collection, contact details, etc. Its goal is to inform potential visitors about the museum. The content museum: this is a web site which presents the museum's collections and invites the virtual visitor to explore them online. The content is presented in an object-oriented way and is basically identical with the collection database. It is more useful for experts than for laymen because the content is not didactically enhanced. The goal of this type of museum is to provide a detailed portrayal of the collections of the museum. The learning museum: this is a web site which offers different points of access to its virtual visitors, according to their age, background and knowledge. The information is presented in a context-oriented

way instead of being object-oriented. Moreover, the site is didactically enhanced and linked to additional information that motivates the virtual visitor to learn more about a subject they are interested in and to revisit the site. The goal of the learning museum is to make the virtual visitor come back and establish a personal relationship with the online-collection. Ideally, the virtual visitor will come to the museum to see the real objects. The virtual museum: the next step on from the learning museum is to provide not only information about the institution's collection but to link to digital collections of others. In this way, digital collections are created which have no counterparts in the real World (Schweibenz, 2004). Sağdıç (2008) classified virtual museums in two main groups in terms of their purposes. According to Sağdıç, virtual museums are also grouped as educational purposes and marketing purposes. Websites of virtual museums with educational purposes are visited more frequently owing to the offered education programs and allow visitors to conduct researches. The collection exhibited on their website is comprehensive and their content is rather rich. Whereas their home page or entry site is designed in charming visitors, its structure is user-friendly. In order to investigate content, it is necessary re-visit the website for numbers of times. These types of virtual museums contain various educational tools for different age groups and competency levels. On the other hand, marketing museums are organized and designed for marketing and communication tool; to increase visitor traffic of real museums; and to communicate about collections and programs of museums to community. Such websites aim to increase sales volume of museum stores as well (Sağdıç, 2008, pp. 16-17). It is observed that virtual museum classification of Sağdıç coincides with two items of the quadrupled classification suggested by Schweibenz. Furthermore, there are other studies on classification of virtual museums on the basis of point of views of professionals who design museums in computer environment. However, since these classifications are related with natural science, they were not included in this study.

According to the literature relevant with the virtual museums, whereas there are studies emphasizing positive aspects of virtual museums, there are the ones finding them contradictive by approaching them from a negative perspective. Özer (2007) reflected a positive remark about virtual museums and concluded that virtual museums use less resource such as labor, time and funds by stating that "operation of a physical museum requires much more time, labor and funds". On the other hand, Bingöl (2008) addressed another positive aspect of virtual museums and stated that "virtual museums perform their promotion and education activities conveniently since they are open 24 hours/ 365 days uninterruptedly." Bingöl stated as well in the same study that "Museums gain opportunity to market themselves free from any spatial and temporal limitations." In the news published in the Radikal Newspaper (2003), it was communicated that "Virtual museums are important since they perform museum activities which could not be realized in physical environment in the virtual environment. For instance, it is rather difficult to organize an exhibition including paintings of Van Gogh and Gauguin. Moreover, young prospect curators acquire opportunity by means of virtual museums so that they could have their first professional experiences". In his study, Çolak (2006) correlated virtual museums with digital distinction and used the expression of "e-culture activities created by means of virtual museum applications allow elimination of digital distinction". As it is known, digital distinction is agglomeration of indications which alienate members of a specie (e.g. location, time) (Turkish Language Society).

When controversial aspects of virtual museums are considered, the first notable expression was found in the Encyclopedia Britannica (1998) as "A virtual museum does not house actual objects and therefore lacks the permanence and unique qualities of a museum in the institutional definition of the term." On the other hand, Çolak (2006) classifies debates on virtual museums in four groups in terms of descriptions, museum experience, museum object and criterions; and addresses various disputes on each group. Ustaoğlu (2012) approached to the subject from a distinctive perspective and correlated the interest in virtual museums with the dependency on computers and technology and used following expression: "the fact that interests of today's children, youth and adults who spend great deal of time before computer either willingly or not is greater than the interest to the real museums would not be surprising at all under contemporary circumstances".

2.3. Usage of Virtual Museums in Turkish Tourism

Even though tourism has been described in various ways, within general framework, it could be described as "whole incidents and relationships that occur as a result of demand of goods and services manufactured by the tourism businesses in travelled areas and temporary accommodation of humans during their travels outside the places where they permanently reside, work or the place from where they fulfill their regular needs". Tourism is more a phenomenon associated with modern age and modern human being.

In the beginning, tourism was an industry implemented under mass tourism in which service receivers were acting in the triangle of sea-sand-sun. Needs and solutions for these needs were being planned in the line of this axis. However, there are tourism types referred as specialty tourism in which travelers could set off a

journey according to their special interests independent from sea-sand-sun (gastronomy, wine, cultural heritage etc.) in our contemporary time. On the other hand, tourism has been the most sensitive industry to the positive or negative developments around the world such as technologic advancements, war, terror, epidemiology, economic crisis and natural disasters.

Independent of the associated tourism type, museums in the destination countries are certainly visited. Although it is thought that especially tourists who could be classified in tourism types of cultural tourism and cultural heritage would visits museums, almost all of tourists visit museums to have better understanding of the history and culture of the destination country. Technological advancements museum shifted a new dimension to museum visits and diversified utilities of museums in tourism industry. In this sense, virtual museums that have emerged along the technologic advancements have come to agenda in various branches of tourism sector.

Turkey hosted 39.8 million tourists in 2014; accordingly it is the 6th and 4th most frequently visited country in the world and in the Europe, respectively. Turkey is capable of offering all aforesaid tourism types across its territories in Europe and Asia continents where numbers of archeological sites, antic ruins and artifacts are spread. Tourism activities constitute one of the significant parts of its economy.

In order to comprehend status of virtual museums in Turkey and to examine their usage in tourism, first a comparison is necessary between physical museums and virtual museums. For tourism industry, this comparison could be based on number of visitors. Accordingly, number of visitors of museums and archeological sites in Republic of Turkey were summarized for 2000-2015 in the Table 2 below.

Table 2. Number of Museums, Works and Visitors to the Museums and Ruins in Turkey

Year	Number of Museums	Number of Works	Total Visitor	Paying Entrance Fee	Free
2005	156	2 790 566	19 663 014	15 212 404	4 450 610
2006	175	2 866 303	16 086 050	10 375 980	5 710 070
2007	165	2 767 149	18 023 618	12 111 952	5 911 666
2008	159	2 989 749	22 736 238	15 823 171	6 913 067
2009	183	3 044 197	23 000 957	16 504 935	6 496 022
2010	185	3 096 599	25 107 203	17 209 442	7 897 761
2011	189	3 149 982	28 459 311	21 984 444	6 474 867
2012	188	3 177 446	28 781 308	19 211 461	9 569 847
2013	187	3 174 867	29 566 691	23 081 525	6 485 166
2014	192	3 217 173	29 799 790	23 692 984	6 106 806
2015	193	3 235 113	28 122 934	19 699 239	8 423 695

Resource: Turkish Statistical Institute (2016)

According to Table 2, number of artifacts in the inventory of museums under the Republic of Turkey, Ministry of Culture and Tourism increased to 3 million and 235 thousand 113 pieces by 0.6% in 2015 with respect to 2014; number of visitors decreased to 28 million and 122 thousand 934 by 5.6% in 2015 with respect to 2014. Again, number and proportion of the visitors who admitted into the museums and archeological sites under the ministry with admission fee decreased from 23 million and 692 thousands 984 and 79.5% in 2014 to 19 million and 699 thousand 239 and 70% in 2015. Again, number and proportion of visitors who admitted into museums and archeological sites under the ministry free of charge increased from 6 million and 106 thousands 806 and 20.5% in 2014 to 8 million and 423 thousands 695 and 30% (Turkish Statistical Institute, 2016).

According to the statistics published by the Ministry f Culture and Tourism, Directorate of Cultural Assets and Museums, the most frequently visited museum in Turkey in 2015 was İstanbul Ayasofya Museum with 3,466,638 visitors. This museum was followed by Topkapı Palace Museum with 3,252,524 visitors and Konya Mevlana Museum with 2,337,850 visitors, İstanbul Topkapı Palace - Seraglio (877,331 visitors), İstanbul Archeology Museums (411,797 visitors), Ankara Republic Museum (381,294 visitors), Antalya Demre Museum (364,529 visitors), Nevşehir Hacıbektaş Museum (363,457 visitors), Ankara Anatolian Civilizations Museum (272,814 visitors) and İstanbul Kariye Museum (233,000 visitors). Total number of visitors to private museums was 9,468,084 in 2015 (Ministry of Culture and Tourism of the Republic of Turkey).

According to 2003 statistical data, annual number of visitors of virtual museums was 150 thousand (Radikal News, 2003). After this date, there was no statistical report was published on number of visitors of the virtual museums. Collected data was the statistical data published by the museum web sites. Some of details of these data were included in further sections of the study. However, it is without a doubt that this figure has increased in parallel to advancing technology and increasing population. Although no general statistical data concerning number of annual virtual museum visitors in Turkey was obtained, some statistics on population of Turkey,

internet usage rate and smart phone usage rate were compiled. These figures could be useful in estimation of number of annual visitors to virtual museums. Indeed, the greater the number of internet users, the greater the chance of these individuals to visit virtual museums is. In this context, statistical results of the Household Information Systems Technologies Usage Survey conducted by the Turkish Statistics Institute in 2015 were summarized below (Turkish Statistical Institute, 2016):

✓ Proportion of internet user population in Turkey is 55.9%; and population of Turkey is 78 million 741 thousand 53 as of December 31st, 2015. That is, there are about 44 million internet users. Computer and internet user rates among 16-74 aged population were 54.8% and 55.95 as of April 2015, respectively. Whereas these rates were 64% and 65.8% for males, 45.6% and 46.1% for females.

✓ In Turkey, seven out of ten houses have internet access. Again, proportion of houses with internet access in Turkey was 69.5% as of April 2015. The houses with broadband internet connection are 67.8%. Accordingly, whereas 37.4% of overall households has broadband connection (ADSL, cable internet, fiber etc.), 58.7% has mobile broadband connection. Narrowband was used for internet access by 2.7% of houses.

✓ In Turkey, whereas there is a cell or smart phones in 96.8% of overall houses, there is a land line phone in 29.6% of them. In the same period, while there is table-top PC in 25.2% of household, there is laptop PC in 43.2% of household; and there is smart TV with internet connection in 20.9%.

✓ In terms of internet usage purpose in Turkey, 80.9% of internet users in the first quarter of 2015 were using internet for having personal profile on the social media, sending messages, or sharing photo or content; 70.2% of users followed online news, newspaper or magazine, 66.3% searched for medical information, 62.1% used personal blogs for their texts, images, photograph, video, and music contents; 59.4% searched for market research for goods and services.

✓ In the first quarter of 2015 in Turkey, 87.1% of internet users from the age group of 16-74 were from home; 42.5% were from workplace; 37.7% were from houses of relatives and friends; 29.2% were from wireless areas such as malls, airports and etc.; and 10.6% were from internet café. Usage of mobile devices for internet access outside house work place has increased. While 74.4% of individuals used cell and smart phones for wireless connection outside their house and work place, 28.9% used mobile PC (laptop, net-book, tablet etc.).

✓ In the twelve-month period between April 2014 and March 2015 in Turkey, 53.2% of users used internet to communicate with public institutions for personal purposes or to access a public service. Accessing information in the pubic websites was most frequent reason for internet usage by 50.5%. Whereas the proportion of the individuals who used internet for online shopping was 33.1% in 2015, this rate was 30.8% in 2014. Of these individuals who made shopping on the internet along the concerned period, 57.4% purchased apparel and sport goods; 27% travel tickets and rent a car etc.; 25.5% household goods (furniture, toy, electric appliances), 22.4% electronic devices (Cell phones, camera, radio, TV, DVD player etc.); 18.4% books, magazine, newspaper (e-book inc.). In terms of the internet usage frequency along the last quarter of 2015, proportion of the regular user profile who use internet daily or minimum once a week was 94.2%.

As it could be understood from the results of the survey conducted by the Turkish Statistic Institution, which concerned Household Information Technology Usage in 2015, usage of technology and internet is remarkably high in Turkey. It is also notable that there was no sub-titles of culture, art, museum or virtual museum under the option of "having information" given for internet usage purposes.

In terms of the personal profiles of visitors of virtual museums in Turkey, it could be observed that majority of them (almost two third) were living in small cities. Since people from small cities lack of opportunity to visit physical museums, they are trying to offset the disadvantage brought by living in distant small cities. Moreover, it is also known that majority of visitors of virtual museums were comprised of graduates of associate, undergraduate, graduate and technical college programs of universities (Radikal Newspaper, 2003).

Based on the all issues that have been reported above so far, utilization of virtual museums in tourism in Turkey could be summarized as below:

2.3.1. Tourism Education

Tourism education in Turkey is given within the scope of both tourism education and formal education. Tourism education within the scope of the formal education is given by the Ministry of Culture and Tourism

and it is associated with life-long learning. Tourism education is offered at different levels within the scope of the formal education. In Turkey, while 4-year education is given at the tourism high schools, vocational colleges and faculties have 2-year and 4-year programs, respectively. Additionally, there are master and doctorate degrees in tourism major as well. Tourism education given in faculties, specialization in various departments prevails. Students are able to specialized in hotel business, travel business, gastronomy and tourist guide major. Regardless of students' major, students in tourism department are required to receive one or few of following courses: tourism geography, cultural heritage, archeology, art history, civilizations history, Anatolian civilizations, religions history, mythology, and Turkish culture and art. The relevant curriculums are prepared based on these subjects. In this regard, virtual museums make significant contribution in tourism education at this point. In contents of aforesaid courses, numbers of museums, archeological sites, antic ruins, monuments and artifacts are required to be lectured to students. However, these subjects are given to students through slide presentations due to some limitations such as distant locations of museums, lack of travel budgets, difficulty in transportation, security concerns, bureaucratic difficulties, difficulty in handling students, and time and economic costs. However, when it is considered that classrooms in all school buildings have internet access and projectors, it could be considered that instructors could utilize from virtual museum visits during their lectures and this consequently will allow students to experience more fun, productive and successful courses on the subject. Finally, utilization of virtual museums during instruction of tourism courses would play significant role to raise more competent professionals for tourism industry.

2.3.2. Being Nominee for Tourism Awards

Both conventional and virtual museums could nominate themselves for domestic or international contests. These museology awards could be draw international attention to the area of interest. For example, exhibitions of "Picasso in İstanbul" and "Rodin, the great master of sculpture, in İstanbul" allowed the relevant museums to be prized with İstanbul Tourism Awards with this activity (Wikipedia, n.d.).

2.3.3. In Suggestion of Destination

Our contemporary time referred as digital age in line with evolution in technology, influence of social media and peer influence on travel decisions have gained significance progressively. Suggestion of conventional museum visits as well as virtual museums is substantially important to increase visitor population. In terms of suggestions, the most popular and prominent web site is *Tripadvisor*. In this context, this web site was visited in the period of this study and made searches on the web site for keyword of "*Museums*" in destination of "*Turkey*". As a result of this search, totally 826 items were yielded by the web site. On the basis of the content analysis on the web site, it was seen that some museum names were recurred under multiple titles. In spite of this finding, it was found that almost all official and private museums in Turkey were listed on the Tripadvisor; and that visitors left suggestions about these places. It is a notable finding that the most frequently suggested museums were operating in both physical and virtual settings. In this sense, the most frequently suggested museums were Ayasofya Museum with 30,686 comments, Topkapı Palace Museum with 20,194 comments, Kariye Museum with 5.175 comments and İstanbul Archeology Museum with 3,529 comments (Tripadvisor, n.d.). It was also observed that mentioned figures regarding comments were also proportional with number of visitors reported above. On the other hand, it was seen that there were some negative comments besides the positive ones.

With regard to suggestions with the destination, another factor was that some museums were certified by Tripadvisor with "Certificate of Excellence". For example, Tripadvisor issued Certificate of Excellence to Antalya Museum in 2014; Rahmi Koç Museum, Topkapı Palace Museum and Ayasofya Museums in 2015. It is known that these certificates have positive impact on visitors. Additionally, Rahmi Koç Museum is the only private museum among the ones issued Certificate of Excellence" while the others are administered under the Ministry.

2.3.4. In Country Promotion

In our contemporary period called as digital age in which information could be accessed from regardless of spatial and temporal limitations, country promotions on digital medias provide number of opportunities to reach potential tourists across the world. For the advertisements organized for country promotions, countries spare large budgets and expand their promotion budgets every year to carry out greater advertisement campaigns. In spite of extensive costs, when these advertisement campaigns are prepared effectively and efficiently, they could make substantial contributions into country image and relevant marketing activities (Altaş, 2016). In recent years, country promotion activities have largely been on digital media. Thus, users gain opportunity to like relevant activities; leave a comment or complaint about them; and could share all these

with other users. In this regard, it is considered that virtual museums need to be considered as an effective promotion tool for countries. Especially, it is considered that there would be numerous tourists who potentially might want to visit Turkey after they view virtual museums and they would like to visit the artifacts and objects that they view on virtual museums in person. It could be seen that this point of view overlap with types of virtual museums mentioned above.

2.3.5. Tourism for Handicaps / Tourism without Obstacles

A handicapped person is the one whose physical movements, functions or senses are limited subject to an injury or bodily or mental disease (Wikipedia, n.d.). Participation of handicapped individuals into tourism activities usually remains limited. Especially, insufficient legislation and monitoring in Turkey result in inappropriate designs of facilities for handicapped persons, which limit participation of handicapped individuals into tourism activities. According to the current legislation in Turkey, hotel businesses are required to have special rooms for handicapped occupants in proportion of minimum 1% of their room capacity; and to have restrooms accessible by handicapped individuals. However, these arrangements remain only with hotel businesses and this is not enough for mobilization of handicapped individuals within tourism industry. These regulations must be mandated especially for museums as well as all other areas providing service to tourism industry. Museums could even sometimes be difficult place to visit for healthy, active and capable individuals. Since museums could sometimes be tiring, they require both physical and mental effort. For handicapped individuals, museum and galleries are usually full of barriers to overcome; these barriers vary from the parking lot to building entry or from personnel who do not know how to help to poorly illuminated exhibitions, or to stairs which totally prevent entry into the building (Hooper-Greenhill, 1999). On the other hand, museums have only few banks or chairs available for the visitors; even until recently, it has been difficult to find simplest drinks in facilities. Recently, coffee shops have been opened in museums for resting, dining and finding refreshments. Rahmi Koç Museum is the prominent example in this regard while the museum has hosting food and dining opportunities under number of brands and concepts. From these points, virtual museums are also considered as an important opportunity for handicapped individuals since they gain access to physical museums and eliminate obstacles. Owing to virtual museums, handicapped individuals would find opportunity to visit museums which they could never visit in their lives when they gain access to internet.

2.4. Examples from Turkey Regarding Virtual Museum Applications in Tourism

The first virtual museum efforts in Turkey began in 1990 when the Topkapı Palace made an initial attempt to feature some of its collections in cyberspace. Known as the Topkapı Palace Project, the aim was to provide easy access to such disparate materials as photographs, engravings, orthographic drawings, animations, and so on, by means of a sophisticated interface design. However, since sponsors were not found, this multimedia system was not finalized and remained only as a CD title of twenty photographs and ten technical drawings. In 1996, the first body of privately held art went on the Internet with a site devoted to the Sabancı Painting and Sculpture Collection belonging to Sakıp Sabancı, the chairman of the board of Sabancı Holding, one of the largest companies in Turkey. Although it is a simple interface design, and may be considered a web brochure of the book with the same name, it has received many hits and favorable reviews. It was followed in 1997 by two other private museums, Rahmi Koç and Sadberk Hanim (Atagök & Özcan, 2001, pp. 42-43).

Today, number of virtual museums established in Turkey has increased. In order to reflect the advancement in virtual museology in Turkey better, following examples were given. In this regard, first, the museums considered as virtual museum and the ones that could be visited virtually were investigated and museum details screened through relevant literature review were summarized in Table 3. In this sense, Table 3 was prepared on the basis of title of virtual museums on the web sites of the Ministry of Culture and Tourism, Union of Turkish Travel Agencies (TÜRSAB) and International Council of Museums Turkey. Table 3 covers virtual museums and their addresses in Turkey. However, museums indicated in Table 3 were only the ones under administration of the Republic of Turkey Ministry of Culture and Tourism; and excluded private museum. Couple of example projects regarding private virtual museums was included in the end of the study. Details of the private museums in Turkey could be accessed from the web site of the Republic of Turkey Ministry of Culture and Tourism General Directorate of Cultural Heritage and Museums.

It is known that virtual museums under administration of Ministry of Culture and Tourism were put in action by means of the efforts of the department established under the Information Technologies and Project Development Branch to transfer museum and cultural heritage assets onto the internet environment in 2006 (Barlas Bozkuş, 2014). In this context, virtual museums under administration of the Ministry of Culture and Tourism are in the classification including museums that could be visited online through their own websites.

However, according to Table 3, only 13 out of 37 museums under the Ministry in Turkey have their own official web sites. This situation illustrates rather negative scenery regarding virtual museums. It is possible to access all of web sites of 13 museums with their official web sites. However, Edirne Archeology and Ethnography Museum and Edirne Turk-Islam Artifacts Museum were sharing a web site; Konya Mevlana Museum had multiple web sites from which everything about Mevlana could be found.

In the last column of Table 3, alternative links allowing access to the given virtual museums were exhibited. However, there are some negative issues with these links as well. For instance, it was found that links directed o Afrodisias Museum, Çorum Museum, Denizli Hierapolis Archeology Museum, Efsaneler Diyarı Gordion, Ertuğrul Gazi Museum, Gaziantep Museum, İkizevler Museum, Kars Museum, Karatepe Aslantaş Outdoor Museum, Virtual Music Museum, Side Museum, Sivas Congress Museum, Sümela Archeological Site, Trabzon Ayasofya Museum and Trabzon Museum were not functioning. This situation again was disappointing for aforesaid virtual museums. This negative scene is confirmed by the status reported by Barlas Bozkuş (2014) from Düzgün (2008).

Table 3. Virtual Museums in Turkey and Their Web Sites

	Name of Museum	Official Web Site of Museum	Links to the Museum from other Web Sites
1	Afrodisias Museum	-	www.kulturturizm.gov.tr/TR,28897/eski2yeni/3/46921
2	Anatolian Civilizations Museum	www.anadolumedeniyetlerimuzesi.gov.tr	www.kultur.gov.tr/genel/SanalMuzeler/anadoluMM/index.html
3	Ankara Fine Arts Museum	-	www.kultur.gov.tr/genel/SanalMuzeler/ResimHeykelMuzesi/index.html
4	Ankara Ethnography Museum	www.etnografyamuzesi.gov.tr	www.etnografyamuzesi.gov.tr/360/index.swf
5	Antalya Museum	www.antalyamuzesi.gov.tr	www.kultur.gov.tr/genel/SanalMuzeler/Antalya/index.html
6	Hagia Sophia Museum	www.ayasofyamuzesi.gov.tr	www.kultur.gov.tr/genel/SanalMuzeler/ayasofya/ayasofya.htm
7	Bodrum Museum of Underwater Archaeology	-	www.kultur.gov.tr/genel/SanalMuzeler/bodrumsualti/index.htm
8	Museum of Burdur Archaeology	www.burdurmuzesi.gov.tr	www.kultur.gov.tr/genel/SanalMuzeler/burdurarkeoloji/index.htm
9	Çorum Museum	-	www.corumkulturturizm.gov.tr/sanalmuze/sanalgezi.html
10	Denizli Hierapolis Archeology Museum	-	www.kulturturizm.gov.tr/TR,28897/eski2yeni/3/46924
11	Edirne Archeology and Ethnography Museum	www.edirnemuzesi.gov.tr	www.edirnemuzesi.gov.tr/Diger/sanal-gezi/index.html
12	Edirne Turk-Islam Artifacts Museum	www.edirnemuzesi.gov.tr	www.kultur.gov.tr/genel/SanalMuzeler/edirneturkislameserlerimuzesi/index.html
13	Efes Museum	-	www.izmirkulturturizm.gov.tr/TR,77418/efes-selcuk.html
14	Efsaneler Diyarı Gordion	-	www.ankarakultur.gov.tr/servisler/kultur-ve-tabiat-varliklari/muzeler/gordion-muzesi
15	Ertuğrul Gazi Museum	-	www.kultur.gov.tr/genel/SanalMuzeler/ErtugrulGazi/index.html
16	Gaziantep Museum	-	www.kultur.gov.tr/genel/SanalMuzeler/gaziantepmuzesi/index.htm
17	Isparta Museum	-	www.kultur.gov.tr/genel/SanalMuzeler/IspartaMuzesi/index.html
18	İkizevler Museum	-	www.trabzonmuzesi.gov.tr/default.asp?page=konu&akatid=26&katid=63&id=136
19	İstanbul Galata Mevlevihanesi Museum	www.galatamevlevihanesimuzesi.gov.tr	www.kulturturizm.gov.tr/TR,28897/eski2yeni/3/46925
20	Museum of Kahramanmaraş Archaeology	www.kmarasarkeolojimuzesi.gov.tr	www.kmarasarkeolojimuzesi.gov.tr/sanaltur/index.html
21	Kapadokya Outdoor Museum	-	www.kultur.gov.tr/genel/SanalMuzeler/Kapadokya-Turkce/index.html
22	Kars Museum	-	www.kars.gov.tr/360kars/sehirici/karsmuzesi/index.html
23	Karatepe Aslantaş Outdoor Museum-Osmaniye	-	www.sanaltur.osmaniyekulturturizm.gov.tr/aslantas/

Table 4(Continue). Virtual Museums in Turkey and Their Web Sites

24	Konya Mevlana Museum	www.mevlana.gov.tr	www.kultur.gov.tr/genel/SanalMuzeler/mevlana-tr/index.html
25	Mardin Museum	www.mardinmuzesi.gov.tr	www.kultur.gov.tr/genel/SanalMuzeler/mardin_muze/index.html
26	Mersin Anamur Museum	-	www.kultur.gov.tr/genel/Sanalmuzeler/mersin_anamur_muzesi_turkce/index.html
27	Sakarya Museum	www.sakaryamuzesi.gov.tr	www.sakaryakulturturizm.gov.tr/360/muze/
28	Virtual Music Museum	-	www.kultur.gov.tr/smm/cvl/main.html
29	Side Museum	-	www.kulturvarliklari.gov.tr/TR,43559/antalya---side-muzesi-mudurlugu.html
30	Museum of Sivas Archaeology	www.sivasarkeolojimuzesi.gov.tr	www.360sivas.net/arkeoloji.html
31	Sivas Congress Museum	-	www.360sivas.net/muze.html
32	Sumela Archeological Site	-	www.trabzonmuzesi.gov.tr/default.asp?page=konu&akatid=1&katid=1&id=135
33	Trabzon Ayasofya Museum	-	www.trabzonmuzesi.gov.tr/default.asp?page=konu&akatid=18&katid=11
34	Trabzon Museum	-	www.trabzonmuzesi.gov.tr/default.asp?page=konu&akatid=19&katid=62&id=132
35	Museum of Uşak Archaeology	-	www.kultur.gov.tr/genel/SanalMuzeler/UsakArkeolojiMuzesi/index.htm
36	Museum of Uşak Ethnography	-	www.kultur.gov.tr/genel/SanalMuzeler/UsakAtaturkveEtnografyaMuzesi/index.htm
37	Virtual Museums of Yeşilırmak Havzası	-	www.yesilirmakhavzasimuzeleri.org.tr
38	Zeugma Mosaic Museum	-	www.gaziantepturizm.gov.tr/TR,131852/zeugma-mozaik-muzesi.html

Düzgün criticized virtual museology and museums in Turkey during his speech in a congress held in 2007; considered cooperation between Turkish virtual museums and effective institutions in abroad insufficient; emphasized that Turkish virtual museums' departments constituting virtual memory such as collections, data bank and academic resources were inadequate; and stressed that some museums were poorly designed. The current status indicates that no significant advancement with the virtual museology has been seen along the last decade.

A diverse application was observed with the *Virtual Museums of the Yeşilırmak Havzası* at the 37th row of Table 3. Web site of the aforesaid museum provides accessing options for four different museums of "Amasya", "Tokat", "Çorum" and "Samsun" museums in virtual environment.

Prominent examples of virtual museums and virtual exhibitions from Turkey, established to serve in the areas of art and culture were provided below:

Van Gogh Alive Digital Art Exhibition

Van Gogh Alive is a digital art exhibition was organized at the Ankara Cermodern in Ankara City in the period between 16.10.2012 and 03.01.2013; and at the Antrepo 3 Karaköy, Istanbul City in the period of 10.02.2013-15.05.2013. The opening gala of this exhibition was made in Singapore and displayed a brilliant light and vocal show to audience to let them live an unforgettable experience. In this art exhibition created by the Australian Grande Exhibitions, Istanbul and Ankara shows welcomed 157.000 and 58.000 visitors, respectively. As both exhibitions went beyond much more than expected number of visitors, old master painter Van Gogh's experiences and his works with brilliant and alive details made in the period of 1880-1890 reflected to giant screens, walls, walls, floor and ceiling. More than 3,000 digital images and the most famous artifacts of Van Gogh exhibited to audience through high-tech projectors simultaneously with a classical music through a rich surrounding sound system to let them have unforgettable show. Thus, Van Gogh Alive appealed to individual from all age groups and art funs beyond the conventional museology. Van Gogh Alive also hosted numbers of exciting contests and applications in the social media. Followers from Facebook and Twitter gained opportunity to have free admission to the event made tremendous impact in society; and they followed the most recent news about the exhibition through their Facebook and Twitter accounts. Contesters prized specially designed awards at the end of the 2 different Facebook competitions which took 4-week long regarding finding differences between the most famous works of Van Gogh and solving puzzles. While these competitions drawn the social attention to the exhibition, numbers of art funs were reached through the contest. The impact analysis

conducted after the Van Gogh Alive Istanbul exhibition confirmed the success of the exhibition. According to study results, 93% of visitors stated that they liked the exhibition; 94% suggested the exhibition to others; 99% wished that such events to be continued in future as well (Abdi İbrahim, n.d.; Vangogh Alive, n.d.).

Google Art Project

Google Art Project is an online platform through which the public can access high-resolution images of artworks housed in the initiative's partner museums. The project was launched on 1 February 2011 by Google, in cooperation with 17 international museums, including the Tate Gallery, London; the Metropolitan Museum of Art, New York City and the Uffizi, Florence. The platform enables users to virtually tour partner museums' galleries, explore physical and contextual information about artworks, and compile their own virtual collection. The "walk-through" feature of the project uses Google's Street View technology. The images of many of the artworks were reproduced with very high quality, and each partner museum selected one artwork to be captured as a gigapixel image (with over 1 billion pixels). On April 3, 2012, Google announced a major expansion to the Art Project as it signed partnership agreements with 151 museums from 40 countries. The platform now features more than 32,000 artworks from 46 museums, and the image acquisition process is underway at the remaining partner museums. This expansion includes works from institutions like the Art Gallery of Ontario, the White House, the Australian Rock Art Gallery at Griffith University, the Museum of Islamic Art, Doha, and the Hong Kong Museum of Art. Additionally, Google launched a second, improved version of the website with new Google+ features, enhanced search capabilities, and a series of educational tools. Google intended for this second-generation platform to be a global resource; accordingly, the Art Project is now available in 18 languages, including English, Japanese, Indonesian, French, Italian, Polish, and Portuguese. Rezan Has Museum, Sakıp Sabancı Museum, Rahmi Koç Museum and Pera Museum are member to Google Art from Turkey (Cultural Institute, n.d).

3. CONCLUSION

Subject to the historical development of museums and museology in both world and in Turkey, a structure started with collecting and progressed by initiatives taken by significant individuals, influenced by historical events and formed along the necessities imposed by the history is evident. Today, museums are not considered as places where only antic structures, artifacts, scientific materials or historical documents; they are perceived differently. In parallel to different perception of museums and their social duty, museology understanding has been evolved and new museum types have emerged. In our contemporary digital age in which information technologies have started to be utilized progressively in our every-day life, fast-paced development of internet technology and its expansion among users advanced museology further. Thus, concept of virtual museum considered among new museum types emerged and it succeeded to come to prominence through various practices. Virtual museology in Turkey is not developed yet as much as their counterparts in the world. Studies to promote the virtual museology in Turkey to the world have been intensified more than ever.

It was seen that utilization of virtual museums in teaching techniques has positive influence on learning process; and contributed in persistence of learning. Moreover, it was seen that users do not need any special expertise or skills to make use of virtual museums; only internet connection and a device connected to internet are needed. Virtual museums are also important since they waive admission fee and long wait lines before museums. Furthermore, virtual museums and virtual exhibitions play active role in promotion of cultural values and historical heritage. On the other hand, virtual museums are more convenient to include new information and documents as they exposed; or to re-arrange them in parallel to changing opinions or new opinions emerged in comparison with conventional museums. Accordingly, it is crucial to support and utilize from virtual museums in terms of country promotions for tourism, tourism activities towards handicapped individuals and tourism education.

In Turkey, infrastructure of virtual museums in Turkey is required to be completed at the first step in order to utilize them in tourism industry. The present study suggested that virtual museums are yet at their first development phase in Turkey. As number of studies on virtual museums increases, awareness towards them would rise and they could be utilized further in tourism.

4. SUGGESTIONS

As a result of this study, various suggestions were drawn for developing and increasing usage of virtual museology in Turkey an in tourism industry as follows:

✓ A shopping menu could be included in the official web sites of virtual museums so that products in conventional museum shops could be sold online. Hence, individuals who order these products could have a memorial object of this experience.

✓ In tourism education given at various degrees in Turkey, virtual museums are required to be utilized for superior competency and students are ensured to visit virtual museums in classroom environment.

✓ Since it was seen that virtual museums are not promoted in Turkey adequately; it is suggested that virtual museums are to use social media tools more actively and conduct promotion campaigns on social media.

✓ Web sites of the virtual museums in Turkey need to added foreign language support as much as possible so that visitors do not have difficulty with language. Multi-language infrastructure will be beneficent for international visitors.

✓ All virtual museums operated in Turkey need to collaborate and prepare monthly, semi-annually or annually; and to share them in advance to inform visitors. Thus, individuals who want to visit virtual museum or instructors who want to utilize virtual museums in their course could make better planning with respect to published museum plans.

✓ Remarkable and successful virtual museum examples around the world must be examined in terms of their operations, marketing, visitor management and functions; the relevant applications that would be beneficent to employ virtual museums in tourism industry in Turkey must be adopted.

✓ Visitors of virtual museums must be given opportunity to leave and share comments in a virtual guestbook and this must be common practice.

✓ Acquisition of statistical information on virtual museum visits is quite difficult. As it is known, success of virtual museums is assessed with number of visitors. In this regard, statistical data reported by search engines could be utilized so that origin country of visitors, their original links, keywords searched, and daily number of visitors could be shared.

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