# Digital Technologies to Fight the Pandemic Crisis: Evidence from The Vatican Museums

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### Abstract

Museums assume a central role in our social orders. In addition to the fact that they preserve our legacy, yet they likewise give spaces in which to encourage instruction, motivation, and exchange. Based on the values of respect and cultural diversity, museums fortify social cohesion, foster creativity, pass on collective memory and act as agents of sustainability. Besides, their role in supporting other industries, for example the tourism sector, is a vital factor to favor local and national economies. During unexpected occurrences, various cultural and professional organizations have already kept on loaning themselves as sources of resilience and backing for networks, growing new frameworks to guarantee access to culture and training. However, it is fundamental to identify how museums and cultural institutions affirm their social role by modifying the channels available when an unpredictable event affects their everyday business.

This article aims to understand how museums adjust to the changes forced by unexpected occurrences, namely COVID-19, especially by exploring how they use social media channels to react and to recover from the repercussions of emergent circumstances.

**Keywords:** Museums, Digital Technologies, Social Media, COVID-19.

## 1. INTRODUCTION

COVID-19 has helped to underline the evident limits of a series of cultural approaches that are lacking and now outdated, or at least imprecise and superficial, which have existed for a long time and are deeply rooted in the practices, choices, and strategies of several museum institutions.

In this period of lockdown, characterized by individual isolation and general closure, it was possible to question many museum issues and to rethink about useful strategies for a cultural revival. For many players in the field, the web has proved to be a fundamental tool for interaction and discussion. Various museums and cultural contexts, even though with quite different outcomes, tried to exploit the digital to stay present, keep alive the connection with their audiences, experiment with new possibilities of involvement, question themselves and develop a reviewed strategic analysis. In this regard, all the work carried out by the Network of European Museum Organisations (NEMO) was a useful and constructive monitoring tool, which kept the debate alive, supported the museum community, motivated cultural activities, and policies. In fact, according to a survey conducted by this organization, even though more than 70% of museums have been closed, many of them have been incredibly active, both online and offline, in supporting their communities to cope with the emergency [1]. In general, almost all museums offered digital initiatives and exhibitions, blogs and stories published on Instagram and Facebook, virtual tours, art-education apps, YouTube channels with talks and conferences, short and funny

videos on museum collections, re-use of objects creatively, along with documentation on the pandemic and donations of materials needed by hospitals.

The weeks of physical closure of places of culture have stimulated creative responses from cultural institutions which, leveraging digital technologies, have increased their cultural offer by attracting new audiences. Starting from the digital initiatives implemented by the Italian museums during the lockdown weeks, this article aims to offer some contributions on possible future scenarios of cultural use. Central element of the reflection is represented by the role that digital has played in the closing weeks and its possible future declinations. The increased usage of digital technologies induced by COVID-19 is an opportunity for scholars and practitioners to analyze how cultural organizations have acted over a short period, providing useful insights for the long term.

Given this premise, this article examines the acceleration of digital technologies within cultural organizations forced by the COVID-19 pandemic by examining the following research questions:

RQa)    How museums used social media to face a critical event?
RQb)    How social media can help museums attracting new audiences?
RQc)    What are the organizational implications of using digital technologies for museums?

To answer to these research questions, a case study method is used. Qualitative case study is an examination technique that supports the analysis of a phenomenon inside a specific setting through different information sources. Moreover, it embraces the analysis through multiple focal points to uncover numerous aspects of the phenomenon itself.

The article provides an example from the Italian cultural setting: the Vatican Museums. The choice is driven by several reasons: i) the increased demand for museums to deliver digital transformation, pushed by both recent development in technologies and public policies [2]; ii) the Italian cultural context is the ideal setting for the analysis since the Italian government has recently encouraged Italian museums to expand their cultural participation by enabling new alternatives to engage with visitors, both online and onsite; iii) the Vatican Museums is one of the most visited around the world which attract almost seven millions of visitors per year. Thus, this implies that being forced to provide their services only online, the Vatican Museums had to adapt rapidly to the contingent situation to avoid a decrease in the reputation and in the recognition from the audience.

The remainder of the paper is organized as follows. Section 2 reviews the relevant literature on how museums used digital technologies during COVID-19. Section 3 deals with the methodology and the Vatican Museums case study. Section 4 presents the findings and the challenges for the future. Section 5 provides conclusions, limitations, and suggestions for future research.

## 2. LITERATURE REVIEW
### 2.1 Museums and Digital Technologies During COVID-19
Some authors have faced the topic of technology within museums, especially as tools to achieve effective communication skills. The development of advanced communication tools and a number of users more and more connected thanks to their mobile devices has pushed museums to use increasingly alternative channels through which interact with potential visitors. Facebook, Twitter, Instagram, YouTube are online platforms used to promote and disseminate information on the events and the activities that the museum organizes [3]. At the same time, given the popularity of these platforms, their use contributes to increasing the status of the museums themselves [4].

Previous researchers have investigated the use of social networks in various cultural organizations, including museums [5] [6] [7] [8]. The use of these channels has greatly contributed to museum communication [9] by offering, among other things, the possibility of innovating one of the most important mechanisms in the museum-visitor relationship: the level of

satisfaction with the experience. The latter is based on a participatory and experiential approach through which museums strengthen their relationship with visitors, increasing their emotional involvement even after the experience [10] [11].

Thus, the use of digital allows to extend the relationship between museums and visitors. It makes it possible to develop and improve post-visit learning and create the concept of a participatory museum [12]. Therefore, digital technologies have allowed new forms of participation and new levels of visitor's involvement.

Additionally, social media offers new ways of interaction that go beyond physical museum spaces: from 3D representations to video contributions, from electronic databases to digital collections [13] [14] [15]. Through these tools, digital transformation has made it possible to establish direct communication with the target and to bring the experience beyond the walls of the museum.

The use of new technologies by museums is an extremely relevant element in the analysis of the visitor's experience. As already demonstrated by numerous studies on the topic, new technologies (social media, mobile, analytics, etc.) can help both large cultural institutions and smaller ones in providing a service that is increasingly appreciated by those who benefit from the cultural experience [16] [17] [18]. Previous studies, however, have traditionally been based on data and analyzes carried out under normal conditions. This normality has disappeared with the spread of COVID-19 and this entails the need to start a new reflection on the subject that tries to highlight how museums can use these technologies in a totally different context characterized by great uncertainty about the future.

The COVID-19 pandemic has forced many countries into lockdown and has shut all the businesses not considered essential ones. In Italy, the lockdown started on 8 March 2020 and all the cultural institutions were forced to close their doors and to stop providing onsite services. This induced museums to use digital technologies to provide alternative ways to engage with their audiences. Specifically, they use social media abundantly to retain user engagements.

Even before COVID-19, Italian museums were already using social media with the objective of encouraging public participation through information and communication on the main online platforms like Facebook, Instagram, or YouTube. That represents the optimal way to interact with a more digitalized population. However, in the pre-COVID scenario, a strategic and structured adoption of digital was a privilege for a few museums. In fact, as demonstrated by Agostino et al. (2020) [19] in their research on the level of digitization of a sample of Italian museums, only a small percentage of them had a strategic plan dedicated to digital innovation before COVID-19.

The pandemic situation stimulated cultural institutions to rethink about the usage of social media. Indeed, with the lockdown, museums started using social media no longer as tools for communication and information but as means for delivering a public service [20]. Thus, museums, libraries, archives, theaters have created a large number of digital products intended for publication and sharing on the web.

Museums are increasingly inclined to use new means of communication to increase accessibility to collections and interact with their audience. This new approach has shown itself to be a great opportunity for those museums which, during the COVID-19 pandemic, have increased and improved their interaction with the public [21].

Regarding museums, most of the digital content consists of in-depth analyzes on themes or elements of the collections, often presented in appointments on a more or less close regular basis. The museum institutions have made a selection of artifacts, paintings and works of art - from the most well-known or even iconic pieces of the institution, to the less known or curious ones - and made them available on the web, especially through social channels. Depending on

the online platform used and the target, museums published posts, photographs, cards or, very often, video contributions.

Often, the video contributions showed the director, staff members or collaborators of the museum illustrating one or more works from the collection, sometimes with a more informative register, in other cases with communication methods and language intended for an expert audience. In some cases, the institutions have offered both videos for children, where the playful element prevailed, and interventions for adults.

Some important museums have chosen to illustrate spaces and materials that are not normally visible to the public such as deposits, and have curators and technicians spoken about the management of the heritage or the preparation of museum spaces.

## 3. METHODOLOGY
### 3.1 The Case Study Methodology
The Vatican Museum serves as a case study to discuss how museums use digital technologies during COVID-19.

According to Harrison [22] is a "(…) case study research of particular value where the theory base is comparatively weak and the environment under study is messy".

Both criteria are relevant to this paper. The extant literature on digital technologies usage during COVID-19 by cultural organizations is scarce due to the novelty of the situation that is still ongoing. Thus, the generalization of this phenomenon is not to be given, so that here must be used a case study. By determining that the focus of the paper is the analysis of the usage of digital technologies by cultural organizations during COVID-19, the author was able to select the right case to study.

This paper, following McLeod (2008) [23] and Yin (2006, 2008) [24] [25], uses a mixed methodological approach. Indeed, the paper uses both primary and secondary data. Primary data derives from semi-structured interviews with people operating in the cultural field. Specifically, seven interviews have been conducted during the months of the closure with the following individuals: three museums' directors, two museums' social media managers, a museum's responsible of the digital strategy, and a museum's press relations specialist. The interviews were recorded.

There are several advantages in using the interviews as the method for data collection:

a) It has the potential to overcome the poor response rates of a questionnaire [26];
b) It can facilitate the comparability of the answers by different respondents [27];
c) It gives the possibility to observe the non-verbal indicators, which is useful when discussing specific issues [28].

Secondary data were gathered from various published materials such as social media posts, website materials, newspapers. Specifically, data about the usage of social media by the Vatican Museums have been collected by monitoring the social media channels. We have monitored 295 posts on Instagram published between the 9th of March 2020 and the 1st of January 2021. Additionally, in the same period we have constantly monitored the Instagram Stories of the Vatican Museums account to see how many people interacted with tags and reposts.
The data collected for this work have all a qualitative nature.

### 3.2 The Vatican Museums and The Usage of Social Media During COVID-19
In coordination with the measures launched by the national authorities, in March 2020 the Vatican Museums were forced to close their doors to the public. For an organization that is generally able

to attract almost seven million visitors per year, this has resulted in an estimated loss of millions of euros after months of closure.

During the lockdown weeks, it was decided to bring the beauty of the Vatican Museums directly at home. The pontifical collections continued to be available in one click directly on computers, smartphones, and tablets with the aim of never ceasing to reveal the timeless beauty of so many masterpieces to users around the world. Several virtual tours have been proposed on the official website: from the Sistine Chapel to the Pio Clementino Museum, from the Chiaramonti Museum to the New Wing, from the Raphael's Rooms to the Niccoline Chapel, up to the Room of the Chiaroscuri. The online visitor was able to explore each of these environments, moving in every direction and focusing on even the smallest details of the pieces of art, reproduced in high definition.

Furthermore, daily, the official Instagram account, opened a few months before the pandemic emergency, proposed details of the Vatican masterpieces accompanied by short captions that helped to understand the history and meaning of many works. Therefore, virtual tours have allowed people to keep in touch with the most beautiful pieces that the Museums have to offer. Consequently, the number of accesses to the website as well as to the social channels, such as YouTube and Instagram, grew exponentially during the closing period, also thanks to other initiatives. For example, in collaboration with the Department of Communication of the Vatican City, Vatican News, the Instagram channel posted small videos almost daily with the idea of making it clear that the Museums continued to work despite the closure. Curators, assistants from the various departments and restorers told live what they were doing and how the work had changed during those months. Face to Face, this is the name of the initiative, has allowed the Vatican Museums to keep their followers constantly updated and, with a view to a hoped-for reopening, keep the relationship with potential visitors alive.

Yet these initiatives were not enough to bring the Museums and its works to life. This shows that the use of digital, meant only as an alternative to the physical channel, does not allow the museum to create innovative and sustainable visitor experiences. Despite this, the presence of the Vatican Museums on some of the most important social channels, has started attracting the attention of new groups of visitors who, surprisingly, have filled the rooms and spaces of the Museums after the closure. Indeed, in June 2020, even though the attendance at the Museums was about 66,000 people, a very low number if compared with the ordinary pre-COVID-19 attendance where they fluctuated around 23,000-24,000 per day, 37% of visitors were between the ages of 15 and 26[1]. How was the Vatican Museum able to reach this result?

Two days before the official reopening a group of Roman influencers was invited for an exclusive tour: TV hosts, beauty influencers, founders of famous social pages, travel bloggers, all characters known to the young public who have a total number of over two million of followers on their social channels. To these celebrities were offered free admission in exchange for visibility on their social accounts. Having targeted a young and more digital audience had a positive response: in fact, during the weekend of 30 and 31 May, online bookings had matched those recorded in the previous two weeks, with visitors that were much younger than normal. In addition, thanks to the sharing of posts and stories by the influencers, the Vatican Museums Instagram account quickly reached 100,000 followers, an important number for an account created just a few months earlier.

In June, when the prohibitions on moving between regions disappeared, the Museums addressed an even wider audience with the involvement of more famous people. With Chiara Ferragni, influencer, and founder of the blog The Blonde Salad and Fedez, an Italian rapper, influencer, singer and songwriter, and their videos on Instagram and Tik Tok, the Vatican Museums became trend topics on Google for several days. Subsequently, it was the turn of the actresses Isabella

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[1] Data from an article of Il Sole 24 Ore, 22 July 2020

Ferrari and Ludovica Bizzaglia, who did not give up on being immortalized in front of The Last Judgment. These testimonials could enter the Museums one hour before closing and were then allowed to stay there an hour later to fully enjoy the empty rooms.

After these events, going to the Vatican Museums has become a trend. Even Sky, a television platform, did not miss the opportunity: in Rome for the auditions, the judges of X Factor, a popular music program among the young audiences, visited the rooms at sunset and filled their Instagram feeds. In the following months, the social overexposure of the Museums increased with repeated exclusive invitations and tours also to celebrities from other countries. Ester Exposito, a rising star actress of several Netflix series, was invited for a private tour and, twenty-four hours after posting a story on Instagram, the Vatican Museum account gained 4,000 followers and, in the following days, the number of Spanish visitors also increased.

## 4. FINDINGS AND CHALLENGES FOR THE FUTURE

From the primary and the secondary sources, three main existing challenges are identified:
- The integration of the digital experience in the museum visitor experience;
- The digital competencies of museums' professionals;
- The valorization of the art in the digital era.

### 4.1 The Integration of The Digital Experience In The Museum Visitor Experience

The Vatican Museums used social media to keep the connection alive with their audiences. However, with the reopening of the physical spaces happened in June 2020, the museums did not expect an increase in the number of visits led by a younger audience compared to the past. As one of the museums' social media managers pointed out,

> "The social media channels will continue also after the reopening because the immediacy and speed of social communication is unique and must be used in the most appropriate way. In this period, we have been able to see and verify that the social networks have been very useful. Let me give you an example: when we heard that we could reopen, we launched a post on Instagram and there was an impressive interest as soon as the post has been published".

Therefore, we can affirm that social media might help cultural organizations to reach diverse audiences because the narrative style as well as the nature of the contents is closer to what digital users expect. As demonstrated by Agostino et al. (2021) [20], during the pandemic crisis due to the spread of COVID-19, the museums no longer used social media solely as an information tool. These channels became fundamental for narrating the pieces of arts and the activities of the museum with a new language, closer to that of a target that is more responsive to images rather than words, to stories rather than details. This drives to consider what is called the museum digital layer, an experience that is independent from that which can be lived in the physical spaces of the museum, but which is, at the same time, designed to align perfectly with the physical experience [29]. In this way, this new layer uses digital technologies (some visible to the eyes of visitors and others not) to contribute to creating a more satisfying and different participation. The digital layer tells a story that connects all the themes of the museum, and it allows visitors to experience what they would never have seen differently. As shown by Weilenmann et al. (2013) [13], all this to create a more meaningful museum experience that contributes to the realization of the museum's mission.

Considering the digital as an additional space to the physical one, it is possible to notice that the visitor's experience does not begin and end in the museum spaces. As one of the museum's director pointed out,

> "The experience nowadays goes far beyond the walls of the museum itself. In the analysis of the visitor journey, it is possible to identify at least three moments: before, during and after the visit. This means that we can consider the pre-visit phase as an extension of the

> visitor's experience that begins when he decides to carry out a research on the price of the tickets, the opening hours, the different ways to reach the museum. The pre-visit is then followed by the concrete experience in the museum and is subsequently followed by all those actions that are carried out in the next phase: the search for further elements for the understanding of something that has been appreciated inside the museum as well as the interest that the visitor could express in establishing a deeper relationship with the museum, for instance through a membership".

These phases do not concern a single channel, be it physical or digital. A visitor, in fact, could start his journey of discovering a museum in many ways: using social media, discussing it with his family and friends, or seeing, by chance, the museum's advertising. The experience can then continue on Google Maps, on the museum's website or app, on Google search or through the museum's newsletter.

Visitors do not divide the experience into the individual channels they use, rather they consider them as a single path that leads to a defined museum experience. All the elements that are taken into consideration in the process of discovering the museum offering are considered part of a larger journey. This is aligned with Zollo et al. (2021) [18] who demonstrated that new technologies and digitalization are appreciated especially by tech-savvy visitors, who might become advocates of the museum themselves.

To make this a key element for their strategies, museums need to understand how to make the visitor experience as fluid as possible in the transition from the physical to the digital channel and vice versa. This could happen, for example, by ensuring consistency in the messages and activities carried out on the various channels, or by allowing the visitor to buy tickets digitally and then make them available at the museum entrance. More complex activities, on the other hand, concern the possibility of guaranteeing the visitor to experience something different every time he decides to return to the museum, or offering additional digital contents regarding the collections already visited in the physical spaces.

This new approach leads to a greater complexity in the development of experiences to offer to visitors. The focus shifts from the features that each channel should have to how to integrate these channels to make the experience more coherent and enveloping. In that sense, digital opportunities are not a substitute for real experiences [30] [31]. In the context of cultural heritage and of the institutions responsible for its management and for the promotion of its knowledge, digital technologies are and must continue to be, above all, an extraordinary tool to facilitate access to knowledge and stimulate the emotional involvement of the individual. The increased digital literacy of the population today offers the opportunity for museums to increase their presence in the society and to update the ways through which they interact with citizens.

### 4.2 The Digital Competencies of Museums' Professionals
To face new solutions and ideas of communication and content production, it is necessary to involve new professional figures for running all those digital activities, which concern not only the virtual visit of the museum, but also the management of social channels, the digitization of collections, the management of the online networking, the creation of new solutions for interacting with users [33] [33] [34]. As one of the museum's director pointed out,

> "It is important to train each person so that also does its job digitally, so that the whole museum is able to communicate with both communities, real and virtual".

With a look at the future reopening, highlighting the fact that the best practices and the solutions chosen must be designed to bring visitors back to the museum, this whole experience can certainly be useful as an opportunity for improvement and opening to contemporaneity.

The transformation must also involve investments in tools supporting the visitor journey, both digitally and physically. A skill that will be increasingly relevant, in this sense, concerns the analysis and strategic use of data. As the responsible of the digital strategy pointed out,

> "It is necessary to invest in the training of some profiles such as that of the Digital Strategy Manager whose main skills concern the development of the business plan, the alignment of digital and business strategies, the identification of user needs, the planning of products and services".

Knowing the customers, their habits and needs, and the level of satisfaction with the experience are information that allow to manage risks and improve the service offered. Similarly, monitoring specific performance indicators relating to the organization allows to improve the planning and effectiveness of both online and offline activities. The logistics and organization of the visitor's journey must also be reviewed in the light of all these aspects. The development of technological systems that allow online booking, access quotas and security and control systems for what happens inside the cultural institution are now necessary.

It is evident that the current context is particularly favorable for experimentation both by cultural institutions and by the public which shows interest in new approaches, with preference for those with a greater degree of interaction. Although it is not yet possible to know with certainty how much and in what way this context will change given the lack of reference paradigms, it can be said that flexibility, the ability to reinvent itself and exploit the potential of digital technologies by responding to the needs of the public will be essential in a future that is closer than expected.

### 4.3 The Valorization of The Art In The Digital Era

Given the results obtained in terms of attracting a fresh and younger audience, in this time of crisis, we can affirm that the popularity of social media can limit economic losses in the short term. But it is also necessary to make a deeper reflection that leads to questioning whether this strategy can work in the long run. First, it is legitimate to ask whether this media overexposure where the work of art is not the subject, but the artistic background of a celebrity, does not risk make museums a trendy and alternative space for consumption. As the press relations specialist pointed out,

> "A young person who decides to visit a museum should not do so to choose the best setting for a photo to be published on his social channels".

The choice of what to visit must be aware and must be dictated by a deeper knowledge of the works, spaces, history, tradition of a certain cultural institution. In this sense, these organizations can and must use the most innovative and digital communication tools to attract new audiences with the awareness that it is through the real experience happening in the physical spaces that they will have to transfer the true values of art and culture. In this sense, the digital experience cannot be separated from the traditional one that occurs in museum spaces. A museum must be able to convert the attention gained on social media into real visits to be able to transfer to visitors, young and old, additional, and different information about their works and the activities performed.

As another museum's director pointed out,

> "This obviously requires a profound transformation of the cultural system which must arise, above all, from the awareness, on the part of policy makers and those responsible for managing institutions, of the need for a change of pace in the contents and ways of proposing value".

## 5. IMPLICATIONS, CONCLUSIONS AND LIMITATIONS

The recent COVID-19 pandemic has raised important questions about how museums cope with critical events. Some studies have already been proposed, but the main point in this article is to

focus on how museums can use digital technologies during the occurrence of a critical event and how to react and to recover from the consequences of it. This article is particularly timely considering that a case study is proposed by analyzing how the Vatican Museums used the social media channels during the pandemic to keep the connection alive with their audience and to bring people back in their physical spaces.

We derive the following theoretical implications from our study. First, we identified that the digital storytelling of the museum must continue to be implemented as a parallel track that runs alongside the story in presence, but it must not be the translation [16] [19] [20]. As evidenced by the Vatican Museums case, to identify which museum practices will be useful for bringing visitors back into the physical spaces after an unexpected critical event, it is necessary to start with a greater attention of museums to the relationship with their reference territory, therefore in the direction of a museum more inclusive and participatory, able to focus on new audiences, younger and more digitalized.

In this renovated setting, the museum must resolve the structural relationship with its own digital dimension, potentially unlimited, accessible to all, conceived as an extraordinary resource for communication and online marketing but also, and above all, as a tool to create new experiential opportunities. Second, the new digital technologies have made it possible to develop undoubtedly effective methods of interaction systems [3] [21]. However, working on the digital dimension of museums does not only mean allowing the public to have access to a gallery of interactive images, to be able to magnify the infinitesimal details of an object or a painting, to follow the path marked by arrows or to play games online. Instead, it means introducing an additional dimension of analysis, alternative, which wants to stimulate the virtual visitor to make a real visit later, and, at the same time, constitutes a completed and defined experience of parallel visit [28]. As evidenced by the Vatican Museums case, the rapid emergence of digital technologies provides new opportunities to interact and engage with museum visitors. Moreover, the renovated experience consists of more layers which are extended and connected. The digital space experience extends the walls of the physical museum and allows to anticipate visitors' needs. Additionally, the digital layer allows museums to offer personalized experiences since the physical space is integrated with digital overlays for groups of people with different needs.

Under these conditions, the museum is intended as a privileged place which, with the combination of physical and digital spaces, can communicate knowledge and information of the highest cultural level and of producing creative and emotional experiences that allow visitors to go beyond its physical, dimensional, and territorial limits.

In this paper, we also outline directions for practitioners that have the potential to better impact programmatic policy and future adaptations of the museum's management. First, the use of digital cannot be separated from a reorganization of the museum that arises from the development of new skills and competencies necessary for the correct implementation of innovative technologies. This translates, specifically, into the search for new professionals capable of effectively contributing to the integration of digital in physical museum spaces. Second, museum spaces must be reviewed with a view to a more effective integration with digital technologies. They should be now more flexible, customizable according to the specific needs of different visitor groups. Finally, during the occurrence of critical events, museums must be able to reaffirm their social role through greater proximity to local communities and their reference territory. This means adopting a more local dimension that leads to a greater understanding of the needs of the nearby visitor on which it is possible to experiment with more innovative and engaging forms of experiences thanks to the use of digital as an additional and integrated layer with the physical museum spaces.

Despite its contributions, this study is also subject to several limitations, from which derive opportunities for further research. First, we focused our study on only one case from the Italian setting that is the Vatican Museums, thus incurring potential bias and generalizability issues. Future researchers may therefore wish to study several cases from different countries to address

this issue. Second, we only considered Instagram to identify and study the effects of social media channels during COVID-19. Further researchers may wish to examine other social networks (e.g., TikTok) and their potential unique dynamics. Third, the Vatican Museums are considered one of the largest cultural organizations in the world especially for their ability to attract millions of visitors to their spaces every year. Further researchers may wish to examine if these findings are applicable also to smaller museums which are the majority in countries such as Italy.

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