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NATURE OF ENGAGEMENT ON FACEBOOK DURING LONDON 2012 OLYMPIC GAMES: INSIGHT INTO PUBLIC PARTICIPATION IN TERMS OF LANGUAGE AND GENDER

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ABSTRACT

This study takes an in-depth look at the characteristics of engagement on the International Olympic Committee's Facebook fan page during the London 2012 Olympic Games. Posts with the highest level of participation ('Like', 'Comment' or 'Share') are those containing photos, offering content related to the opening and closing ceremonies, referring to the most famous athletes or showing light-hearted content. In terms of gender, the level of participation is generally higher among women, especially from the United States and the United Kingdom (higher than 60%). Exceptions to the predominance of female interaction with Olympic content are those cases of people whose Facebook profile language settings are French, German or Thai.

***Keywords**:* Olympic Games; Facebook; Social media; Sport; Engagement.

INTRODUCTION

The London 2012 Olympic Games were the first ever Summer Olympics on social media and the first major global sporting event in which social networking sites (SNSs) were massively used to foster the public's active participation (Fernández Peña & Ramajo, 2014). In July 2012, Facebook had 1 billion users worldwide and an average of 618 million active daily users (Facebook, 2012:5). During the London 2012 Olympic Games, users published more than 116 million posts and 'Comments' according to Facebook's official data (Frank & Williams, 2012), which represents an unprecedented ability to engage users in creating and spreading content.

At the London 2012 Olympic Games, the International Olympic Committee (IOC) implemented strategies to foster engagement that had already been tried out and, by that time, it already had a sizeable community of fans – 3.1 million Facebook followers at the start of the Olympics (Wildfire Monitor, 2014). It, therefore, began to reap the rewards of its first foray into Facebook in January 2010, just one month before the start of the Vancouver 2010 Olympic Games (Fernández Peña, 2011; Fernández Peña & Ramajo, 2014). At the same time, the London 2012 Olympic Games attracted the largest global television audience ever, with nearly 3.6 billion viewers worldwide (IOC, 2012:4).

Few global events draw as much global attention worldwide as the Summer Olympic Games, which have become a highly significant global cultural phenomenon (Young & Wamsley, 2005). According to the former President of the IOC, Jacques Rogge, there is no other

modern-day mega event in which the unity of time and place inherent to Greek theatre is reproduced than the Olympic Games; an event in which the world's best athletes compete, all together in the same city, at the same time, for a limited period of two weeks (Dittrich, 2013). This feature, together with the outstanding ability of sport to convey emotions, the extraordinary artistic beauty of the athlete's endeavours and the unpredictability of the outcome, makes sport in general and the Olympic Games in particular an unparalleled global audio-visual communication product (Fernández Peña & Lallana, 2011).

This study analyses all posts on the IOC's official Facebook page, entitled "The Olympic Games", and examines how their content managed to actively engage fans in the page during the London 2012 Olympic Games. Our attention is focused on analysing what type of content fostered higher levels of user participation, at what moment in time and through what kind of strategies. We will also take a look at the profiles of these users, analysing their gender and the language settings of their Facebook accounts.

LITERATURE REVIEW

New nature of communication of social networking sites

The new communication nature of the Web, Veá is written in its DNA: its ability to combine content in a variety of formats, its geographically and temporally unlimited availability and accessibility, and its simple, user-friendly navigability (Berners-Lee & Fischetti, 2000; Veá, 2013) produce a change in relationships between the senders and receivers, as described in classic communication models. In the new communication paradigm, communication ceases to be unidirectional and becomes a conversation. In conversations, human, direct and honest language has to be used (Weinberger *et al.*, 2009). The information flowing between people creates markets consisting of people, who are getting smarter and less permeable to traditional advertising (Weinberger *et al.*, 2009). These assertions form the cornerstone of what O'Reilly (2007) termed 'Web 2.0'. Within this concept, users play a fundamental role, organised in a network, and they treat software as a service that is capable of operating on devices other than personal computers. This laid the foundation of the so-called 'participatory culture', in which users interact with media, shaping virtual communities (Jenkins *et al.*, 2013) and "sometimes shaping coverage and outcomes" (Nee, 2015:78). Within it, user-generated content plays a fundamental role since it is key to the public's active participation (Jenkins, 2006).

SNSs like Facebook have emerged within this communication context, and are defined as Internet platforms with personal profiles. They directly connect people with each other and with organisations by means of public or semi-public profiles (Boyd & Ellison, 2007; Boyd & Ellison, 2013). For Musial and Kazienko (2012:33), two key elements define social networks: "The finite set of nodes (actors) and edges (ties) that link these nodes". Other specific characteristics of SNSs are their ability to incorporate elements from other social media (YouTube, videos, photos or maps), to allow opinions on content to be expressed by means of comments or votes (Kim *et al*., 2010) and their ability to combine previous internet communication devices, such as chat, instant messaging and e-mail (Musial & Kazienko, 2012). Rains and Brunner (2015:116) add two new characteristics: "(1) interpersonal

communication is the primary activity (Thelwall, 2009) and (2) SNSs include – but are not limited to capabilities (broadcasting messages, photo sharing, social gaming, etc.) that distinguish more focused genres of technologies privileging user-generated content".

Engagement on Facebook

In this social media environment, defined by the lead role that users have in creating and distributing messages, the key term is "engagement", which refers to the public's participation or to its level of involvement in posts published by a third-party, be it an organisation, firm or individual (Fernández Peña & Ramajo, 2014). From the corporate marketing perspective, engagement is defined as "a behavioral manifestation toward the brand or firm that goes beyond transactions" (Verhoef *et al*., 2010:247), and includes all consumer-to-firm interactions and consumer-to-consumer communications about the brand" (Gummerus *et al*., 2012:858). Within this context, engagement can be viewed as a cognitive and affective link to a brand or product that a website or application embodies (Mollen & Wilson, 2010). Thus, user engagement turns out to be one of the main objectives of any firm, organisation or institution with a presence on Facebook. By its very nature, Facebook elicits an active response from the public.

On Facebook, the various actions expressing engagement or participation define a graduated scale of lesser to greater engagement, that is to say, the user's level of activity (Coromina & Prado, 2015). Basically, there are three options for the public to participate in a post published by an individual, a firm or an organisation: 'Like', 'Comment' and 'Share'. A 'Like' is an action with a lower level of activity and is less demanding on the user, but this does not mean that the entire Facebook user base uses it. According to Hampton *et al*. (2012), only 33% of Facebook users in the United States do so, or that it is an inconsequential action: "A click on the 'Like' button transforms users' affective, positive, spontaneous responses to web content into connections between users and web objects and quanta of numbers on the 'Like' counter" (Gerlitz & Helmond, 2013:1358). While 'Shares' also indicate acceptance, they above all enable messages to be spread more widely. A 'Share' is associated with the concept of spreadability (Jenkins *et al.*, 2013) and with the idea of influence, because it enables content and ideas to be distributed beyond the users' direct relationships (Christakis & Fowler, 2009). However, if the user does not add any text, the level of user effort involved in a 'Share' is similar to that of a 'Like'. Finally, the most active user behaviour is a 'Comment', which indicates a reaction and higher level of engagement, but not necessarily one of positive acceptance, because 'Comments' are quite often used as spaces for criticism and discussion. A content analysis is therefore necessary in order to find out more about the tone of the conversation.

Each of the three actions also plays a particular role in the content-spreading mechanisms of the platform itself: 'Likes' are visible in the notification system, 'Shares' post content on the user's wall, which is integrated into friends' Timelines, and 'Comments' are also activated in the notification system. User engagement is crucial for Facebook to function properly, because it serves to articulate the platform's entire posting and social apparatus (Gerlitz & Helmond, 2013).

Gender and use of Facebook

Generally, the use of Facebook is not evenly split between men and women, as women are in the majority on this SNS. According to Hampton *et al.* (2011), 58% of Facebook users are women. In December 2012, two-thirds of American adults (67%, to be precise), were Facebook users (Rainie *et al.*, 2013). However, if we take a closer look at the split by gender in 2012, we find that, of all Americans with an Internet presence, 62% of men and 72% of women were on Facebook (Duggan & Brenner, 2013). This difference between genders continued in 2013 and 2014, when 66% were men and 76% were women (Duggan *et al.*, 2015).

Along these lines, a study based on a sample of 600 university students found that women were more likely than men to 'Like' Facebook status updates. In addition, women displayed higher levels of emotional support than men did (Joiner *et al.*, 2014). However, the findings of research conducted on small samples or centred on the United States should be viewed with a degree of caution because of the inherent global nature of Facebook and the cultural specificities of each country. This is all the more important if we take into account that 80% of Facebook users live outside the United States and that the platform is available in more than 70 languages (Caers *et al.*, 2013).

RESEARCH QUESTIONS

- What type of multimedia content (link, photo, question, status or video) managed to generate higher levels of fan participation in "The Olympic Games" page? (http:// www.facebook.com/olympics)
- Which of the posts published by "The Olympic Games" on Facebook managed to generate higher levels of fan participation during the London 2012 Olympic Games, and what was their nature?
- Is there any difference in nuance between content items that generate more 'Likes', 'Comments' or 'Shares', or are they indicators that result in the idea of popularity?
- What relationships are there between active participation in "The Olympic Games" page and gender?
- What relationships are there between active participation in "The Olympic Games" page and the language settings of users' Facebook pages?

METHODOLOGY

One hundred and fifty-five posts were selected for this study. This was the total number of posts published by the IOC during the Olympic Games, that is to say, from 27 July 2012 (the day of the opening ceremony) to 12 August 2012 (the day of the closing ceremony).

Data was gathered on Facebook content and user engagement using a programme for data extraction and analysis called Netvizz, which was developed and designed for scholarly use. Netvizz functions in a similar manner to other platform applications. It accesses data via Facebook's Application Programming Interfaces (APIs), which are simply a development

environment that regulates data access for third-party applications in accordance with the platform's terms and conditions of access (Rieder, 2013). The application systematically and automatically accesses Facebook page and group data, observing Facebook's privacy conditions and the users' settings. After selecting the page in question – in our case, the "The Olympic Games" Facebook fan page – and the analysis period, we obtained several files summarising the users' activity on the page and the 'Comments', which we used to produce the engagement summary tables and corresponding charts. We also used the OpenRefine application to clean up and format the data in order to obtain the users' gender and language settings.

Netvizz re-uses the technical and analytical features of digital platforms to obtain datasets that can then be explored to analyse cultural and social phenomena. Instead of taking recourse to the traditional methodologies used in the Social Sciences and adapting them (making them digital), Netvizz employs digital research methods that make use of computerised data and processes in order to study the medium, based on its native platforms, devices, formats and objects. In other words, the particularities of new media can be transformed into a specific method by studying digital objects, such as links, APIs, search results and other characteristic elements of social media (Rogers, 2012). However, this option is not risk free: on the one hand, it means introducing methodological assumptions exogenous to the Social Sciences, because the indicators are representative of computerised processes and, on the other, not being able to avoid the limitation represented by the fact that these data and processes are preformatted to suit the operational needs of the platform from which they are obtained, which often implies an analytical bias (Marres & Weltevrede, 2013). These limitations are especially evident when it comes to addressing the research questions, thereby preventing us from making extrapolations beyond the platform. However, it offers several important advantages: it facilitates data gathering and coding, and provides us with a privileged vantage point from which to observe and better understand digital objects and their role in the platforms' dynamics (Marres, 2012).

In keeping with that idea, the starting point for this study is the definition of post formats that the API offers: status (100% text content), photo (text + image), link (text + URL), music (text + audio), video (text + video) and question. Each of these categories indicates a specific content format. We also used the platform's indicators to represent engagement, which is understood as the users' interactions with content, which constitute the visibility and posting apparatus of it: 'Like', 'Comment' and 'Share'.

RESULTS

Content and engagement

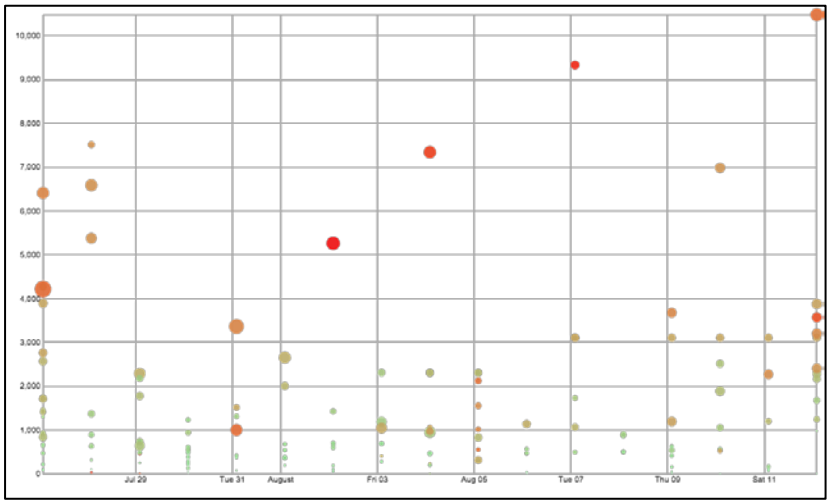
The 155 posts published by the IOC generated the participation of 819,592 users, who made 56,812 'Comments'. During the London 2012 Olympic Games, the IOC posted content on its Facebook page in five different formats: link, photo, question, status and video. As shown in Table 1, photo was the most common format (92.9%), accounting for most of the engagement generated by active users.

Table 1. **ENGAGEMENT AND POST FORMAT**

Post Format	'Post'	'Likes'	'Comments'	'Shares'
Link	3	3,395	145	388
Photo	144	2,429,429	52,993	227,783
Question	3	13	3	0
Status	4	23,805	3,637	358
Video	1	632	34	108
Total	155	2,457,274	56,812	228,637

Source: Own elaboration based on data extracted using Netvizz from the IOC's official page.

If we calculate the mean of the indicators of engagement generated by each post format, photo continues to stand out in terms of 'Likes' (16,871) and 'Shares' (1,582). Regarding 'Comments' status , however, was the format that stood out the most, with a mean of 909.3, despite the fact that only four posts were published in this format.



Source: Own elaboration created with RAW tool and based on data extracted using Netvizz from IOC's official page.

Figure 1. **CONTENT AND ENGAGEMENT**

Figure 1 graphically shows the posting activity and engagement generated by each of the posts published on "The Olympic Games" Facebook page. The horizontal axis represents the post date and the vertical axis represents the number of 'Shares' generated by each post. Each circle corresponds to a post, and its diameter represents the number of 'Likes'. The colour reflects the number of 'Comments' on a colour scale, where green corresponds to a lower

number of 'Comments' and red to higher conversation intensity. This chart was produced using RAW, an online tool developed and maintained by DensityDesign Research Lab at the Politecnico di Milano, which is based on the d3.js library (DensityDesign Research Lab., 2015).

The different-sized visual representations in this chart clearly show how a small number of posts accounts for a level of engagement that is considerably higher than the rest. We can therefore say that these posts attract most of the user interaction. These posts coincide with very specific moments and amusing stories of the London 2012 Olympic Games. For example, a cultural moment – the opening ceremony – turns out to be the event that seems to generate the highest impact on Facebook users. During the sporting competition, Michael Phelps' first medal (2 August), the South African athlete Oscar Pistorius' participation in the 400m hurdles (4 August), and the Chinese athlete Qin Kai's dive in the 3m springboard semi-final (7 August) were some of the moments with the most 'Shares' and 'Comments'. The leader board of moments with the most 'Shares' is completed by a reminder of London 1908 Olympics (10 August) and, right at the very top, by the closing ceremony (12 August). This content, which combined the text "We will rock you!!!! D" with a spectacular image of the London Olympic Stadium, generated around 10,483 'Shares' and 1,140 'Comments'. The chart also shows how the content posted and the ability to engage users picked up momentum as the Olympics progressed.

These observations are complemented by Figure 2 (to follow), which shows the Top 3 content items that generated the most engagement in each of the platform's operational categories: 'Like', 'Comment' and 'Share'. As shown, the post with the highest number of 'Likes' was the opening ceremony, followed by a photo of Michael Phelps before the competition and after winning the first gold medal.

Among the content with the most 'Shares', the Olympic stadium lit up with an image of the Union Jack came out top, followed by a photo of the springboard diving competition and then a photo of the fireworks during the opening ceremony. Among the content with the most 'Comments', we once again find that Michael Phelps' first medal came top, followed by Qin Kai's dive and then a short message encouraging Facebook users to show their support for their favourite athletes.

Profiling users by language and gender

Based on the data extracted, we attempted to profile the 819,592 unique users that actively participated in the IOC's Facebook page during the London 2012 Olympic Games. In Table 2, the users are classified by gender (male, female and unknown) and by the language settings of their personal Facebook accounts. It should be borne in mind that when users register their Facebook profiles for the first time, the default language setting is the one that prevails in their place of origin. If it is not their preferred language, users have to actively change the language setting. Thus, while this indicator is not the best way of establishing geographic attributions, it does give us some idea of their provenance. Facebook is available in many language variants that users can set (Facebook, 2013).

In this study, we found 108 languages, showing that user participation in the IOC's Facebook page was worldwide. In order to simplify the presentation of these data, Table 2 (TO FOLLOW)shows the 10 most common language categories.

The predominant language was American English, with 487,210 active fans (59.4%), followed by British English with 124,671 users (15.2%), and then by French of France and Latin American Spanish (each accounting for 4.6% of the total). Regarding gender, 60.8% of active users were female and 38.4% were male.

Top 'Likes'	Top 'Shares'	Top 'Comments'
		
		

Source: Own elaboration using screenshots of posts identified using Netvizz.

Figure 2. **TOP THREE 'LIKES', 'SHARES' AND 'COMMENTS'**

Table 2. **ACTIVE USER PARTICIPATION: LANGUAGE AND GENDER ON 'OLYMPIC GAMES' FACEBOOK PAGE**

	Female		Male		Unknown		Total	
Language	No.	%	No.	%	No.	%	No.	%
English (US)	317,152	65.1	167,254	34.3	2,804	0.6	487,21	59.4
English (GB)	75,349	60.4	48,746	39.1	576	0.5	124,671	15.2
French (FR)	18,459	48.5	19,423	51.0	192	0.5	38,074	4.6
Spanish (LA)	19,707	52.5	17,495	46.6	307	0.8	37,509	4.6
Deutsch (DE)	10,199	48.1	10,952	51.6	71	0.3	21,222	2.6
Spanish (ES)	4,710	50.6	4,568	49.1	23	0.2	9,301	1.1
Portuguese (PT)	3,803	57.6	2,776	42.1	22	0.3	6,601	0.8
Portuguese (BR)	3,557	55.8	2,811	44.1	9	0.1	6,377	0.8
Italian (IT)	3,556	55.9	2,78	43.7	24	0.4	6,36	0.8
Thai (TH)	2,899	47.1	3,235	52.6	22	0.4	6,156	0.8
Others	38,595	52.1	35,167	47.5	307	0.4	74,069	9.0
Unknown					2,042	100	2,042	0.2
Total	497,986	60.8	315,207	38.5	6,399	0.8	819,592	100

Source: Own elaboration based on data extracted using Netvizz from the IOC's official page.

DISCUSSION AND CONCLUSIONS

Social network managers know that the photo format has the greatest ability to generate 'soft' engagement ('Likes'), and it is due to this ability that it was also the most common post format (144) on The Olympic Partner (TOP) Facebook fan page, with more than 2.4 million interactions over the 17 days of the Olympics. These results are consistent with the participation dynamics recorded for the Olympic Movement since the outset, starting with the Vancouver 2010 Olympic Games (Fernández Peña, 2011). We have also seen how text content receives a higher number of 'Comments' on average. This can be explained by the fact that user participation is encouraged through questions that require specific answers. For example, one of posts with the highest number of 'Comments' (1,500) contained the text: "Olympic Fans! Who are you going to cheer for today?"

In the era of the 'click', of immediacy, the most widespread form of engagement is the behaviour requiring the least effort, the 'Like'. As shown in Table 1, photos generate the highest number of 'Likes'. However, a 'Like' is a poor form of engagement; this type of participation in the content is indicative of little commitment, low intensity and minimal thought. The fact that the two posts with the most 'Likes' contain a direct call in their respective texts for users to 'Like' them confirms that the 'Like' as an action characterised by little commitment, which is purely emotional and unthinking. This may even bring the quality of engagement into question. Orders such as "Click on 'Like' to welcome the athletes of the world!" match this profile. 'Like'-based interaction with the public is the one that bears the

closest resemblance to the relationship between old mass media and users (Fernández Peña & Ramajo, 2014:163). If we focus on the images that account for the highest number of 'Shares', the common denominators seem to be their spectacular nature and visual impact. Regarding 'Comments', it is harder to establish a pattern.

By analysing the content that generated higher levels of engagement, we were able to observe the (social) mediatisation of the Olympic event on Facebook, the SNS with the highest number of active users. In our view, a very significant fact is that this content does not, in the majority of cases, reflect that people are following the competition, but instead that users are paying attention to its spectacular nature, to celebrities and to amusing stories. As an example of the power of amusing – and even comical – stories to foster the public's participation, we would point out that the photo of the diver Qin Kai appears among the top posts with the most 'Likes' and 'Shares' of the entire Olympics. Having read the users' 'Comments' on this particular photo, we found that most of them were light-hearted reactions.

At the same time, the opening and closing ceremonies attract much of the users' attention. It is with good reason that Moragas Spà *et al.* (1995) pointed out that "the ceremonies are a principal means through which the IOC becomes visible and meaningful to mass audiences, distinguishing it from other sports agencies, and thereby helping to maintain its authority and leadership in the sport movement" (Moragas Spà *et al.*, 1995:345).

The other topic that arouses the greatest interest is that of celebrity athletes – Michael Phelps and Oscar Pistorius, among others. Here, once again, we find that there is an association between the public's participation in Facebook and the Olympic heroes that arouse the greatest interest among television viewers in the United States and across the globe (Billings, 2008; Fernández Peña *et al.*, 2010).

Particularly noteworthy is the fact that 60.8% of the people who actively participated in the page were women. This predominance of female participation is particularly striking in the United States. In fact, 65.1% of the people who interacted with "The Olympic Games" page were women, as shown in Table 2. In this respect, as we have already pointed out, other studies have shown that the general level of participation in Facebook is higher among women than among men (Hampton *et al.*, 2011). Among all Americans with an Internet presence in 2012, 62% of men and 72% of women had Facebook accounts (Duggan & Brenner, 2013). Women also have a greater tendency to 'Like' posts (Joiner *et al*., 2014). In the case of users whose language setting was English, the percentage of active women was significantly higher than the average for those with other language settings.

Such a high percentage of female participation in the case of the English language (American variant) might also be explained by the "female" profile of the free-to-air programming that the NBC network traditionally offers during the Olympic Games. As Billings (2008:34) has pointed out:

> The most prominent characteristic of Olympic programming agenda setting is the focus on women viewers, which is starkly unique compared to any other sporting telecast. Women now constitute 55 percent of all Olympic viewers, but this trend has been very steady for decades.

In this case, television programming adapted to female tastes during the Olympic Games would clearly reinforce the greater tendency for American women than American men to have Facebook accounts and to participate using 'Like'. This explanation would support the idea, referred to above, that Facebook is an extension of audio-visual media agenda setting; it is an interaction medium that complements television.

The data, showing a female predominance in English, contrast with those for people whose Facebook language settings are French, German and Thai. In these three languages, the level of participation is higher among men: in French, 51% of active participants are male and 48.5% female; in German, 51.6% are male and 48.1% female; and in Thai, 52.6% are male and 47.1% are female. As shown in Table 2, female participation predominates in all other languages, consistent with the higher number of women on Facebook. There are, therefore, two trends when it comes to participation. On the one hand, English-speaking countries with a higher level of female participation (higher than 60%), associated with the higher number of women than men on Facebook, particularly in the United States. Female participation also tends to outweigh in the vast majority of other languages, albeit with smaller differences than in the English-speaking case. On the other hand, it is interesting to note that in the cases of French, German and Thai, men interacted more than women with "The Olympic Games" page. While it is not possible for us to explain the reasons for these differences in this study, they may be associated with the level of language knowledge by gender in some of these countries, or with cultural differences that are difficult to figure out from the data available.

Regarding the language of interactions with "The Olympic Games" page, there is a clear dominance of English (American and British), which is used by the majority of people actively participating in "The Olympic Games" page, namely 74.6% of the total, or three out of every four. Clearly, this is due to two factors. The first is that the vast majority (151 out of 155) of the posts published by the IOC were in this language. In addition, among these percentages, there are almost certainly people whose Facebook language setting is English despite the fact that they do not live in the United States or the United Kingdom. Therefore, as a consequence of using these Facebook data and Netvizz, it is only possible to make reference to language/cultural profiles and not to geographical countries, because Netvizz is unable to geolocate the real origin of Facebook users with an active behaviour. Albeit to a lesser extent compared to the first, the second factor is that, in the case of the United Kingdom, the Olympic Games host country, its citizens would have tended to participate more actively in an initiative and in media connected with "their" Olympic Games. Both the pace of increase in the number of fans and the high level of participation of American women seem to be indicative of the fact that Facebook is a medium that is complementary, that is to say, subordinate to television. Whereas television constructs the reality of the Olympic Games, Facebook becomes a medium associated with the reality constructed by television and with its agenda-setting ability. Facebook is a participation tool available to television viewers influenced by the audiences produced by television, as the data for the United States and the United Kingdom seem to suggest.

At this point, we consider it relevant to compare the interactions analysed ('Likes', 'Comments' and 'Shares') to the conception of engagement as a cognitive and affective link to the values and attributes of a brand or product (Mollen & Wilson, 2010). In this respect, to assert that the actions of Facebook users are representative of the link to the values and attributes of the Olympic Movement is careless, to say the least. Considering these reflections, it seems logical to wonder whether we are placing too much importance on these indicators by focusing most of our analysis on them. In other words, what value do 'Likes', 'Comments' and 'Shares' really have? The answer to this question is undoubtedly beyond the objectives of and methodology used in this study. Nevertheless, we do believe that it is interesting to underscore that these actions fulfil the function of activating the apparatus of content visibility in the sense that they activate the system of notifications and content posting, and that they are indicative of the level of scope and spread of such content (Gerlitz & Helmond, 2013; Coromina & Prado, 2015).

LIMITATIONS AND PRACTICAL IMPLICATIONS

The very nature of the actions, which make up what we understand as engagement on Facebook, hinders the task of drawing conclusions beyond a measurement of participation in strictly quantitative terms. The differences in nuance and distinctions between the various categories of engagement seem minimal. Thus, 'Likes' should not be considered much more than an indicator of content popularity. Because of their ability to spread information beyond the container that a Facebook fan page represents, 'Shares' reflect content transcendence and scope. A detailed analysis of 'Comment' content would almost certainly enable us to incorporate a qualitative nuance and shed light on how users become pure senders of communication. We would therefore suggest this line of research for future studies, whose aim will be to perform a more in-depth qualitative analysis. Similarly, we believe that it is important to establish some type of formula to rebalance the real weight of each of these three indicators. The problem with any study based solely on data extraction is that it inevitably comes up against the difficulty of coping with the complexity (Morin, 2011) inherent to the public's participation, because any quantitative view is a simplification of the analysed facts.

Another important limitation exist in the fact that our object of study – "The Olympic Games" fan page and the content posted on it – represents a small portion of the content posted on Facebook about the Olympic event, as most of the users' activity is likely to have occurred on their personal timelines. Therefore, it is important to note that these observations and conclusions are limited to the IOC's ability to generate content on its own page and, by so doing, to generate user engagement in a very constrained environment.

In this respect, the IOC has a great opportunity to expand its fan community on SNSs by translating its posts into languages other than English because, as we have seen, targeting an English-speaking audience seems to hamper its ability to reach other audiences and enable interaction with non-English speakers. Nevertheless, the significant volume of users that interacts with its content represents a privileged situation for spreading Olympic culture. The design of SNS strategies in conjunction with TOP sponsors, broadcasting rights holders, national committees, federations, athletes and Olympic volunteers may also help to spread Olympic culture and its positive values.

REFERENCES

BERNERS-LEE, T. & FISCHETTI, M. (2000). *Weaving the Web: The original design and ultimate destiny of the World Wide Web by its inventor*. New York, NY: Harper.

BILLINGS, A.C. (2008). *Olympic media: Inside the biggest show on television*. New York, NY: Routledge.

BOYD, D. & ELLISON, N.B. (2007). Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication*, 13(1): 210-230.

BOYD, D. & ELLISON, N.B. (2013). Sociality through social network sites. In W.H. Dutton (Ed.), *The Oxford handbook of internet studies* (pp. 151-172). Oxford, UK: Oxford University Press.

CAERS, R.; DE FEYTER, T.; DE COUCK, M.; STOUGH, T.; VIGNA, C. & DU BOIS, C. (2013). Facebook: A literature review. *New Media & Society*, 15(6): 982-1002.

CHRISTAKIS, N.A. & FOWLER, J.H. (2009). *Connected: The surprising power of our social networks and how they shape our lives*. New York, NY: Little & Brown.

COROMINA, Ò. & PRADO, E. (2015). *Tres onces de septiembre en Facebook: Contenido y engagement en la página de Facebook de la Assemblea Nacional Catalana* (trans.: *Three Eleventh of September on Facebook: Content and Engagement on the Facebook Page of the National Catalan Assembly*). [Manuscript submitted for publication].

DENSITYDESIGN RESEARCH LAB (2015). Hyperlink: [http://raw.densitydesign.org/]. Retrieved on 22 October 2015.

DITTRICH, M. (2013). *Pierre de Coubertin: Yesterday and today*. Lausanne, Switzerland: International Olympic Committee, Pierre de Coubertin [DVD].

DUGGAN, M. & BRENNER, J. (2013). "The demographics of social media users". *Pew Internet and American Life Project*. 14 February. Hyperlink: [http://www.pewinternet.org/2013/02/14/the-demographics-of-social-media-users-2012/]. Retrieved on 20 October 2015.

DUGGAN, M.; ELLISON, N.B.; LAMPE, C.; LENHART, A. & MADDEN, M. (2015). "Social Media Update 2014". *Pew Research Center*. 9 January. Hyperlink: [http://www.pewinternet.org/2015/01/09/social-media-update-2014/]. Retrieved on 24 October 2015.

FACEBOOK (2012). "Facebook. Annual Report 2012". Hyperlink: [https://materials.proxyvote.com/Approved/30303M/20130409/AR_166822/]. Retrieved on 27 October 2015.

FACEBOOK (2013). "Translations: Facebook Locales XML file". Hyperlink: [https://www.facebook.com/translations/FacebookLocales.xml]. Retrieved on 27 October 2015.

FERNÁNDEZ PEÑA, E. (Ed.) (2011). "Social networking and the Olympic Movement: Social media analysis, opportunities and trends". Report commissioned by the International Olympic Committee. Barcelona: Olympic Studies Centre at the Autonomous University of Barcelona. Hyperlink: [http://doc.rero.ch/lm.php?url=1000,10,38,20110929154239-FE/2011_-_Social_Networking_and_the_Olympic_Movement_-_UAB_OSC.pdf]. Retrieved on 26 May 2015.

FERNÁNDEZ PEÑA, E.; MORAGAS SPÀ, M.; LALLANA, I. & REZENDE, A. (2010). Spain: The power of a mega event which eclipses criticism. *The International Journal of the History of Sport*, 27(9-10): 1637-1677.

FERNÁNDEZ PEÑA, E. & LALLANA, I. (2011). Television and the Olympic Games: Symbiosis, globality and the construction of meaning. In E. Fernández Peña, B. Cerezuela, M. Gómez, C. Kennet & M. de Moragas (Eds.), *An Olympic Mosaic: Multidisciplinary Research and Dissemination of Olympic Studies, CEO-UAB: 20 Years* (pp. 133-142). "Barcelona: CEO-UAB and Ajuntament de Barcelona". Hyperlink: [http://ceo.uab.es/2010/docs/C40912_3.pdf]. Retrieved on 26 May 2014.

FERNÁNDEZ PEÑA, E.; RAMAJO, N. & ARAUZ, M. (2014). Social media in the Olympic Games: Actors, management and participation. Sport and new media. In A. Billings & M. Hardin (Eds.), *Routledge handbook of sport and new media* (pp. 153-164). London, UK: Routledge.

FRANK, L. & WILLIAMS, B C. (2012). Stats for London 2012 on Facebook. *Facebook Newsroom.* 15 August. Hyperlink: [http://newsroom.fb.com/news/2012/08/stats-for-london-2012-on-facebook/]. Retrieved on 25 October 2015.

GERLITZ, C. & HELMOND, A. (2013). The like economy: Social buttons and the data-intensive web. *New media & Society*, 15(8): 1349-1365.

GUMMERUS, J.; LILJANDER, V.; WEMAN, E. & PIHLSTRÖM, M. (2012). Customer engagement in a Facebook brand community. *Management Research Review*, 35(9): 857-877.

HAMPTON, K.; GOULET, L.; MARLOW, C. & RAINIE, L. (2012). "Part 2: Facebook Activity". *Pew Internet and American Life Project.* 3 February. Hyperlink: [http://www.pewinternet.org/2012/02/03/part-2-facebook-activity/]. Retrieved on 25 October 2015.

HAMPTON, K.; GOULET, L.; RAINIE, L. & PURCELL, K. (2011). "Social networking sites and our lives". *Pew Internet and American Life project*. 16 June. Hyperlink: [http://www.pewinternet.org/2011/06/16/social-networking-sites-and-our-lives/]. Retrieved on 25 October 2015.

IOC (International Olympic Committee) (2012). London 2012 Olympic Games. Global Broadcast Report. Hyperlink: [http://www.olympic.org/Documents/IOC_Marketing/Broadcasting/London_2012_Global_%20Broadcast_Report.pdf]. Retrieved on 5 October 2015.

JENKINS, H. (2006). *Convergence culture: Where old and new media collide*. New York, NY: New York University Press.

JENKINS, H.; FORD, S. & GREEN, J. (2013). *Spreadable media: Creating value and meaning in a networked culture*. New York, NY: New York University Press.

JOINER, R.; STEWART, C.; BEANEY, C.; MOON, A.; MARAS, P.; GUILLER, J.; GREGORY, H.; GAVIN, J.; CROMBY, J. & BROSNAN, M. (2014). Publically different, privately the same: Gender differences and similarities in response to Facebook status updates. *Computers in Human Behavior*, 39(October): 165-169.

KIM, W.; JEONG, O.R. & LEE, S.W. (2010). "On social Web sites". *Information Systems*, 35(2): 215-236. Hyperlink: [http://www.sciencedirect.com/science/article/pii/S0306437909000866]. Retrieved on 25 October 2015.

MARRES, N. (2012). The redistribution of methods: On intervention in digital social research, broadly conceived. *The Sociological Review*, 60(S1): 139-165.

MARRES, N. & WELTEVREDE, E. (2013). Scraping the social? Issues in live social research. *Journal of Cultural Economy*, 6(3): 313-335.

MOLLEN, A. & WILSON, H. (2010). Engagement, telepresence and interactivity in online consumer experience: Reconciling scholastic and managerial perspectives. *Journal of Business Research*, 63(9-10): 919-925.

MORAGAS SPÀ, M. de; MACALOON, J. & LLINÉS, M. (Eds.) (1995). *Olympic ceremonies: Historical continuity and cultural exchange*, *International Symposium on Olympic Ceremonies*, Barcelona-Lausanne, November 1995. Lausanne, Switzerland: IOC.

MORIN, E. (1994). *Introducción al pensamiento complejo* (trans.: *Introduction to complex thinking*). Barcelona, Spain: Gedisa.

MUSIAL, K. & KAZIENKO, P. (2012). "Social networks on the Internet". *World Wide Web*, 16(1): 31-72. Hyperlink: [http://www.springerlink.com/content/d039n8j788q06133/fulltext.pdf]. Retrieved on 27 October 2015.

NEE, R.C. (2015). Gatekeeping the 2012 Olympic Games: Did #NBC fail the social media audience? *Journalism & Mass Communication Quarterly*, 92(1): 77-98.

O'REILLY, T. (2007). What is Web 2.0: Design patterns and business models for the next generation of software. *Communications & Strategies*, 65(1st quarter): 17-37.

RAINIE, L.; SMITH, A. & DUGGAN, M. (2013). "Coming and going on Facebook". *Pew Internet and American Life Project*, 5 February. Hyperlink: [http://www.pewinternet.org/2013/02/05/coming-and-going-on-facebook/]. Retrieved on 25 February 2016.

RAINS, S.A. & BRUNNER, S.R. (2015). What can we learn about social networking sites by studying Facebook? A call and recommendations for research on social network sites. *New Media & Society*, 17(1): 114-131.

RIEDER, B. (2013). Studying Facebook via data extraction: The Netvizz application. In *Proceeding of the 5th Annual ACM Web Science Conference* (pp. 346-355). New York, NY: ACM.

ROGERS R. (2012). *Digital methods*. Cambridge, MA: MIT Press.

THELWALL, M. (2009). Social network sites: Users and uses. In M. Zelkowitz (Ed.), *Advances in computers* (pp. 19-73). Amsterdam, The Netherlands: Elsevier.

VEÁ, A. (2013). *Cómo creamos Internet* (trans.: *How we created the Internet*). Barcelona, Spain: Península.

VERHOEF, P.C.; REINARTZ, W.J. & KRAFFT, M. (2010). Customer engagement as a new perspective in customer management. *Journal of Service Research*, 13(3): 247-252.

WEINBERGER, D.; LOCKE, C.; LEVINE, R. & MCKEE, J. (2009). *The Cluetrain Manifesto* (10th Anniversary edition). New York, NY: Basic Books.

WILDFIRE MONITOR (2014). "Wildfire Monitor by Google". Hyperlink: https://support.google.com/wildfire/answer/2852688?hl=en]. Retrieved on 5 March 2015.

YOUNG, K. & WAMSLEY, K.B. (2005). *Global Olympics: Historical and sociological studies of the modern Games*. Amsterdam, The Netherlands: Elsevier.

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