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Federica Antonaglia. THE MAV, VIRTUAL MUSEUM OF ARCHAEOLOGY OF HERCULANEUM: A MODEL OF TECHNOLOGICAL AND MANAGERIAL INNOVATIONS. THE MAV, VIRTUAL MUSEUM OF ARCHAEOLOGY OF HERCULANEUM: A MODEL OF TECHNOLOGICAL AND MANAGERIAL INNOVATIONS, Aracne Editrice, 2013, Proceedings of the International Conference on Sustainable Cultural Heritage Management, 9788854864306. <hal-03420351>

**HAL Id: hal-03420351**

**<https://hal.science/hal-03420351v1>**

Submitted on 9 Nov 2021

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# **THE MAV, VIRTUAL MUSEUM OF ARCHAEOLOGY OF HERCULANEUM: A MODEL OF TECHNOLOGICAL AND MANAGERIAL INNOVATIONS.**

**Federica Antonaglia, PhD**

## **ABSTRACT**

This contribution focuses on technology and virtual reality as a way to achieve managerial and administrative innovations in museums management. Such a topic is discussed considering the results of researches conducted on MAV – Virtual Museum of Archaeology, and started in 2009 as a part of a wider comparative study between Italian and French museums.

**JEL H4, O3, L2, L3**

**KEYWORDS** Museums management, virtual museum, case study, technology, archaeology.

## **INTRODUCTION**

The archaeological area of Herculaneum raises about 10 miles away from Pompeii, in the heart of the modern town of Ercolano, a relatively depressed area suburb of Naples not exactly tourist-friendly. Formerly, Ercolano was a grand resort for Naples's patricians, who built their summer villas at the foot of Mount Vesuvius. This town is also one of the main areas that on August 24 of the year AD 79 were covered by the explosion of the Volcano. It buried the surrounding towns under layers of ash and rock and Pompeii and Herculaneum urbanized towns were wiped out in just 24 hours by the tragic eruption. This event over the life of these cities, but conserved them to be rediscovered by archaeologists nearly in the 16th century. They were conventional ancient Roman cities, and because of the astonishing ways in which they ended they have been able to turn out to be a lens through which we can comprehend and appreciate a whole society.

Today, Pompeii is Italy's most famous archaeological site, with an excavated area of 44 hectares. This area, together with Herculaneum and Villa Oplontis at Torre Annunziata provides a complete and vivid picture of society and daily life at a specific moment in the past that is without parallel anywhere in the world. Indeed Pompeii and Herculaneum are both UNESCO World Heritage Sites<sup>1</sup>.

Unlike Pompeii (pelted with pumice stones and buried by ash and lapilli), Herculaneum was covered by volcanic mud during the eruption, which quickly hardened to a semi-rock material and preserved everything, just sealing it. This has allowed a better conservation of the buildings. As a result, the volcanic mud that enveloped the site permitted the unusual preservation of wood, frescoes and mosaics from housing structures to room furnishings, allowing archaeologists to learn an incredible amount about the daily life and building techniques in Roman times. Herculaneum was only rediscovered by two men mining a well in 1720. For decades miners were sent digging to recover wonderful marble and bronze statues, which astonished Europe. Most of Pompeii, easier to excavate,

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<sup>1</sup> As part of the Vesuvius National Park, declared a World Heritage Site by UNESCO in 1997.

has been disclosed, most of Herculaneum still lies under a cliff of fossilized mud up to 25-metres dense, with the modern town perched on top (Kennedy, 2013).

Far few footsteps from the excavations of Herculaneum, rises MAV –Virtual Museum of Archaeology, centre of culture and technology applied to Cultural Heritage. It has been conceived in 2003, after the signature of an «agreement protocol» between the Municipality of Herculaneum and the Province of Naples, approved to transform and rehabilitate an abandoned building - a former school - situated on the way to reach the excavations, close to the archaeological site of Herculaneum. Located on the main road between the *Circumvesuviana* railway station and the archaeological site, the building host the C.I.V.E.S. Foundation<sup>2</sup>, created in late 2005 by the Province of Naples and the Municipality of Herculaneum to manage the upcoming museum.

Opened in 2008, this interactive space offers virtual reconstructs of the ancient Roman towns of Herculaneum, Pompeii, Baia and Stabia. MAV represents one of the most recent museum projects carried out in the Region Campania, is one of the biggest virtual museums in the world and the only virtual archaeological museum in the area. It stretches out on an area of over 5000 m<sup>2</sup>, with the upper floor dedicated to exhibitions regularly on display on a variety of subjects, a second floor hosting the biggest auditorium of the Region<sup>3</sup>, while the ground floor contains the expositive area. Here, the most modern technologies are used to consent visitors to live in Vesuvian cities, before the destruction of 79 AD.

Whilst the building itself, does certainly have windows, aside from for a few enclosed and separated offices and server rooms, the entirety of the museum is dark, windowless rooms, lit only by backlighting from the displays and enough overhead light to see by. The first curator of MAV, Walter Ferrara, specified that his stimulus came from seeing the ruins at night. He felt that was the best time to see the ruins. So, MAV reflects that. Unlike a typical narration of the ancient city, MAV does not display a static collection. Actually, MAV proposes a virtual and interactive tour during which visitors experience the emotion of travelling back in time to the moment before the eruption as described by Pliny. Thanks to modern technology, it presents a reconstruction of the daily life of Pompeii and Herculaneum through a multi-sensorial path composed by over seventy multimedia installations and multi-sensory exhibits that transport visitors to the Roman era. The journey begins with the virtual reconstruction of the faces of The Ancient Residents of Herculaneum and ends with a day to night recreation of life in Pompeii's town centre. The reconstruction is based on the contents of the letters written by Pliny the Younger to Tacitus, and it is viewed on a screen 26m long, with an immersive 3D projected up to 240 degrees, made through a sophisticated system of stereoscopic multi-projection. Thanks to this new product, MAV became 'MAV 2.0' in 2012. Moreover, since the end of 2011 it is possible to experience the eruption of Vesuvius thanks to a new technology: a multi-sensory screening 3D (i3D), which allows visitor to enjoy a truly immersive viewing experience.

Visitors can so fully appreciate the association of touch screens, interactive interfaces, holograms, a fog screen, as well as the museum's fun and interactive approach to learning. An actual visit helps normal visitors to understand better how a Roman city might have been. It uses immersive technologies both as ludic and educational tools and as a means of engaging in historical research, simulation and reconstruction. This gives the site a scientific dimension, reinforced by an on-site scientific team of experts that clearly sets MAV apart from theme parks. The proximity with the Archaeological area offers the advantage to combine virtuality with reality, making the MAV a place

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<sup>2</sup> Literally *Centro Integrato per la Valorizzazione di Ercolano e degli Scavi*. The Campania Region adhered the Foundation in May 2009 (source: [www.mav.it](http://www.mav.it)).

<sup>3</sup> Within three hundred seat-places, the auditorium is equipped with advanced technical tools and it is regularly used to project 3D movies, film premiers and to host plays and concerts.

for understanding, where the real and the imaginary meet to give life to new ways of learning and of entertainment.

## LITERATURE REVIEW

The present work belongs to Museum Management (MM) field, a body of knowledge resulting from the interrelated contributions on arts management, on museum studies and from cultural economics. All these branches, when properly taken into account, consent to conceive the sub discipline of MM as an enlightening one, able to capture different aspects of a complex phenomenon.

This area of research has known growing attention since the 1970s thanks to a climate of change that invested museums and their role in society (DiMaggio, 1987, Watson, et.al., 2007). Museums have started to be perceived in a different way than the traditional role of 'repository of objects' they had. To the traditional prime functions of museums – to gather, preserve and study objects –, a second one has imposed that is related to manage them as organisations that propose an educating and entertaining discourse to its public (Keene, 2002; Hooper-Greenhill, 2006). In accordance with how shown by the evolution of their definition over time, museums, traditionally defined by function (object-based activities), have become gradually defined by more abstract purposes (the intent, or mission to serve society) (McLean, 1994; Bennett, 1995).

Such a tension that foster change in managing museums institutions could be depicted as a shift of the interest from the 'back-office' activities to the 'front-office' activities (Dicks, 2003; Bernardi, 2005). At the same time, scholars denounce the scarcity of researches (Frey, Meier, 2006; Ebewo, Sirayi, 2009), above all of empirical researches, on many central managerial issues related to arts management, such the role of directors (Zan, 2004) and the innovations related to the application of new information technologies. Considering the economic and financial constraints affecting, among others, cultural and artistic sectors, and in view of the applications of new technologies that permit original ways to conceive and present collections, it can be asserted that museums are in a stage of transition. The focus on people and interaction extends to a museum the responsibilities to understand and satisfy their public. This seems to be the most fundamental change that has affected museums: the almost universal conviction that they exist in order to serve the public (Hudson, 2004). This symbolizes what Gail Anderson (2004) describes as the museum paradigmatic shift from "collection-driven institutions" to "visitor-centred" organisations.

The double perceptions of museums has been accepted from curators and administrators who run these institutions, but also at a social and political level, where museums today are seen as democratic space open to the public with the scope to educate and entertain them. This does not rend the work to realize all these different goals less complex. Actually, the extent to which museums develop some functions more than others vary a lot. The institutional and political environment greatly affects such a process. To shift the focus of the museum from an internal to an external perspective is, to the point of view of the writers, the fundamental reason at the basis of the interest of management in museum organizations (Harrison, 2005; MacDonald, 2006).

Since museums are making changes in their organisational structure and their approach to society, scholars on economics and business economics interpreted management theories as a way to better run such organisations, by applying 'business-like' tools and practices to them. Moreover, thanks to the development and the application of continuing technological innovations, didactic and amusement purposes of such organisations are finding different ways of expression and different commercial and educational opportunities.

By sum up, the general decrease in public expenditure, and the new role museums should play in a changing society, explains the attention paid to museum performance has promoted the development

of theoretical proposals and studies. It does not mean that management theory as we know it in the traditional managerial studies could be applied as such, but specific tools need to be considered in order to apply management to museum sector.

## DATA AND METHODOLOGY

This case study born as a part of a wider research produced during a comparative investigation between Italian and French museums that the writer completed during the research for her PhD Thesis, between 2009 and 2012. Within the two countries, a principle of homogeneity in the choice of the museums to be included in the sample has been followed, for a sample composed of six institutions<sup>4</sup>, representative in terms of typology, size, ownership and locations of museums. Because of the interpretative nature of the study, an empirical, qualitative development of the research has been considered the most suitable to address them (Bryman, 2008). At that time MAV was compared within Lascaux II<sup>5</sup>, a French private archaeological space proposing a virtual tour based on the reproduction of UNESCO Heritage Site located in its surroundings. Since that time, a deeper investigation of the Foundation C.I.V.E.S. and the strategy of MAV continued, till the construction of a single-case study based on an empirical research.

The objective of this contribution is to fill up at least one of the gaps just above evoked and highlighted by the Museum Management literature. By exploring the case of a completely virtual museum that exemplifies a new kind of museum as well as an implementation to the visit of the archaeological excavations of the ancient Roman town of Herculaneum, the writer tries to answer to the following research questions:

- ✓ How the MAV- Virtual Museum of Archaeology manages and develops its activity?
- ✓ What are the relationships between MAV and the close archaeological site of Herculaneum?

An analysis of second hand data – both public source of evidences and internal documents –, field observations and interviews were conducted to obtain a robust triangulation of methods. Triangulation is a strategy to improve validity and reliability of research as well as a way to evaluate the findings. Mathison (1988) elaborates this by affirming that triangulation has become an important methodological issue in qualitative approaches, useful to control bias and to establish valid propositions. Moreover, following Patton (2001), the use of triangulation « strengthens a study by combining methods. This can mean using several kinds of methods or data, including using both quantitative and qualitative approaches » (Patton, 2001: 247).

Concerning the sources of information, as recommended by the single-case method (Yin, 2004), evidences from different sources have been used: Internet and the web were used as a starting point to collect information resources about the organisation and their history. Also, Internet was used to gain additional data on the involved organizations and to gather information on the profile of the people interviewed before contacting them. The information available through the web allowed access to an enormous amount of ‘found data’ useful to build the history of MAV, to know the profile and the previous experience of the director and the board, and to prepare the researcher to meet them contextualizing the interview with the history of the organisation and the one of the territory in which

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<sup>4</sup> These organisations includes one Italian and one French Scientific Museum: IDIS – Città della Scienza (burned on 4 March 2013) and CAP Sciences; two artistic historical National Museums: Musée du Château de Pau and the National Museum of Capodimonte, both located in two royal palaces; and two private archaeological spaces proposing a virtual tour, based on the reproduction of UNESCO Heritage Sites located in their surroundings that are: MAV and, Lascaux II.

<sup>5</sup> “Lascaux II” is the reconstruction of the famous Caves situated near the Dordogne village of Montignac, in the French Region of Aquitaine.

the organisation operates. Next, the museum was asked to give all materials, documents and available reports.

Regarding field observation, it took the form of *mystery visiting* (Solima, Bollo, 2002). It preceded the interviews of MAV director. A visit was conducted using an evaluation grid (reported in Appendix 1) in order to take notes and collect information. Such grids are usually used in the conduction of surveys directed to evaluate museum services. The purpose of their use in this research was to get an insight into the comprehensive visitor's experience.

Concerning the interviewing strategy, a questionnaire was avoided because of its rigidity and instead a non-standardize inquiry was chosen that took the form of semi-structured interview enriched with narrative-based stimuli (Flick, 2011)<sup>6</sup>. A panel of expert was suggested to the research just after the final definition of the research question at the basis of the study. The object of interviewing these key informers was to provide an independent view about the museum sector in the Italian system, in order to define which relevant aspects should be considered in conducting the interviews. Members of this panel were chosen looking for knowledgeable people in museum field as well as people operating in other closely related areas (research in the field and, the arts). The contact and the meeting with each members of the panel were conducted informally during the first phase of the empirical research. These dialogues allowed testing the semi-structured interviews that were later used to meet the director of the museum, and also to make the writer more familiar with the process of conducting interviews. After that, MAV director *Ciro Cacciola* was contacted by email and telephone: during these first interactions an explanation of the objectives of the research was given. Since the beginning of the empirical research a high level of co-operation from Mr Cacciola was guaranteed and a timetable was agreed. Interviews were all tape-recorded and supported by brief field notes taken by the researcher to put each finding in context (Bryman, 2008).

Further than various mails and telephone-calls, I have had two main interviews within Mr Cacciola: both length an hour and half. Both were carried out in the spaces of the museum in July 2011 and in September 2013. After recording, the interviews were transcribed. The director was consulted about the preliminary findings of the research in order to strength the reliability of the study. His reaction, suggestions and comments were taken into account for the interpretation of data.

## **RESULTS AND DISCUSSION**

MAV opened in July 2008 and its success is accounted by the 73,428 guests that experienced it during its 1st year of activity. This project aims to preserve history, improve upon visitor participation and deal with shrinking budgets all in one.

MAV is a first in museums. It is a prototype for a new kind of museum. It is located a hundred metres from the ruins of Herculaneum. Unfortunately, tourists visiting ancient vestiges represent a real threat for the towns which survived the eruption. In such a context, MAV is an alternative to that fate, to persevere Herculaneum in all its glory for future generations. Inside its spaces however, everything it has taken is virtual. MAV stands as an attempt to use virtual reality in a physical museum, in lieu of actual exhibits. With a shrinking government budget to protect a rich cultural heritage, this virtual museum could become a model to preserve and valorise Italy's fragile archaeological sites in the future.

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<sup>6</sup> « There are semi-structured interviews: these are based on an interview guide with questions to be answered more or less openly and extensively. There are also narrative-based interviews, which focus on inviting the interviewees to recount (aspect of) their life history [...] a different path to discovering the subjective views of participants is found in the narrative interview. Here, it is not questions that are central. Instead, the interviewees are invited to present longer, coherent accounts [...] in the form of narrative » (Flick, 2011: 111 - 112).

The museum has been constituted by the establishment of a Private Foundation, Fondazione C.I.V.E.S., composed by the Region Campania, the Province and the Municipality of Ercolano. Its mission is to promote and valorise the close archaeological area of Herculaneum.

Since the 2nd year of activity the Curator of the museum changed. Today the Director is Ciro Cacciola, a manager and local politician. With a five years contract, Mister Cacciola started our first interview underlying the importance of a system of account and control in managing activities carried in public run organizations and using his temporary mandate as an example of the application of such a principle. « *I think that is vital to ask to a manager for result and to link his contract to his performance, above all when he uses public contributions to reach the institutions' goals* ». MAV is owned by a board composed by local authorities i.e., local politics: the implicit consequence is that local cultural policies largely influence the conduct of these organisations. In such a sense, he described the relationship with the board « *complex* » at the light of the serious economic situation.

Company mission is the promotion of cultural heritage by using new technologies. Keys to success are technology, innovation, 3D reconstructions, interactivity and virtual reality. To a one, displays are all monitors, touch screens, or backlit projections. In short, an experience that fully involves the viewer, who will feel ravished by multimedia technology and the astonishing effects that it produces.

Museums that combine an approach that is scientific in terms of content and modern in terms of the 'style' of applied pedagogy, can use immersive technologies as a way of attracting new visitors while at the same time educating the public (Srinivasan et al., 2009). The scientific rigor drives the activity of the MAV. All their products are conceived under the guidance and the supervision of a scientific on-site team and reinforced by the close collaboration within other scientific institutions. As an example, with the advice of the archaeologists of the site of Herculaneum and in strong collaboration with the National Institute of Geophysics and Volcanology (INGV), MAV has created a 15 minutes 3D film which reproduces the eruption of the Vesuvio.

Previous researches (Collin-Lachaud, Passebois, 2008) have shown a « favourable impact on immersive ICTs on the consumer experience generally as well as on the five sources of value [...] In managerial terms, the modern approach to archaeology adopted by [Virtual Museums] appears to be sound ». Moreover, MAV management appears conscious that « technological displays carry a high expectation of sensorial stimulation, and quickly become obsolete. So, the decision to introduce such technologies is a strategic one and must not be part of a short-term perspective » (id.: 69). Actually, MAV is already having a relaunch, with renewed technology and new contents. From my visit to the museum in late 2011, they are now offering a new 3D, a video wall plasma installation presenting the reconstruction of Herculaneum's theatre and a film of Herculaneum's Central Baths through which publics revive the ancient thermal environments.

The significant effort made by the Foundation C.I.V.E.S. consolidate and boost the presence and activity of the MAV in spite of the serious national economic situation. Even though these recent investments the Director - during our first interview in July 2011 -, spent many words to describe the possible consequences of the recent cutting in funds. Because of the economic serious situation of two of the three main founders – the Region Campania and the Municipality of Ercolano -, a big part of the public grants designated to MAV were under discussion. MAV at that time had an excellent performance within the museum context: 35% of its resources derived by their ordinary activity. The good performance of this organisation still last, within the museum's activity largely based on self-finance and that gained a balanced budget for the year 2012-2013<sup>7</sup>. In September 2013, the amount of self-finance directly derived by the ordinary activities of the museum rises to 60%. The most significant part of such resources derives from tickets sold by the museum, followed by the consulting

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<sup>7</sup> As affirmed by the director, Mr Cacciola, during our last interview in September 2013.

activity conducted by its technical staff. Actually they worked on different museum projects, as the one settled for a municipality of the Puglia Region. One of the long-term strategies the MAV intends to develop for its future survival and growth is related to the exploitation of their unique knowledge. Such demonstrating this organisation is well conscious of the importance of its intangible resources i.e. its staff and their knowhow. Finally, a third resource of income derives from renting the auditorium for different happenings, both business as well as cultural activities.

One aspect on which the Director focused his attention when speaking about the future of the museum during our interviews is related to the 'Tour' planned for a part of the MAV's exhibit. In his view, the virtual nature of MAV 'collection' consents to plan the permanent tour of its displays. Such a product covers both the role of a special way to promote the area and attract new tourists to the real site as well as a way to the MAV itself to reach most public and find a way to rend sustainable the museum, even in times of strong shrinking funds.

The project, called "MAV on Tour", since its first display in Chili in 2010<sup>8</sup> lasting proposing huge exhibitions all around the world. Not surprisingly, when foreigner institutions have the opportunity to expose artefacts and evidences of the roman ricin of our civilization, the results are remarkable at a global level. Actually, in 2012, MAV conceived a special exhibit, presented in Empuries, one of the most important archaeological sites in Catalonia, Spain, in partnership within the Spanish *Germán Sánchez Ruipérez Foundation*. Than it has been the moment to produce a special project, specifically conceived for the British Museum's Pompeii and Herculaneum Exhibition *Life and Death. Pompeii and Herculaneum*. This major exhibition on the Roman cities of Pompeii and Herculaneum, sponsored by Goldman Sachs, it has been the first ever held on these important cities at the British Museum, and the first such major exhibition in London for almost 40 years. It is the result of close collaboration with the Archaeological Superintendence of Naples and Pompeii, it brings together over 250 objects, both recent discoveries and renowned finds from earlier excavations. Many of these objects have never before been seen outside Italy<sup>9</sup>. The British Museum asked to MAV to reproduce *The House of the Tragic Poet and the story of the poet Orpheus*, to underline the emphasis on the domestic context of the people of Pompeii and Herculaneum. Running from 28 March to 29 September 2012, with tickets sold out for a total visitors of 450,000 and an income of 7,000,000£, the MAV's contribution to this exhibition well shows the exceptional advantage of no-collections based museums, i.e., mobility and reproduction. An exposition where the integrity of the structure can be doubled and transported all over the world, without typical obligations of a traditional museum, represent a new way to promote and exploit our patrimony. Also in 2013, again within the Germán Sánchez Ruipérez Foundation same Foundation, MAV conceived a new huge exposition, a virtual reconstruction of the Villa of the Papyri and its Epicurean philosophical library as they were in 79 BC, and one called *Re-reading*, which brings visitors to Ercolano in 1750, when the Bourbon monarchy's excavations brought the past to light. Running October 17-April 23, the show will take place in Madrid's former slaughterhouse, the *Casa del Lector*, it will feature more than 100 archaeological finds on loan from the Naples National Museum and National Library. « *The idea was to do a specific show, not a repetition of the one currently at the British Museum, which also worthy* », explained MAV Director. « *We are trying to systematically look at ancient Roman civilization by focusing on reading and writing* ». MAV will also produce a multimedia section with previously unpublished materials. Main attractions of the exhibit will be the papyruses themselves, many of them rolled up and others stretched, and carried on special climate-controlled and vibration-less trucks. « *We can now spread the word about our immense cultural heritage through new technologies, putting the new generations in touch with archaeology* »,

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<sup>8</sup> With an exhibit showed at the third edition of the Universal Forum of Cultures.

<sup>9</sup>Source : [http://www.britishmuseum.org/about\\_us/2012/pompeii\\_and\\_herculaneum.aspx](http://www.britishmuseum.org/about_us/2012/pompeii_and_herculaneum.aspx).

explained Nicola Oddati, who curated the show along with Spanish colleague Carlos Garcia Gual<sup>10</sup>. « *It will be an archaeological but also a technological show, with an immersion through virtual reconstruction bringing viewers into the atmospheres, fragrances and sounds of the Villa of the Papyri. The show travels to Naples next year, to a still to be defined location* », Cacciola explained.

Another point of interest emerged by the dialogue with Mister Cacciola is related to the relationship with other cultural local organizations. In 2011 I registered an almost totally lack of integrated vision and any synergic offer conceived among different cultural and artistic local sites. « *Such a lack of team working and common vision to exploit our cultural and artistic richness represents the biggest error we are doing, above all in times of financial constraints. The risk is to loose resources without obtaining significant results in terms of economic returns for our depressed areas* », affirmed Mr Cacciola in 2011. MAV is near the actual site of Herculaneum: it attempts to show it how it was not how it is now. Finally, an interesting partnership between the two institutions has been put in place for the summer season 2013. « *We overcame a prejudice! I though they perceived us as a theme park...this was my sensation, but maybe I was wrong. [...] This year (2013), thanks to the director of the site of Herculaneum, we started a closest partnership [...] In the frame of the ministerial national happening 'A night at museum' the archaeological site of Herculaneum started to host some special virtual reconstructions, normally exposed in our MAV, in order to propose a fascinating evening visit of the ruins together with virtual reconstructions and light path* »<sup>11</sup>.

When I met Mr Cacciola in 2011, any official form of integrated visit to the 'real' site and to the virtual museum existed. Two years later, MAV is one of the cultural institutions included in the ArteCard<sup>12</sup> network (a card conceived in different versions and packages both for citizens and for tourists, that integrate discounted tickets for different museums and the tickets for the local urban transport system for free).

Although the dynamic and pro-active attitude of the MAV's staff and a management that support a market-oriented strategy (McLean, 1997; Bagdadli, Paolino, 2006) the public support rests vital, as for the majority of museums. Concerning such a point, any presence of private partner and sponsor has been registered. Fundraising and patronage are becoming common words even for the Italian cultural field (Besana, 2008; Lindsqvist, 2012), but the presence of sponsors and private giving still rest very poor. For MAV Director, an institutional and normative transformation is needed to consent private donors to fund Italian museums and heritage. « *I have stressed the problem to ministerial level: our legislation doesn't encourage private investors or single patron to participate. When a private sponsor tries to support our patrimony, even the most concrete projects falls down into bureaucratic obstacles* ». Recently, Italian Ministry for Cultural Heritage has defined new technical rules and operational guidelines for the implementation of the private sponsorship of cultural goods. The fundamental issues of the recent law<sup>13</sup> are: the clarifications on the scope of application of the rules on the choice of the sponsor introduced by the new section 199-bis of the Italian Public Procurement Code and the consistency of the benefits granted to the sponsor in return for its contribution with the need to adequately protect the cultural heritage (DiMauro, 2012). Times will show if such a normative innovation will help and will spread the diffusion of private donors and supporters in Italian museums.

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<sup>10</sup> Source: ansa.it.

<sup>11</sup> For more information on the ministerial event "A night at museum", please consider <http://www.beniculturali.it/mibac/>.

<sup>12</sup> See <http://www.campaniartecard.it/site.cfm?id=19#>.

<sup>13</sup> The law we refer to is the *Decreto ministeriale 19 Dicembre 2012*, available at <http://www.beniculturali.it/mibac/export/MiBAC/sito-MiBAC/MenuPrincipale/Normativa/Evidenza/index.html>.

## CONCLUDING COMMENTS

The MAV – Virtual Archaeological Museum of Herculaneum is a paradigmatic example of the application of complex technologies for scopes of education and edutainment. It is a completely virtual museum that bases his *raison d'être* not on a collection, but on the offer of a unique experience around the sites located in its surroundings. The spectacular exhibits proposed into the spaces of MAV give the visitors the opportunity to amuse and deeper the knowledge of the daily life at the time before the eruption of the Vesuvius.

But above all, such case made me able to face an important subject in museum and heritage management i.e. the one concerning the problematic of how to manage the necessity of conservation with the ones of valorisation and fruition to the visitors. The topic of the consumer experience and the way in which immersive ICTs affect an individual's experience is at the core of the most recent reflections on museum management (Sigala, 2005; Russo, Watkins, 2005; Sylaioua, et al., 2010). So, this case consents to deep on important topics for all museums: the vital debate around the problem of preservation and the needs of valorisation and diffusion of the heritage. « A necessary condition for the generation of knowledge is engagement with objects, but engagement involves more than perception and cognition; it involves purposiveness and interpretation—intentionality » (Srinivasan et. Al., 2009: 267). In this sense, an intuitive approach to presenting information based on new way to conceive a museum space, able to educate and amuse even without a physical collection, represents a good way to attract new public and to destroy the old fashion image of museums as spaces that involve dusty artefacts and crusty curators.

Admiring archaeological remains often preserved in inaccessible areas for tourists, visiting closed areas, reproducing lost spaces and events, discovering knowledge usually reserved to specialists are all opportunities concretely offered by the application of new technologies to museums' exhibits. Moreover, museums based on the use of new technologies and not collection-based have another exceptional advantage: mobility and reproduction. An exposition where the integrity of the structure can be doubled and transported all over the world, without typical legal and financial obligations of a traditional museum, represent a new way to promote and exploit our patrimony. Knowledge, art and history can meet the public everywhere thanks to the reproducibility of these exhibits. Furthermore, another advantage of no collection-based exhibits is that these areas have no security guards beyond the front desk. There are no ropes, no warnings not to touch the exhibits. There are also no alarms, no security guards and no signs saying "Do Not Touch". They are rather conceived to touch them. Actually, MAV has several horizontal touch screen surfaces scattered throughout the museum, functioning as both tables and as interactive display surfaces, able to call up information on a whim, and access the central databases. Some can even affect the displays on the walls around them, changing those to meet inputted data. Wherever possible, the displays, even when they have limited interactivity, are not completely static. Little animations, in even the tiniest detail can bring the concept of life two thousand years ago, back to life. Some of the displays start off when you first see them, as walls of dirt, projected onto a display. This aspect has relevant consequences in terms of operational costs as well as in terms of freedom given to the visitors in 'using' and experiencing the exhibit area.

« This is also the best way to make these towns live in the future, because otherwise I think they will be destroyed again and not by Vesuvius, but by people ». These are the worlds of the archaeologist Caterina Cozzalino<sup>14</sup>, which well expose what virtual reproductions of a fragile as well as inestimable patrimony can mean for future generations. MAV represents a sole example in which a new interactive space can cover the role of a complement to the visit of the original ruins as well as a good alternative in the case of heritage in damage.

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<sup>14</sup> Source: [http://news.bbc.co.uk/2/hi/programmes/click\\_online/7610956.stm](http://news.bbc.co.uk/2/hi/programmes/click_online/7610956.stm).

As the other cases contained in the broader research I conducted from 2009 to 2012, also the MAV showed how the economic difficulties that are affecting the country influenced its ability to manage the institution. The MAV still predominately derives its funding from public authorities. The decrease in public supports and the uncertainty regarding the effective allocation of already assigned public funds does not push such organisations to look more for private partnerships, thus showing little confidence in the Italian legislation that does not allow private sponsorship and patrons to act as possible substitute or in complement of declining public funds.

This institution has also showed a 'business like' attitude in at least two ways. First, in the development of a consultant activity directed to exploit their specific knowhow and their experienced staff; second, by collaborating with other cultural institutions. So, a general consideration is related to what business world defined as the 'managerial soft skills' (Andrews J., Higson H., 2008) useful to build alliances and collaborations, managing a variety of relationships internally and externally, that have found a valid example in the managing activity of the MAV director. Actually, the main weakness registered in 2011 and represented by the lack of synergy in delivering an integrated offer with other cultural and educative space of the city seems to be reduced at the light of the recent cooperation established both in the local area as well as within other international institutions.

Finally, the virtual museum showed a good orientation to marketing activities, but the MAV lack the necessary flexibility to build relationship with private partners and fundraisers.

There are some limitations associated with this study. The most remarkable one is probably related to the impossibility to generalize the conclusion of this case to the entire sector. For the future, an empirical quantitative investigation in the Italian as well as in the European museum context could be helpful. Finally, from this case we can view museums as 'nearly-organizations' (Chierieleison, 2003) in which the lack in organizational autonomy implies an interdependent relationship with public institutions. So, another interesting progress of the present work could be represented by broadening the unit of observation to the members of the MAV Board, in order to investigate their vision and their position on the application of strategic management and multimedia technology to museums as well as to understand better the relationship they build with the managing Director and staff.

One of the beliefs from which this research arose resides on the observation that most of the literature on Museum Management (MM) has been conceived within the context of U.S. and Anglo-Saxon museums and that its application to European museums presents limits and mismatches that claim for direct investigation into the specific context. Such limits seem reinforced by the scarce managerial orientation offered at a legislative level in the observed Italian context. A lack of norms and regulations able to give to museums the degree of autonomy necessary to accomplish to those requests for efficiency and transparency claimed by managerial contribution on the topic as shown by different ways to run such organisations - as the case of the UK museums, that adopted 'The Museum Accreditation Scheme'<sup>15</sup> since 1988 - do not support the *managerialisation* path of museum organizations. At the same time, in recent years, management – from the 'dirty word' that was for those involved in cultural and artistic organizations – has been to some extent accepted. Most museums learned that non-profits and artistic institutions need management even more than business does, precisely because they lack the discipline and the planning tools necessary to simply govern and continue to run such organisations in more autonomous and efficient way (Anderson, 2004). These acceptance of managerial practices is also lied to the dramatically expansion of the range and scope of museum activity.

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<sup>15</sup> The Accreditation Scheme sets nationally agreed standards for museums in the UK. Source: <http://www.artscouncil.org.uk/what-we-do/supporting-museums/accreditation-scheme/>.

To sum up, what appears important is to dump managerial reflections from the idea that it means run these organisations as business-like ones. However, MM has to be seen as an analytic tool to reach the goals of museums as organisations oriented toward its public, that need to find a balance between internal, scientific goals and external, market oriented needs.

## APPENDIX

### Appendix 1.

1. Identification data		
Museum:		
date of the visit		
	Yes	No
2. pre-visit - booking mode, gathering information		
<b>a) booking by phone</b>		
it is possible to book (by phone)		
it is possible to get more information		
<b>b) online services - website</b>		
it exists a museum website		
it is updated, clear, intuitive		
it is available in different languages		
(to specify)	...	
it is possible to buy tickets online		
it is possible to book the visit by email		
3. pre-visit - street signs; brochures		
near the museum there is a clear street signs that directs to the entrance		
<b>a) brochure</b>		
there are brochures at the museum entrance		
they give information about museum opening times		
they give information about ticket prices		
they present the museum's collections and temporary exhibitions		
brochures are available in different languages		
4. visit - entrance to the museum		
<b>a) pre-information</b>		
information about the museum is available before going to the ticket office		
it is available in different languages		
<b>b) internal signs</b>		
internal signs suggests the beginning of the visit pathway		
internal signs directs to the services (toilet, coat check, café etc.)		
<b>c) info point</b>		
at the museum entrance there are visible info points (except ticket off)		
staff is present		
staff is easily identifiable		
<b>d) guided tours/ audio tours</b>		
guided tours are available		

guided tours are available in different languages		
audio tours are available		
audio tours are available in different languages		
<b>e) coat check</b>		
there is a coat check		
coat check service is free		
<b>5. visit - exhibition space</b>		
<b>a) museum attendants/security staff</b>		
staff is willing to help		
staff is courteous		
staff is able to direct visitors within the museum correctly		
<b>b) directing</b>		
internal signs guides the visit pathway		
maps are available for the visitors		
they are clear and understandable		
<b>c) comfort of the museum visit</b>		
museum rooms are clean		
benches or chairs are available for the visitors		
lighting enhances artwork		
<b>d) support tools for the visit</b>		
there are captions		
they are readable		
they are translated in other languages		
there are information panels		
they are readable		
there are movable sheets		
they are readable		
information panels/movable sheets are translated in other languages		
<b>6. additional services</b>		
<b>a) museum shop</b>		
there is a museum shop		
it is visible		
staff is courteous		
staff is efficient		
<b>b) café</b>		
there is a café		
it is visible		
staff is courteous		
staff is efficient		
café space is clean		
it is possible to sit		

## REFERENCES

- Anderson G. (2004) *Reinventing the Museum: Historical and Contemporary Perspectives on the Paradigm Shift*, Walnut Creek, Cal.: AltaMira Press
- Andrews J., Higson H. (2008) "Graduate Employability, 'Soft Skills' Versus 'Hard' Business Knowledge: A European Study", *Higher Education in Europe*, vol.33(4), p.411-422
- Bagdadli S., Paolino C. (2006) "Institutional Change in Italian Museums: Does the Museum Director Have a Role to Play?", *International Journal of Arts Management*, vol.8(3), p. 4-18
- Bennett T. (1995) *The Birth of the Museum: History, Theory, Politics*, London: Routledge
- Bernardi C. (2005) "The Strategic Development of Museums: A System Dynamics Approach". *8<sup>th</sup> International Conference on Arts & Cultural Management (AIMAC)*, HEC Montréal, Montreal, Canada, 3-6 July 2005
- Besana A. (2008) *Priorities for the Italian Cultural Firms*. Retrieved August 8, 2013, from <http://mpira.ub.uni-muenchen.de/9755>
- Bollo A. & Solima L. (2002) *I musei e le imprese. Indagine sui servizi di accoglienza nei musei statali italiani*, Napoli: Electa
- Bryman A. (2008) *Social Research Methods* (Third Edition), New York: Oxford University Press
- Chirieleison C. (2003) *La gestione strategica dei musei. Collana di studi economico aziendali E. Giannessi*. Milano: Giuffrè
- Collin-Lachaud I., Passebois J. (2008) "Do Immersive Technologies Add Value to the Museum going Experience? An exploratory Study Conducted at France's Paléosite" *International Journal of Arts Management*, vol. 11(1), p. 60-71
- Dicks B. (2003) *Culture on display: the production of visitability*, Maidenhead: Open University Press
- DiMaggio P. (1987) "Classification in Art", *American Sociological Review*, vol.52(2), p. 440-55
- DiMauro F. (2012) "Le norme tecniche e linee guida applicative delle disposizioni in materia di sponsorizzazioni di beni culturali: I tratti essenziali", *Aedon, rivista di arti e diritto on line*, vol. 2012(3)
- Ebewo P., Sirayi M. (2009) "The concept of arts/cultural management: A critical reflection", *Journal of Arts Management, Law & Society*, vol. 28(4), p. 281-295
- Flick U. (2011) *Introducing Research Methodology, A Beginner's Guide to Doing a Research Project*, CA: SAGE
- Frey B. S., Meier S. (2006) "The Economics of Museums", in: Ginsburgh V. A., Throsby D. (1018-1040) (eds.), *Handbook of the Economics of Art and Culture*. North-Holland: Elsevier
- Harrison J.D. (2005) "Ideas of Museums in the 1990s", in Corsane G., *Heritage, museums and galleries: An introductory reader* (p. 38-53), London: Routledge

- Hawkey R. (2004-09) "Learning with digital technologies in museums, science centres and galleries". *Futurelab*, Retrieved August 27, 2011, from <http://archive.futurelab.org.uk/resources/publications-reports-articles/literature-reviews/Literature-Review205>
- Hooper- Greenhill E. (2006) *The Education Role of the Museum*, (3<sup>rd</sup> ed.). London: Routledge
- Hudson K. (2004) *The Museum Studies*, US: Blackwell Publishing Ltd
- Keene S. (2002) *Managing Conservation in Museums* (2nd revised edn), Oxford: Butterworth Heinemann
- Kennedy M. (2013) "British Museum to showcase relics from Pompeii and Herculaneum", *The Guardian*, Retrived April 24, 2013 from [www.guardian.com](http://www.guardian.com)
- Lindsqvist K. (2012) "Museum finances: challenges beyond economic crises", *Museums Management and Curatorship*, vol.27(1), p. 1-15
- MacDonald S. (2006) *A Companion to Museum Studies*, Oxford: Blackwell
- Mathison S. (1988) "Why Triangulate?", *Educational Researcher*, vol.17(2), p. 13-17
- McLean F. (1994) "Services marketing: The case of museums", *The Services Industries Journal*, vol. 14 (2), p. 190–203
- McLean F. (1997) *Marketing the Museum*. London: Routledge
- Patton M.Q. (2001) *Qualitative Research and Evaluation Methods* (2<sup>nd</sup> Ed.), CA: SAGE
- Russo, A., & Watkins, J. (2005) "Digital Cultural Communication: Enabling new media and co-creation in Asia", *International Journal of Education and Development using ICT*, vol.1(4), p.4-17
- Sigala, M. (2005) "A Learning Assessment of Online Interpretation Practices: from Museum Supply Chains to Experience Ecologies", *Information and Communication Technologies in Tourism, Proceedings of the International Conference in Innsbruck, Austria, 2005*, p. 67-78
- Srinivasan R, Boast R., Furner J. and K.M. Becvar (2009) "Digital Museums and Diverse Cultural Knowledges: Moving Past the Traditional Catalog", *The Information Society*, vol.25(2), p. 265–278
- Sylaioua S., Maniab K., Karoulisa A. and M. Whitec (2010) "Exploring the relationship between presence and enjoyment in a virtual museum", *International Journal of Human-Computer Studies*, vol. 68(5), p. 243–253
- Watson S., MacLeod S. and S.J. Knell (2007) *Museum Revolutions: How Museums Change and are Changed*, New York: Routledge
- Yin R.K. (2004) "Case Study Methods", in Green J.L., Camilli G., Elmore P. B. *Handbook of Complementary Methods for research in Education*, Washington: American Educational Research Association, 111-122
- Zan L. (2004) "Accounting and management discourse in protoindustrial settings: the Venice Arsenal in the turn of the XVI Century", *Accounting and Business Research*, vol. 32(2), p. 145–175

## **BIOGRAPHY**

The writer conducted between 2010 and 2012 a comparative investigation between Italian and French museums to acquire the Ph.D. in Entrepreneurship & Innovation obtained in 2012 at the Second University of Naples, Department of Strategic Management and Quantitative Methodology, Faculty of Economy. The title of the original work, not yet published and supervised by Prof. L. Solima, is *The Art of Decision Making Process: a comparison between Italian and French Museums*. The author, teacher in arts marketing and management at ESC Pau Ecole de Management and at KEDGE Business School in Bordeaux continues her researches in museum management as well as in the creative industry's field.