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Research Recruitment Using Facebook, Instagram and Twitter Advertising: challenges and potentials

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Abstract

Insufficient participation in online surveys is an issue that this proposed recruitment strategy aims to address. Online methods of recruitment, and especially the use of social media advertisements (ads), offered a new avenue of grasping users' attention in order to raise awareness, catch the interest and recruit potential participants in the research. To the best of our knowledge, this is the first study to report on Facebook, Instagram and Twitter advertising as a mechanism for recruiting research participants into a study investigating the experiences of those who do (or do not) follow museums on social media. The current work aims: (1) to demonstrate the use of social media ads as a significant recruitment method of participants in digital heritage research, (2) to present the lessons learnt from the use of targeted advertising on social media for a specific research project, and (3) to discuss the methods and approaches followed across the three platforms compared to standard advertisement measures provided by the platforms and marketing benchmarks.

Open Access **Peer Reviewed** **Keywords:** social media, ads, campaigns, museums, surveys

Introduction

Recruiting participants into research always remains a challenge for researchers. Both the Web and social media platforms provide researchers tremendous opportunities to reach a broader audience but still recruitment rates remain low, while dropout and nonresponse are among the usual problems to address (Pew Research Center 2012). Factors such as anonymity, online distractions, or a lack of personal relationship with the researcher, are among those that make online survey projects more difficult than traditional surveys conducted in person or in specific settings, such as labs, museum settings, etc. The purpose of this paper is to share our experiences of using social media ads in recruitment for museum and heritage research. The use of social media ads could also be used within the domain of public archaeology, and broadly in digital humanities, in order to conduct, for instance, research focusing on understanding audiences and participants in digital projects, and/or monitoring and evaluating the results achieved.

First, in the paper, we present the use of Facebook, Instagram and Twitter ads as recruitment tools for identifying research participants for specific online surveys, which are designed to address social media users who follow (or not) museums on the three specific social platforms. Next, we provide empirical analysis of how effective the method of targeted advertising for research recruitment was across different ad campaigns and platforms. Finally, we discuss the ethical implications of this recruitment method for conducting digital research in the arts and museum sector.

During an ongoing PhD Project at the Open University of Cyprus aspiring to investigate users' experiences on museums' social media, we proceeded with a research design to examine people's communicative practices, their views and their feelings that emerge through their interactions with museums on social media, such as Facebook, Instagram and Twitter. We employed a mixed-method approach, consisting of surveys, interviews and content analysis of social media data, adopting a combination of both quantitative and qualitative research

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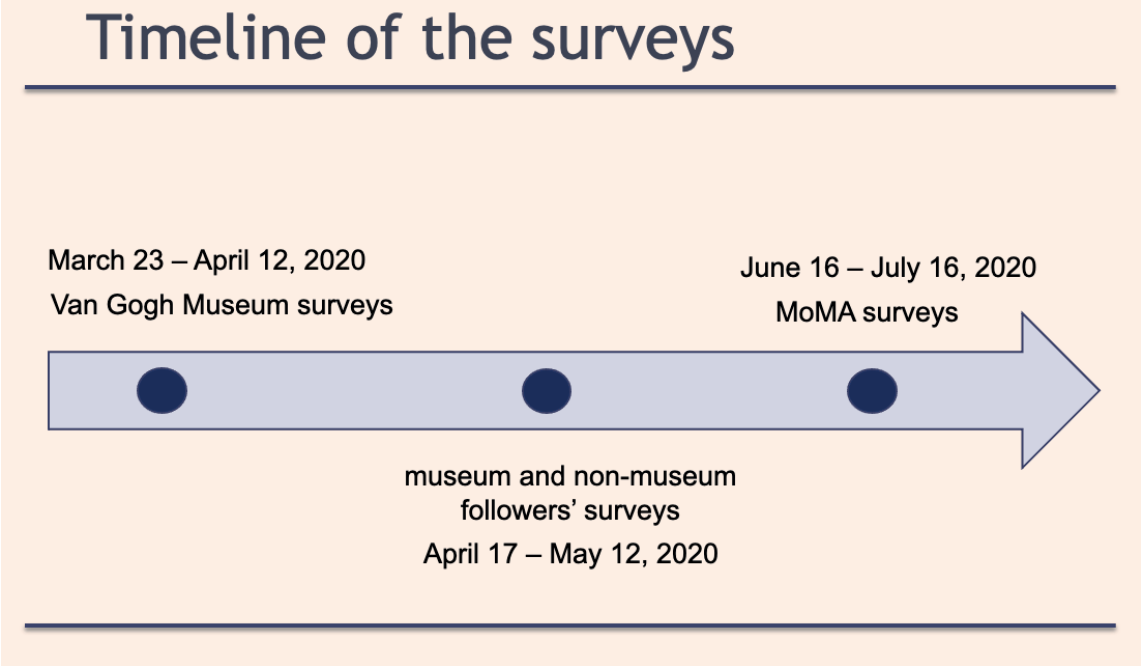

Fig.1. Timeline of the surveys conducted during the PhD project exploring users' experiences on museums' social media.

methods that complemented and informed each other. For the needs of this paper, we give details only for the conducted online surveys, for which we used the targeted social media ads as a research recruitment method. Additionally, presenting the survey results is not within the scope of this paper.

We employed the case study (Bryman 2012; Simons 2014; Yin 2018) approach that offers the opportunity to explore in-depth users' experiences when they interact with museums, and we selected the Van Gogh Museum and the Museum of Modern Art (MoMA) to conduct surveys with Facebook, Instagram and Twitter users who follow and interact with their accounts on the respective platforms. To clarify, we had no support from or affiliation to the two case study art museums. We selected these particular museums due to their exemplary and active use of social media and because they are among the most well-known art museums worldwide, with the biggest social media following (Dawson, 2020; 2021). However, the proposed method for recruiting research participants could be applied to any other type of museum and cultural institutions with a social media presence, or generally to the cultural or archaeological sector. In addition, we decided to address social media users of the three platforms who may (or not) follow museums, and for this reason we designed one more study consisting of surveys, which is not related to any specific museum, intended to identify people's views for museums on social media in general. These last surveys helped us to address people who do not follow museums on social media, and for the first time, as far as we know, to give them the chance to express their views on the subject. Furthermore, these surveys exemplify in practice that the proposed study could be used by researchers who are also involved in other research areas, such as public archaeology, museum studies and digital humanities.

The surveys were executed as follows. First, surveys addressed to followers of the Van Gogh Museum were conducted, second, surveys and interviews addressed to both museum and non-museum followers, and third, surveys and interviews addressed to followers of the MoMA (Figure 1). It should be noted that the surveys addressed to museum and non-museum followers were two joint questionnaires, making use of the conditional branching offered by the Survey Monkey, the web platform used to design the surveys (www.surveymonkey.com). In this way, surveys were presented to users depending on whether they followed museums on the platform of their preference or not.

The survey project concerned the design and distribution of nine online, self-completion

questionnaires, suitably adjusted for the three social media platforms examined, such as Facebook, Instagram and Twitter. In total, we collected 911 responses from survey participants, from the end of March 2020 until the mid of July 2020. During this period, we also ran campaigns at the three social platforms to advertise all the surveys. In Figure 2, we present the duration of all the surveys along with the duration of each campaign run for each platform. It is evident that the campaigns were run only for a partial time, meaning that it was not the only recruitment method of the project, but as we will show the most important one.

Sampling and recruitment methods

The population targeted through the surveys consisted of two sub-groups; first, users of Facebook, Instagram and Twitter who follow museums, and second, users of the same social media platforms, but who do not follow museums there, although they could possibly have an interest in museums and art. In particular, six of these surveys targeted social media users who follow either the Van Gogh Museum or MoMA on Facebook, Instagram and Twitter, and the remaining three surveys targeted all together users of these platforms who either do (or do not) follow museums there.

In consequence, it was impossible to have a representative sample for our project. Instead, we relied on a convenience sample of social media users. Moreover, because the relationship between the sample and the targeted population is unknown, there is no basis for estimations of the representativeness of the sample. Instead, this is an exploratory study that represents a snapshot in time and attempts to obtain a cohesive idea of what participants in the project believe and expect regarding their experience or their anticipation of museums on social media.

Hence, our efforts focused on the development of a sampling strategy in order to publicize the research and recruit as many people as possible. Our strategy involved many dissemination and recruitment processes in tandem, while great emphasis was given to the dissemination of the surveys through social media advertising. All nine surveys were promoted through multiple channels, including posts on personal social media accounts, personal network of friends and colleagues on social media, comments on posts of the two case study museums, and targeted advertising on Facebook, Instagram and Twitter.

In order to raise public awareness of our project, we decided to use social media advertising services for recruiting participants in the surveys, following similar examples

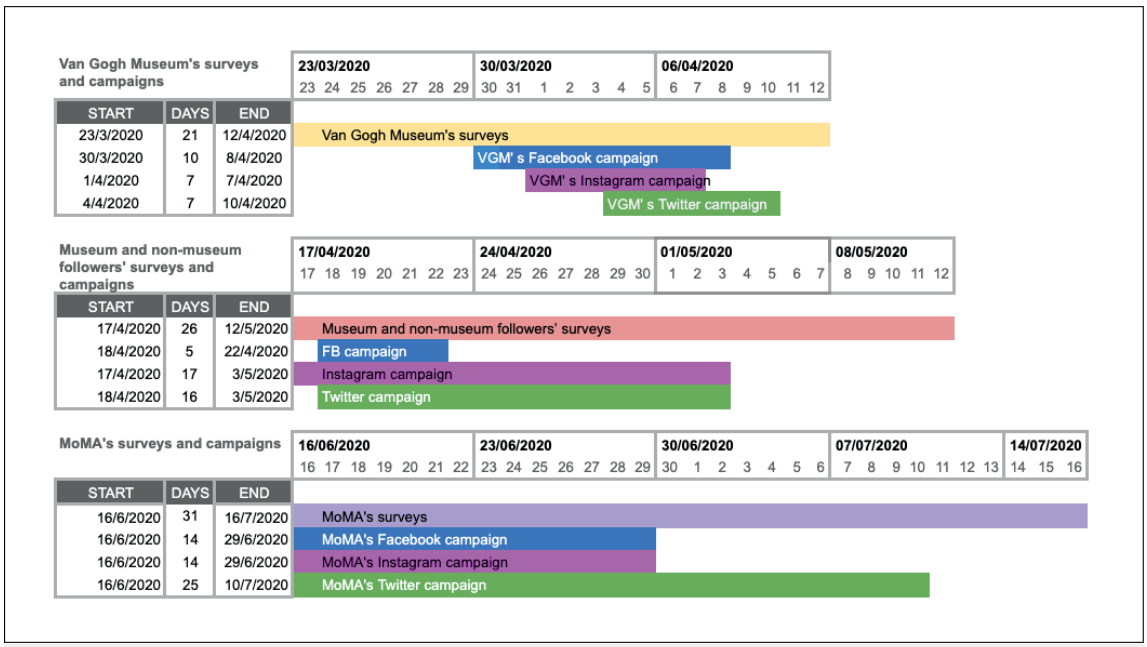

Fig. 2. Timeline and duration of the surveys and campaigns conducted for the three social platforms during the survey project.

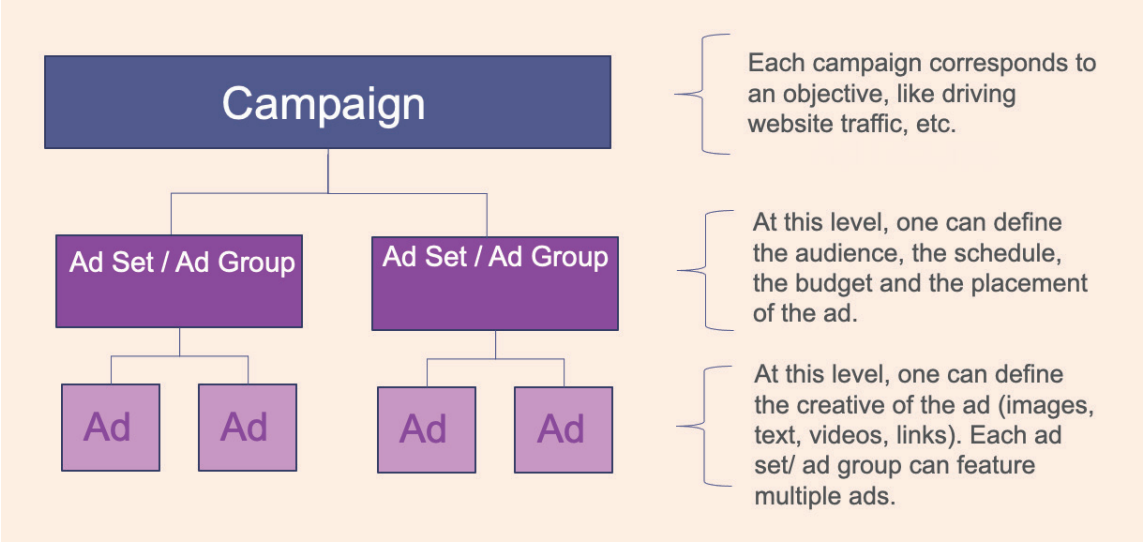

Fig. 3. The three-level campaign structure on Facebook, Instagram and Twitter.

mainly from the health sector (e.g., Burgess et al. 2017; Cowie & Gurney 2018; Kapp, Peters & Oliver 2013; Shaver et al. 2019; Wozney et al. 2019). This literature describes the use of Facebook as a recruitment strategy for health research and it is growing. In our research, we extended this practice to also include the use of advertising for research purposes in both Instagram and Twitter, and especially to recruit users of social media who follow museums, a research context very different from the one of health studies.

Limitations and ethical considerations of using social media ads for research purposes were always in our consideration, and continually informing all our practices, by mainly maintaining the voluntary nature of the research and in being transparent in all the steps followed. Our study is different from others that used social media ads to recruit research participants (aforementioned), because although it is targeting the population of social media, it concerns the behavior of social media users towards museums, specific nonprofit organizations, which use social media and operate in the platforms as content providers, too.

Setting the ads on Facebook, Instagram and Twitter

Facebook and Instagram, as they belong to the same company, use the same tool, the Ads Manager (https://www.facebook.com/adsmanager), for running and managing ad campaigns (henceforth "campaigns"), which provides the option to place ads on both platforms. In our case, because the surveys targeted users of each platform, we decided not to use this option. For instance, the ad for the MoMA Instagram users was scheduled to appear only on Instagram, and the same strategy followed for all ads. Respectively, Twitter has its own Ads Manager (https://ads.twitter.com) tool in order to run and manage campaigns.

The campaign structure on the three platforms consists of three levels (Facebook n.d.; Twitter n.d.): (1) campaigns, (2) ad sets for Facebook and Instagram, and ad groups for Twitter, and (3) ads (posts/tweets) for all the platforms (Figure 3). At the first level, the objective of the campaign is set, meaning what we want to accomplish with the ad (e.g., raising awareness for a product/service or encourage people to visit a website, etc.); at the second level, we define the audience targeted, the schedule, the budget and the placement of the campaign (e.g., news feed/timeline, search, Stories, messenger, etc.); and finally, at the third level, the creatives (posts or tweets) are defined, that is what people see, (e.g., photos, videos, links, etc.).

One campaign can have many ad sets/groups, and an ad set/group can contain one or more posts/tweets. By developing multiple ad sets/groups containing different combinations (e.g., different interests, locations, age groups) and measuring the progress of them, it could be useful to recognize the targeted audience and optimize the effectiveness of the campaign.

It is important that ad sets/groups are not overlapping audiences. Furthermore, the platforms give the option to create multiple ads which can be associated to one or multiple ad sets/groups of a campaign. Below, we detail the campaigns that we ran in the three platforms to publicize the surveys of our project, and the choices we made in order to set the campaigns' ad sets/groups and creatives.

Between March 30, 2020, and July 10, 2020, seventeen campaigns (Table 1) ran at the three social media platforms to advertise the nine online surveys of the project (the Van Gogh Museum's surveys, the MoMA's surveys and the museum and non-museum followers' surveys across the three platforms). The aim of these campaigns was to recruit participants to fill out online surveys investigating their views, expectations, feelings and interactions with museums on social media. For this project, the objective used for all campaigns in all platforms was to direct people to the specific sites hosting each survey. For Facebook and Instagram campaigns the selected objective is called 'Traffic' and for Twitter campaigns is called 'Website clicks', meaning also that drives traffic

No.	Campaigns	started date	end date	No of days run
1	Van Gogh Museum' s Facebook followers (1)	March 30, 2020	April 1, 2020	3
2	Van Gogh Museum' s Facebook followers (2)	April 2, 2020	April 8, 2020	7
3	Van Gogh Museum' s Instagram followers	April 1, 2020	April 7, 2020	7
4	Van Gogh Museum' s Twitter followers	April 4, 2020	April 10, 2020	7
5	Users on Facebook (museum & non museum followers) [ad set: professional designed video]	April 18, 2020	April 22, 2020	5
6	Users on Instagram (museum & non museum followers) (1) [ad set: professional designed video]	April 17, 2020	April 22, 2020	6
7	Users on Instagram (museum & non museum followers) (2) [ad set: funny, playful video with memes]	April 19, 2020	April 28, 2020	8
8	Users on Instagram (museum & non museum followers) (3) [two ad sets: both professional designed video and funny, playful video with memes]	April 26, 2020	May 3, 2020	8
9	Users on Instagram (museum & non museum followers) (4) [two ad sets: both professional designed video and funny, playful video with memes]	April 25, 2020	May 3, 2020	9
10	Users on Instagram (museum & non museum followers) (5) [two ad sets: both professional designed video and funny, playful video with memes]	April 25, 2020	May 3, 2020	9
11	Users on Instagram (museum & non museum followers) (6) [two ad sets: both professional designed video and funny, playful video with memes]	April 25, 2020	May 3, 2020	9
12	Users on Instagram (museum & non museum followers) (7) [two ad sets: both professional designed video and funny, playful video with memes]	April 25, 2020	May 3, 2020	9
13	Users on Twitter (museum & non museum followers) (1) [funny, playful video with memes]	April 18, 2020	April 29, 2020	7
14	Users on Twitter (museum & non museum followers) (2) [professional designed video]	April 26, 2020	May 3, 2020	8
15	MoMA's Facebook followers	June 16, 2020	June 29, 2020	14
16	MoMA's Instagram followers	June 16, 2020	June 29, 2020	14
17	MoMA's Twitter followers	June 15, 2020	July 10, 2020	25

Table 1. *All the campaigns to publicize the nine surveys of this project, the exact dates and the total days run.*

	Facebook and Instagram	*Twitter*
Location	Australia, Brazil, Canada, Hong Kong, Japan, Mexico, New Zealand, United States, Europe	In Twitter ads we targeted countries, regions or states in Europe, The Americas, Australia & Oceania, and Asia.
Age	18-65+	18 and up
Language	English (UK) or English (US)	English
Gender	All genders	Any
	Interests	*Interests and Keywords*
For the Van Gogh Museum (VGM) surveys	Amsterdam, Art Museum, Van Gogh Museum, Van Gogh, Vincent Van Gogh	Keywords: vangogh, museum, vangoghmuseum, amsterdam, exhibitions, galleries, van gogh, #museum, van gogh's, museum's, amsterdam's, #museums, #amsterdam, museums, #vangogh, van gogh museum Interests: painting, Europe Follower look-alikes: @vangoghmuseum
For the MoMA	Museum of Modern Art	Keywords: @museummodernart, #MoMAVirtualViews, #museum, #art, #artist, #modernart, #contemporaryart Follower look-alikes: @MuseumModernArt
For museum & non-museum followers	Art museum, Museum, museum modern art, Contemporary art gallery, Arts, Artists, Artwork And also included: Sports and Media, Real estate, food and wine, online education, Information technology, genres of movies/films (action movies, drama, comedy, romance film), etc.	Keywords: i.e., museum, art, modern art, museum of art, museum of modern art, artworks, designer, architect, dogs, cats, music, fashion, happy, love, inspiration, travel, quarantine, #betweenartandquarantine, #tussenkunstenquarantine, #museumfromhome, #inspiration, etc. Interests: Entertaining at home, Home entertainment, Europe, Foodie news and general info, Vegan, Cookbooks, food and wine, online education, college life, Health news and general info, Holidays, Music festivals and concerts

Table 2. *Defining the audience for targeted advertising on Facebook, Instagram and Twitter.*

to a website.

As explained previously, targeted advertising was not the only recruitment method we used for this project, so the period we ran the surveys is not necessarily the same with the period during which we ran the campaigns. The first four campaigns (i.e., No. 1 - 4) circulated for 3 to 7 days, promoting the three online surveys to followers of the Van Gogh Museum on Facebook, Instagram and Twitter. The next campaigns (No. 5 - 14) circulated for 5 to 9 days promoting the three online surveys to Facebook, Instagram and Twitter users who follow (or not) museums. The remaining three campaigns (No. 15 - 17) circulated for 14 to 26 days promoting the three corresponding online surveys to followers of the MoMA on Facebook, Instagram and Twitter. Campaigns ran for a range of 3 to 26 days, and the mean length was 9.1 days.

Regarding the placement of ads, we chose to show the ads to those who access social media either from a desktop or a mobile device. We have also used the option that Facebook Ads Manager provides, to show the ad only to people who were connected via wi-fi, because it is more likely that people would be interested in filling out a survey using this connection than using their mobile data (Sehl, 2019; Starling Social, 2019). We chose the ads to be displayed in the stream, that is, users' timelines and news feeds, in search areas (e.g., explore area for Instagram), in Stories (Facebook, Instagram and messenger Stories), and in-stream video (for Facebook and Twitter), which places an ad in a video that a user is already watching on a mobile device (Mialki 2020).

Each platform gives the option for the researcher to target specific groups based on parameters such as age, gender, location, language, and interests, in order to target the audience to reach through the ads. Platforms

are able to allow the targeting of people, by using information that individuals have already provided or by inferring these attributes based on their behavior on the platforms and beyond (Cotter et al. 2021) (e.g., liked pages/accounts, keywords analyses of interactions and posts, profiles' information, apps they used or ads they clicked on, etc.), or through partnerships with other data brokers companies (Kim 2020). In our case, the criteria used to target audiences were based on age, gender, location, language and interests.

In this project, we generally used the approach of using one campaign to publicize one survey, employing more or less the same audiences, and relying on the optimization techniques that each platform uses for displaying the ad to just a small subset of that large audience. In general, we targeted all genders, aged from 18 to 65+ years old, from countries located in Europe, the Americas, Australia & Oceania, and Asia, using the English Language, and having specific interests, such as museum, art, modern art, contemporary art, or following the two case study art museums. For the three surveys targeting those who do (or do not) follow museums, besides the above specific interests related to art and museums, we also used some broader interests, including sports and media, music, films, real estate, information technology, food and wine, pets, vegan, etc.

Only in one case, we experimented with specifying the audience in terms of age and locations. Thus, we created multiple campaigns targeting specific age groups (e.g., people aged between 18 and 30 or 18 and 40 years old, and people aged between 35 and 55 or 35 and 65 years old), which were living in specific locations (e.g., only in Europe or only in the USA, and in some cases targeting large cities instead of the whole country), aiming to enhance results, which in our case, was to have more people to complete the survey. This latter tactic was employed only for the campaigns publicizing the survey addressed to Instagram users who either do (or do not) follow museums (see campaigns No. 6-12). We decided not to go for multiple Ad sets/ groups, but this could be an alternative. A summary of the criteria used to target audiences for all campaigns run on the three social media platforms for this project are provided in Table 2.

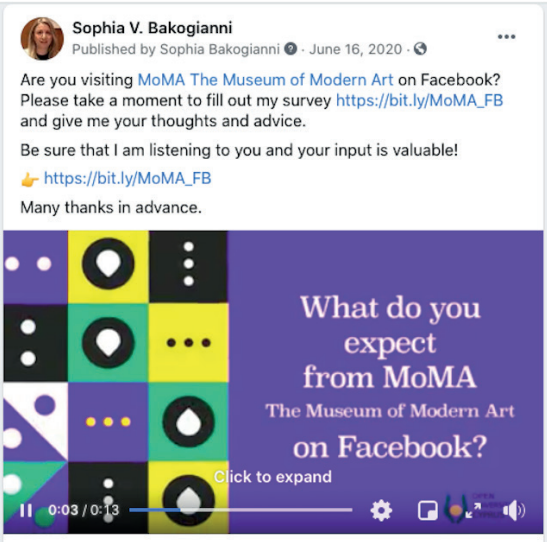

Fig. 4. Facebook video ad used to publicize MoMA's Facebook survey.

For all the ads we used videos, which are considered to be more effective than static images (Burgess et al. 2017). We created different videos, containing graphics and texts in English, promoting and inviting people to participate in the surveys. The videos were customized to promote each survey on a different platform, and suitably adjusted for each platform (size, format, etc.).

For the ads publicizing the two case study art museums, we created one video for each one museum, but for the ads publicizing the surveys addressed to both museum and non-museum followers, we created two videos, one more formally designed (with graphics) and the other funnier and more playful with memes. In some cases (campaigns No. 8-12), we included both of these creatives (Ads) in the same campaign, using the affordance that Facebook Ads Manager provides in order to display different creatives in the same ad sets of a campaign.

Although Twitter Ads Manager also gives the same affordance to display two creatives at the same Ad group, we did not use it. Instead, we created two different Twitter ads, displaying the two different videos at the same audience (campaigns No. 13 and 14). But because these two ads on Twitter were overlapping and competing with each other, we decided not to run them at the same time. Below, we present a screenshot of the video ad used to publicize the MoMA's Facebook survey (Figure 4). All the creatives prepared for all the surveys are presented here: https://sophiabakogianni.net/examples-of-advertisements/.

All the messages used in the ads to accompany

Fig. 5. Instagram video ad used to publicize the Van Gogh Museum's Instagram survey.

the videos were in English, and carefully written to give a clear message and motivate people to participate. An example of the message used in the ad publicizing the Van Gogh Museum' s Instagram survey (Figure 5) is the following:

> *If you're thinking, "Really? Just another boring survey?" I get it.*
> *I just thought you may find it helpful to know that if you answer my survey, I am listening to your needs and expectations. Be sure that I would spread your word.*
> *And for each complete response, I will donate $1 to #COVID19FUND supporting @who.*
> *Okay, stay safe. And I'll keep the message flowing.*
> *Many thanks in advance!*
> *#vangoghmuseum #vangogh #vangoghart #vincentvangogh#museums#museumfromhome #museumlover #lovingvincent #artmuseum #staysafe#stayhome#haveyoursay#amsterdam*

The above message publicizes the Van Gogh Museum's survey to Instagram users and at the same time informs potential respondents for our donation. We donated one US dollar supporting the United Nations Foundation's COVID-19 Solidarity Response Fund for the World Health Organization, for each complete response we received for the surveys addressed to Van Gogh Museum's followers on Facebook, Instagram and Twitter. We used this altruistic donation as an incentive to increase survey response rates and participation, despite the fact that there are studies that argue that charitable donation had no demonstrable impact on participation rate (Warriner et al. 1996).

Other than this, no incentive was used during the conduct of the other surveys. Instead,

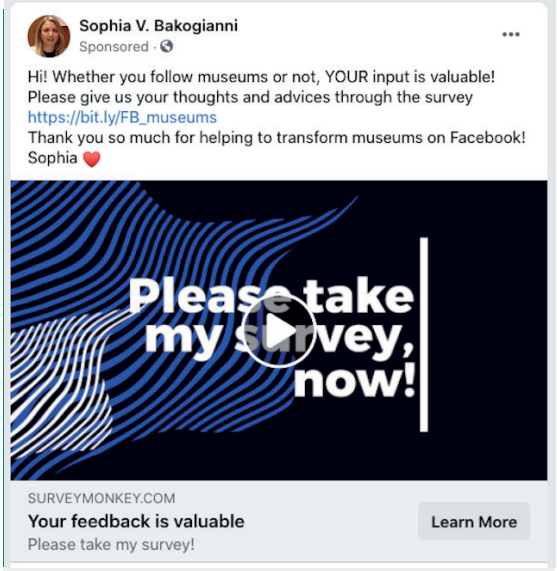

Fig. 6. Facebook video ad (graphically designed video) used to publicize the survey addressed to museum & non-museum followers

	Campaigns	Location / Age	Impressions	Link clicks	CTR	CPL	Amount spent
1	VGM's FB followers (1)	All places, 18-65+	33,975	414	1.22%	€0.04	€16.25
2	VGM' s FB followers (2)	All places (except Brazil) 18-65+	60,770	487	0.80%	€0.05	€25.00
3	VGM's IG followers	All places, 18-55	193,906	477	0.25%	€0.07	€35.00
4	VGM's Twitter followers	All places, over 18	15,124	36	0.24%	€0.97	€35.00
5	FB (museum & non-museum followers) [1 ad]	Europe, 18-30	83,979	1,975	2.35%	€0.02	€46.30
6	IG (museum & non-museum followers) (1) [1 ad]	Europe, 18-30	366,069	391	0.11%	€0.11	€43.50
7	IG (museum & non-museum followers) (2) [1 ad]	Europe, 18-30	437,240	416	0.10%	€0.16	€66.19
8	IG (museum & non-museum followers) (3) [2 ad]	Europe, 18-30	303,682	376	0.12%	€0.10	€39.04
9	IG (museum & non-museum followers) (4) [2 ad]	Europe, 35-65+	163,201	433	0.27%	€0.10	€43.74
10	IG (museum & non-museum followers) (5) [2 ad]	The Americas, 35-55	54,136	197	0.36%	€0.22	€43.74
11	IG (museum & non-museum followers) (6) [2 ad]	The Americas,18-40	15,803	48	0.30%	€0.91	€43.71
12	IG (museum & non-museum followers) (7) [2 ad]	The Americas,18-40	16,445	71	0.43%	€0.62	€43.71
13	Twitter (museum & non-museum followers) (1) [funny video]	All places, over 18	31,724	120	0.38%	€0.42	€50.00
14	Twitter (museum & non-museum followers) 2) [graphically designed video]	All places, over 18	64,160	193	0.30%	€0.41	€80.00
15	MoMA's FB followers	All places, 18-55	95,561	717	0.75%	€0.08	€59.15
16	MoMA's IG followers	All places, 18-55	258,054	325	0.13%	€0.23	€74.91
17	MoMA's Twitter followers	All places, over 18	141,466	238	0.17%	€0.78	€185.89
							€931.13

Table 3. *Basic analytics for all campaigns in Facebook, Instagram and Twitter run for the survey project.*

in the ads publicizing the other surveys, we emphasized the fact that by participating in the surveys, people will have 'their say', and the findings could possibly improve the overall experience that we all have on museums' social media sites, as can be seen below in the message used in the video ad (Figure 6) to publicize the survey addressed to museum and non-museum Facebook followers:

Hi! Whether you follow museums on Facebook or not, YOUR input is valuable!
Please share your thoughts and advice through the survey https://bit.ly/FB_museums
Thank you so much for helping to transform museums on Facebook! Sophia❤

Adjustments and changes of ads could be done when needed during the period of running the ads, in order to have a better impact. Specific

changes in the ads, such as budget changes or message edits in the creatives, pause the ad in order to be reviewed by the platform, but other changes relating to the audience specifics, or the ad duration do not.

Outcome Measures

Facebook and Twitter analytics track actions related to the ads and report on the effectiveness of the ads run. The most popular metrics used in marketing for evaluating the performance of an ad include: 1) impressions, which is the number of times the ad was displayed; 2) link clicks, which are the number of clicks on links within the ad that led to advertiser-specified destinations. For Twitter, this metric is called Results; 3) click through rate (CTR), which is a measure of how interested people were in the ad. It is the number of clicks the ad received by the number of impressions. For Twitter, the similar metric is called Result rate, and it is the number of Results received divided by impressions; and 4) cost per link (CPL), which is the cost of the whole campaign by the number of clicks.

In Table 3, basic metrics are provided from each platform and are presented for all the ad campaigns run for this survey project on Facebook, Instagram and Twitter. Some details about the locations and the age groups the ads were presented are also given (Table 3). This information is helpful in order to distinguish the different campaigns used to publicize the surveys addressed to museum and non-museum followers (No. 6-12) and assess their effectiveness. In this table, the phrase 'All places' refers to the locations that were explained in Table 2. It should be noted that there are some differentiations from the general rule presented in Table 2, regarding the age groups targeted, but these changes were made in order to better define the audience targeted and optimize the progress of the ads.

The CTR is an important metric indicating the relevance and efficiency of an ad. It is simply the percentage of impressions that resulted in a click. For this project, we use CTR to assess the performance of the campaigns. According to a recent benchmark report from Adstage for the first quarter of 2020 (Chaffey 2020), the median CTR for Facebook is 1.11%, for Instagram 0.22% and for Twitter 0.86%.

Compared to the responses received for the Facebook surveys (see Table 4), the overall assessment is that Facebook campaigns were not very successful, and this is also supported by the campaign metrics. The only exception was the survey that was not specific to any museum, but in this case, we publicized it heavily through other means (personal networks), too. In particular, from the Facebook campaigns (No. 1, 2, 5 and 15) of this project, only the Van Gogh Museum's Facebook campaign (No. 1) that was run for three days, and the campaign that was addressed to both museum and non-museum followers (No. 5) had higher CTR than the benchmark rate (1.22% and 2.35%, respectively). In the campaign No. 1, Brazil was included in the location targeted, compared to the campaign No. 2, which was also addressed to followers of the Van Gogh Museum. This is a very good example of two campaigns with the same targeted audience, but with one differentiation in the places included. On the other hand, the campaign No. 5 targeted a very specific audience located in Europe and aged between 18 and 30 years old.

The Instagram campaigns (No. 3, 6-12, 16) used for this project are evaluated as successful in comparison to the responses received (see Table 4) for the surveys publicized through them. Only a few campaigns (No. 6-8 and 16) had a CTR below the benchmark of 0.22%. It seems that our attempt to split the campaigns used to publicize the survey addressed to both museum and non-museum followers in smaller age groups and locations had a positive result, at least for those addressed to the Americas and to a European audience between 35 and 55 years old, or 35 and 65+. Although we must admit that the campaign addressed to followers of the Van Gogh Museum, which targeted a broader audience, was also successful (CTR 0.25%), but not the campaign addressed to followers of the MoMA (CTR 0.13%). It becomes evident that the topic of a campaign also matters, in addition to the 'interests/keywords' used in order to target specific people, who may be interested in taking the surveys.

Despite the fact that the Twitter campaigns (No. 4, 13-14, 17) of the project had a CTR below the benchmark of 0.86%, ranging between 0.17% and 0.38%, they are considered efficient, regarding the responses received for all the Twitter surveys (see Table 4). Only the Van Gogh Museum's Twitter survey did not gather many responses, even though the CTR of this campaign (0.24%) is better than the CTR of the

Surveys/Campaigns	Total responses	Total No of clicks to surveys (source: bit.ly website)	No of clicks from each social platform (source: bit.ly website)	Link clicks (source: platforms)
Van Gogh Museum' s Facebook followers	25	909	821	901*
Van Gogh Museum' s Instagram followers	153	579	370	477
Van Gogh Museum' s Twitter followers	19	60	42	36
Users on Facebook (museum & non-museum followers)	244	2,336	2,071	1,975
Users on Instagram (museum & non-museum followers)	133	2,256	1,095	1,932**
Users on Twitter (museum & non-museum followers)	156	489	292	313*
MoMA's Facebook followers	23	662	622	717
MoMA's Instagram followers	103	520	276	325
MoMA's Twitter followers	60	299	213	238
* results from two different campaigns				
** results from seven different campaigns				

Table 4. *Number of clicks to the surveys links and total responses received.*

MoMA campaign (0.17%) which received more responses. However, in this case, the MoMA campaign ran for 26 days, while the Van Gogh Museum's campaign ran only for 7 days. It is remarkable that Twitter ads cost higher than the respective ads on Facebook and Instagram. The CPL for Twitter campaigns is between 0.41 and 0.97 euros, while for Facebook it ranges between 0.02 and 0.08 euros, and for Instagram between 0.07 and 0.23 euros.

It is not feasible to determine which respondents were recruited from the ads and which resulted from the other recruitment methods, as all people were directed to the same survey collectors. The Survey Monkey platform we used to design surveys creates a web link for each survey collector for sharing and collecting responses, but it does not provide any click tracking features We customized these URLs for the nine online surveys using Bitly (https://bitly.com), a link management platform used for shortening links, which also tracks click rates. The total number of links provided by Bitly indicates the number of times each web link was accessed. Bitly also provides the number of clicks coming from each social platform, but this number is not referring only to the ads but all the posts which publicized the surveys (Table 4). Just to note here that the link clicks provided by the social platforms and presented in Table 4 are the number of clicks on links within the ad that led to specified destinations, although they do not coincide with the number provided by Bitly. However, these metrics given by different platforms do not match and cannot provide us with safe conclusions. If we had used different collectors for the posts used in the social media ads, we could have a more concrete view of the respondents who were recruited from the ads, but this was not our scope. Comparing the total number of clicks to surveys provided by the Bitly, and the metrics of clicks provided by the social media platforms, it is obvious that the bulk of respondents who have been directed to survey web links come from the social media ads run during the project study, but not exclusively (Table 4). This means that the other methods used to recruit respondents had a notable result. Consequently, a combination of different sampling methods for recruitment and data collection for surveying social media users is considered as preferable.

Discussion

Analytic capabilities for all three social media platforms provide rich data to study more extensively the reach and impact that an ad had to people. However, marketing metrics (e.g., CPL, CTR, impressions, frequency, reach etc.) are arguably not very helpful for actually understanding how people decided to take part

in the surveys of this particular project, or why they have chosen to ignore the ad and do not respond to the survey call.

As mentioned earlier, ads were not the only method to recruit participants in this study, and for this reason unique comparisons with different recruitment efforts are not possible. Nonetheless, advertising in the three different platforms is considered for this project as the one with the greatest impact, which resulted in recruiting a satisfying number of participants from all over the world in a short time, although it is not possible to control its representativeness.

Targeted populations for the Van Gogh Museum and the MoMA surveys are known only to these two museums, and for the general surveys, the targeted population is too difficult to define (all social media users who follow and those who do not follow museums). Actually, it was also difficult to target an audience for placing ads for these last surveys. Perhaps, if the target population of the surveys was most limited, the deliverables from the ads would be better, as shown by the five Instagram campaigns (No. 9-12, in Table 3), which targeted a more specified audience regarding age groups and geographic locations. Furthermore, if the duration of the ads was longer and the spent budget for each ad higher, the outcomes would be better. Finally, the small intervals between each study and the fact that people might have seen multiple ads from the same advertiser (in this case, one of the authors), could have caused an unpleasant and tiring experience. That said, it can be noted that we did not have any negative or other similar comment or reaction from anyone, the whole time that the ads were running in all three social media platforms.

Limitations for using targeted advertising for research recruitment

The greatest limitation of using Facebook, Instagram and Twitter ads for research recruitment is ironically what makes them powerful at the same time: their targeting algorithm. It is possible that the algorithm, learned by users' interactions with the ad, to target people with similar profiles and characteristics, could result in sampling bias and samples featured by homogeneity. Targeted advertising on social media may have its own distinct sampling classification methods but it is difficult to achieve representative samples. Facebook is "best described as a non-probabilistic purposive sampling method" (Shaver et al. 2019, p. 13), although there are studies that show representative samples can be achieved. For instance, Shaver and colleagues (2019) have shown in their study that Facebook targeted ads can be used to improve representativeness of a sample from a population well-defined but hard-to-reach. Furthermore, Burgess and colleagues (2017) managed to have a representative sample using Facebook ads for recruitment in their study.

Another limitation of Facebook and Twitter advertising concerns the nonresponses. Although the platforms provide the number of people who have been reached by the ad, they do not offer other information, besides their age and their gender, which makes it difficult to assess no response bias. It is possible for the ad to systematically target people who might click the ad, but they refuse to participate and engage further. This includes the risk of targeting people who are not interested or not actually related to the target population of the research. It is interesting that, according to a GoodFirms report (Raymond 2019), about two-thirds (65.58%) of the people ignore irrelevant ads on social media, 25.75% of people give feedback or report the ads on social media, and only 8.67% of the users actively update their ad preferences. Without enough information about the procedures followed for targeted advertising by platforms' algorithms, the researcher is not able to assess the whole process and proceed with changes and corrections needed to increase participation.

In any case, the researcher who uses social media ads for research recruitment needs to monitor very closely the whole process and experiment with the options and specific criteria that the platforms offer in order to configure the targeted audience that the ad and the algorithm will use for dissemination. The key challenge for a researcher is to define the targeted audience through the classifications used by the platforms. The provision of so many options to set and optimize an ad in social media platforms could be an overwhelming and complicated task, especially at the start, but in any case, the best way to proceed is by trial and error.

Conclusions

We have demonstrated that effective targeting of social media ads can substantially assist in recruiting participants in online heritage surveys. Although we cannot measure the exact number of survey participants who originated from the ad campaigns, it is clear that the ads generated significant awareness among users, and interest in learning more about the surveys. Finally, a good number of them went on to complete the surveys (Table 4).

In summary, the use of social media ads in research recruitment requires the following: first, purposeful use of the platform's parameters and variables to define the targeted audience in relation to the targeted research participants; second, inspired and imaginative use of the creatives and the messages included in the ads; and third, interpretation of the platform analytics to continually refine, modify and optimize ads for improved impact. There are very few evidence-based guidelines to inform researchers in creating high-impact social media ads, and especially in heritage studies. Thus, our paper aims to offer a starting point for using social media ads in engaging individuals in heritage research, which is a promising, developing but also challenging field. Concluding, we cannot but ignore that there are some voices questioning the efficacy of targeted ads (e.g., Naughton 2021; Biddle 2020), recognizing the power of user agency on social media, which we also embrace and advocate. Ads on social media could help raise awareness and attract attention to a research project, however, it is the message conveyed, and the subject of the research, which ultimately convinces people to participate.

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