



THE OLYMPIC ACTORS ENGADGEMENT ON FACEBOOK AND TWITTER DUTING THE BUENOS AIRES YOUTH OLYMPIC GAMES

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SUMMARY

Rerris Konstantinos: The Olympic Actors Engagement on Facebook and Twitter during the Buenos Aires Youth Olympic Games.

(Under the supervision of Emilio Fernandez Pena, Professor)

The purpose of the present study is to present the results that has been gained thought data analysis research in the area of social media and sports. It aims to investigate the importance of the social media in sports and especially during the competition days of the Buenos Aires Youth Olympic Games. It aims at investigating the degree of engagement of the Olympic actors through their social media accounts in Facebook and Twitter. The study also aims to investigate the communication philosophy of the actors. An overview of the existing bibliography on the field of social media, social media as a network, social media and Olympic Games, social media and Youth Olympic Games was undertaken. Afterwards the study was carried out through data analysis after collecting data from the Facebook and Twitter accounts of the Olympic actors through the programs Netvizz and TCAT respectively, and further processing to graphs and table through excel and Gephy.

The results indicated high levels of engagement between the official accounts of the Olympic actors that were involved in the Buenos Aires Youth Olympic Games. The interrelated with each other creating content that reached high levels of engagement, by forming a wider network that reached greater audiences. The different policies that were implemented varied between the Olympic actor's official accounts, this created an even more reach and interesting result in the content that was published with the reaction of the audience been the ultimate goal for all the accounts in all the social media platforms. Despite their differences and similarities in the policies they applied and the contents they created, they all contribute by carrying out the images and the action of the games through the social media platforms and engaging viewers from all around the world.

Keywords: engagement, social media, interrelation, Youth Olympic Games, Facebook, Twitter

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ABBREVIATIONS

I.O.C	International Olympic Committee
Y.O.G	Youth Olympic Games
B.A.Y.O.G	Buenos Aires Youth Olympic Games
U.R.L	Uniform Resource Location

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CHAPTER I. INTRODUCTION

The Youth Olympic Games were created on the initiative of the former President of the International Olympic Committee (IOC), Jacques Rogge. The IOC Executive Board unanimously welcomed the President's idea on 25 April 2007. The 119th IOC Session later approved the project in Guatemala City, and the Youth Olympic Games were finally able to take shape.

Rogge said: "The Youth Olympic Games are the flagship of the IOC's determination to reach out to young people. These Games will not only be about competition. They will also be the platform through which youngsters will learn about Olympic Values and the benefits of sport, and share their experiences with other communities around the globe". (IOC, 2008)

In the first place, the Youth Olympic Games aim to bring together the most talented athletes from around the world to participate in high-level competitions. The YOG will give these young athletes a unique opportunity to gather international and intercontinental competing experience and meet their peers from around the world.

The YOG also want to stimulate the young talented athletes to persist on the long and generally difficult road of becoming a top-athlete with the ultimate dream: participate in the 'real' Olympic Games(Lucidarme & Maes, 2009).

According to the IOC, these sporting achievements ought to be completely surrounded by educational and cultural programmes. The event will offer after all an excellent occasion to learn the youth about the Olympic Values and their meaning in today's world while avoiding any discrimination and endorsing the spirit of friendship, solidarity, tolerance and fair play. Furthermore the youngsters will be informed about the benefits of sport for a healthy lifestyle, the social values sport can generate, and the dangers of doping, excessive training and the risks of inactivity. The last important focus of the educational program will be to make these young athletes aware of their role as ambassadors for sport in their communities(Lucidarme & Maes, 2009).

YOG VISION AND OBJECTIVES

The Youth Olympic Games (YOG) vision is to inspire young people around the world to participate in sport and encourage them to adopt and live by the Olympic values and become ambassadors of Olympism. (IOC, 2019)

The idea behind the YOG is to organize an event, to educate, engage and influence young athletes and other young participants, inspiring them to play an active role in their communities. (IOC, 2019)

Main objectives of the YOG according to the IOC are the following:

1. To bring together and celebrate the world's best young athletes.
2. To propose a unique and powerful introduction to Olympism.
3. To innovate in educating and discussing the Olympic values and societal challenges.
4. To share and celebrate the cultures of the world in a festive atmosphere.
5. To reach youth communities throughout the world and to promote the Olympic values.
6. To raise sports awareness and participation among young people.
7. To act as a platform for new initiatives and ideas within the Olympic Movement.
8. To organize an event of the highest international sporting standards. (IOC, 2019)

The YOG are not simply mini-Olympic Games. They are the ultimate multi-sporting event, inviting athletes from around the world to compete, learn and share. In addition to the sports competitions, the athletes take part in a number of Learn & Share activities (known previously as Culture and Education Programme (CEP)). Along with several innovations in the competition formats, these are what make the YOG different from other sports events. There is a summer and a winter edition, like for the Olympic Games. (IOC, 2019)

The 2018 Summer Youth Olympic Games or officially known as the III Summer Youth Olympic Games, and commonly known as Buenos Aires 2018, were held in the capital of Argentina, Buenos Aires between 6 and 18 October 2018. They were the first Summer Youth Olympic Games held outside of Asia also first in the Southern and Western Hemispheres.

The Buenos Aires Youth Olympic Games (YOG) was the biggest multi-sport world competition for young elite athletes between 15 and 18 years old. Buenos Aires 2018 also was the first gender-balanced Olympic event and featured an equal number of male and female athletes.

Over 12 days of competition with 3,923 athletes, 1,963 male and 1,963 female athletes at the 1st gender balanced event. From 206 countries competed in 32 sports in 241

medal events. In the competition programme were included summer Olympic sports such as swimming, artistic gymnastics, athletics and 3x3 basketball, and new sports to the YOG programme including roller sports, dance sport, karate and sport climbing.

However previous researches have shown that the public awareness and the familiarity of the previous Youth Olympic Games has been emphatically low(L. Judge et al., 2014). Those new games occur at the same period with the appearance and growth of social networks. The two most popular social networks that we investigated through this study Facebook and Twitter both shown signs of growth in their annual report. With Facebook having 2.32 billion monthly active users (Facebook IR, 2018) and Tweeter 336 million monthly active users.(Statista, 2019)

The Youth Olympic Games have been represented in the social networks since their first edition in Singapore 2010 and they are using them as the main source of promotion to reach young people (IOC, 2015). Professor Emilio Fernandez Pena said “Youth Olympics Games are an event whose communication strategy and philosophy focuses on young people, who are more active on, and participate much more in, social networking sites(Fernández Peña, 2009). So in order to encourage the engagement among the younger audiences we have to employ social media in the most effective possible way.

CHAPTER II. LITERATURE REVIEW

Social media

Social media are the new media that are based in the internet in addition to the old kinds of media (television, radio, and newspaper) where the audience was only receiving the news and messages in a linear way of communication where there was no flexibility and the audience is passive, the audience-users are playing an active role being able to produce and disseminate messages on the net in a flexible way of communication without center and periphery where all the actors are potentially communicators and audience(Fernández Peña & Arauz, 2011).

Social network platforms like Facebook and Twitter are also social media despite the fact they have some special characteristics which allows the direct connection of the people between each other and the organizations by public or semi-public profiles(Boyd & Ellison, 2007). While other researchers are offering different essential characteristics that define a social network like the ability to integrate elements from different social media like (videos and photos)(Kim, Jeong, & Lee, 2010) or the “finite set of nodes (actors) and edges (ties) that link those nodes” and the ability to combine internet communication devices which previously we separated with the network such as chat, live messaging and, mail. according to (Musiał & Kazienko, 2013).

Communication in a social network perspective

It is essential in order to discuss a bout communication in the social media to understand the meaning of 2 key terms in this field.

Engagement

Engagement as expressed by Emilio Fernandez Pena “refers to how the public becomes involved and participates with the presence on social media”(Fernández Peña, Ramajo, & Arauz, 2014). The number of friends or followers defines the first phase of engagement, this method can be misleading some times since the engagement needs to be constantly renewed in each publication. There are three levels of engagement to measure how active the public. The first level of engagement refers to the number of “likes”, this level is the most passive of the tree. The second level of engagement includes adding a post or a comment to the publication, this elevates the level or engagement and finally the third and higher level of engagement is reached by sharing the published content.(Fernández Peña et al., 2014).

This last level except from showing the engagement of the audience it also produces spreadability between people who are not friends, fans or followers of the page where the content comes from. This means that by reaching the top level of engagement the action of sharing a content extends beyond the network of the friends-followers who voluntarily follow that page this phenomenon is called the three degree rule.(Fernández Peña et al., 2014)

The three degree of influence rule

The three degree of influence rule refers to the possibility of a content which is shared in a page can influence us via friends of our friends, through contacts who are not coming directly from our social network. This is possible through the system of social

recommendation which is based in the natural tendency of humans to imitate the social behavior of (Christakis & Fowler, 2009).

Cross-pollination

The process in which an external concept is orientated towards the whole and refers to the relations, collaboration and feedback between different presences of the same institution on the internet like webpage, YouTube channel, Facebook, Instagram, Tweeter and other social networks. Is called cross-pollination(Fernández Peña et al., 2014).

Engagement in Facebook

Facebook like many other social media platforms allows users to interact with brands and other users through online media network enhancing brand image and communication between each other(Kujath, 2011). Every day users generate upload and share contents in the online platform(Schultz & Sheffer, 2016). Facebook has an average of 1.52 billion daily active users for December 2018 and an increase of 9 % year over year and an average of 2.32 billion monthly active users as of December 31, 2018 with an increase again 9 % year over year(Facebook, 2019). In 2008 Facebook released a new page feature for organizations, groups and businesses as mean to further communicate with users. Facebook pages measures users and fans engagement, interaction, and allows us to investigate how users are interacting between each other in real time offering us valuable information such as data about demographics and frequent users.

The content in the Facebook pages include status updates and relevant uploads including pictures, videos, links, and notes. Facebook allows its users to upload contents on their pages “wall”, which will be available for the users and fans newsfeed. The fans of the page can interact by posting in the page’s wall, sharing the content with their friends, commenting on the post or using the like button.

Following – friends list

By following someone on Facebook you are able to have access to all the contents that the other user is uploading at his or her Facebook profile and been a member of his network.

Posting on Facebook

Registered users are capable of uploading messages, the so called “tweets” (restricted to 280 characters) which can contain pictures and videos. The user can “tag”, or label the posts (videos and photos), friends of his network. The users of this social network can “like” the posts of other users and also share them.

Like and reactions

The “like” button gives the opportunity to user, to interact with the uploaded content. Either the post it contains comments, photos, videos, links etc. The last years Facebook expanded like in to reactions. The visitor of the post can choose a way to react with the post through five pre-defined emotions (“love”, “ha-ha”, “wow”, “sad” or “angry”)

Comment and Share

Except from liking and reacting with the pre-selected buttons that we have analyzed above there is also the option of commenting and sharing the post of another user. Either the way it was posted at the first place or adding comments or tag.

Through those action the original content is generating higher levels of engagement. Reacting with a post through liking it the most passive way of engaging, despite that through this action the content which was liked is very likely to appear to the news feed of the Facebook friend's network. Moving on to sharing a post generates a higher level of engagement making it even more possible for this post to reach a wider range of people in the Facebook friend's network.

And finally the last and higher level engagement is generated through commenting. Through this way the users can express their thoughts and feeling about the post. (Gila, 2014). When it comes to social media and Facebook in particular engagement is the main objective for all the users, organizations, and institutions(Fernández Peña et al., 2014).

Engagement in Twitter

Twitter is an online social networking and microblogging platform that was founded in 2006. Twitter is serving as a social media platform where people create, share content, and ideas instantly. With a gradually increased number of users from year to year reaching the number of 336 million monthly active users, who post over 500 million tweets per day. Twitter has created a new way of communication between people a new way in which people interact and engage with one another. Twitter's microblogging environment has become a popular and powerful mean of communication in which information's and ideas are reaching a large number of audience(Naraine & Parent, 2016). To better understand the level of engagement in Twitter we need analytical insight of followers, tweets, retweets, likes, hashtags and mentions which are considered as public's engagement indicators and shows the level of public's interest for a tweet(Russell, 2014).

Following

By following someone on Twitter you are able to have access to all the contents that the other user is uploading at his or her Twitter account (Zarrela, 2009).

Tweeting

Registered users are capable of uploading messages, the so called “tweets” (restricted to 280 characters) which can contain pictures and videos. The users of this social network can “like” tweets of other users and also share them via “retweeting”. (Zarrela, 2009)

Retweet

We are using the term “retweet” when a user finds a tweet written by another user that interests him or her and shares it with his or her followers. By this action the original tweet is getting additional value by reaching audience which wasn’t able to reach the content posted by the first user because those new users were not in the network of the first user, in terms of Twitter because they were not in the first users followers list (Cha, M., Haddadi, H., Benevenuto, F., Gummadi, P.K., 2010)

Like

When a user finds a tweet written by another user that interests him or her has the chance to interact with by “liking” the content. This action adds value to the published content “tweet” and it helps measure the popularity of it by the number of likes it gets (Suh, Hong, Pirolli, & Chi, 2010).

Hashtag

As (Zarrela, 2009) mentioned in her book, the social media marketing book a hashtag is used “to connect ideas and conversations into a cohesive stream in Twitter’s otherwise free - from landscape, people often use hashtags. Simply is a word preceded by the pound or number sign (#), a hashtag is used to indicate that a certain tweet is about the same topic as every other tweet using the same tag.” When a tweeter user is posting a tweet with a popular hashtag or searching for a popular hashtag, Twitter gives the chance to this user to connect with other individual users out of his network who shares the same interests. The use of hashtags has rapidly increased the last years with companies and brands using the (#) to promote themselves (Blaszka, Burch, Frederick, Clavio, & Walsh, 2016).

Mentions and Replies

Mentions and replies in Twitter are possible through the use of the symbol (@) and the (@username), the username represents the name of the person or the administrator of the account in which the user is referring to. Those tweets can be viewed by the followers of the (@username) account (Zarrela, 2009).

Social media and the Olympic Games

The social network sites where was a new area where the IOC was seeking new founding methods and also and most important a new tool to reach new audiences to more people, mostly youngsters who are keen on to be more active in the social network sides, to spread the Olympic values, ideas and symbols. The starting point where the IOC started to cooperate and engage the social media in their communication strategy was the Beijing 2008 Olympic Games. For the first time an agreement was reached between the IOC and internet native companies for audiovisual contribution of broadcast rights to 77 countries in Africa, Asia, and the Middle East where the internet rights were not sold. Audiovisual content of the games was available to those countries thank to the Beijing 2008 Olympic Channel on YouTube. Which allowed the access in 21 million videos and images for more than two weeks, during the period of the Games to users of those specific geographical areas(Fernández Peña, 2009). The big step towards the social networking websites was made during the Vancouver 2010 winter Olympic Games, where the International Olympic Committee in collaboration with the Organizing Committee of the games launched its presence in both Facebook and Twitter(Fernández Peña et al., 2014). The same technique was also used for the London 2012 Olympic Games in 64 countries in Asia and Africa where the broadcasting rights were not sold the competition was broadcasted live through the YouTube Channel providing 2,200 hours of content to its visitors(Fernández Peña et al., 2014).

The IOC kept on using the new social media and kept on evolving. The Olympic Games of Rio 2016 were “the most social games” according to Tang Tang and Roger Cooper as they mention “The Games generated 75 billion social media impressions. A total 187 million tweets and 1.5 billion Facebook interactions about the Olympics were made.”(Tang & Cooper, 2018)

Social media and Youth Olympic Games

From the birth of the games one of the main reasons that were created was to enhance the Olympic brand and reach the attention of the younger people to the Olympic Games and to inspire them to be more active, physically practicing sports and also share the mentality of the games and disseminate the values of the Olympic Games. The social media could serve as the perfect tool to reach those audience's, to spread the message of the Games and between the young athletes participating in the games but even more important to increase the interest of the young people and give the chance to them in a world wide range to know interact and be part of it(L. Judge et al., 2014)

Nonetheless it's worth to mention that the Youth Olympic Games have received less media coverage and sponsorship in comparison with the Olympic Games, despite the fact the brand and the content, the protocol and components (despite the difference age of the athletes) are the same in both events(Hanstad, Parent, & Kristiansen, 2013).

The consequences of this little media attention has as a result the low levels of public awareness regarding the Youth Olympic Games. This indicates an even bigger danger for the Youth Olympic Games since if the social media policy fails to reach those young audiences then the primary objectives to reach youth communities throughout the world and to promote the Olympic values, together with raising sports awareness and participation among young people(L. Judge et al., 2014).

More and more and researchers lately have focused in the study of the media coverage of the Youth Olympic Games understanding its great value. Stakeholder network analysis has highlighted the importance the usage of the media is in the Youth Olympic Games development(Parent, Kristiansen, Skille, & Hanstad, 2015). There have been studies published regarding the communication strategies of the Youth Olympic Games regarding the traditional media(Pedersen, 2014) but there are also studies which examine social media at the core of the communication policy recognize it as one of the primary stakeholders of the Youth Olympic Games(Hanstad et al., 2013).Comparing them with the Olympic Games(Séguin, Ferrand, & Chappelet, 2014)(Hanstad et al., 2013)

And relating the awareness of the event with the engagement of the public via social media (Petersen, 2015). Comparing different editions of the Youth Olympic Games, summer and winter(Gila, 2014) the different time frames, before during and after(Yoon, 2017). Some of them have to do with the athletes which participated in the games(Krieger & Kristiansen, 2016) some others with targeted groups in specific countries like the case of (Gutiérrez-Cillán, Camarero-Izquierdo, & San José-Cabezudo, 2017) (L. W. Judge et al., 2011). And finally the studies that have to do with the stakeholders perspective and examine their social media interaction within the organizations social network. (Yoon, 2017)(Parent et al., 2015).

The Olympic Channel

Facing the problem of poor media coverage mainly during non-Olympic Years and in an effort to tackle the low interest levels of the Olympic and Youth Olympic Games fans (especially for the younger audiences) the International Olympic Committee had to find a solution to generate higher levels of publicity, raise awareness, and engage more fans and stakeholders.

The answer to that problem was the creation of the Olympic Channel.

In the 127th I.O.C Session which took place in Monaco on the 8th and 9th of December the Olympic Agenda 2020 was unanimously agreed. In it there are 40 detailed recommendations aiming to guide and strength the future of the Olympic Movement and its goals. As Thomas Bach, president of the I.O.C mention at his speech during the opening ceremony of the session.(IOC, 2014)

“The Olympic Agenda 2020 addresses our communication with the youth. As a sports organization we cannot be satisfied only with increasing numbers of young people watching the Olympic Games. We have an interest and a responsibility to get the couch potatoes off the couch. Only children playing sport can be future athletes. Only children playing sport can enjoy the Educational and health values of sport. We want to inspire these children by giving them better access to sport. We want to engage with them wherever they are.”

The creation of an Olympic Channel address this gap of communication between the Olympic Movement and the youth. This channel was created to be the main tool to empower the communication strategy of the I.O.C ensuring the media exposure not only during the days of the competition but also between the Olympic Games. Making accessible to young people content related with athletes, sport, Olympic History, Olympic Culture and Olympic Values.

The Olympic channel is mention several times in the recommendations as tool to assist each time for a different cause. In the recommendation number 3 point number 5: Reduce cost of bidding. Recommendation number 7: Strengthen relationships with organizations managing sport for people with different abilities and recommendation number 19: Launch an Olympic Channel.

“The IOC to give access to bid cities, upon their request, to the Olympic Channel, if the creation of such Channel is approved.”(IOC, 2014)

“Promotion of events via the Olympic Channel.”(IOC, 2014)

“The IOC to launch an Olympic Channel.”(IOC, 2014)

Since the day it was launched on 21 August 2016 alongside the closing ceremony of the Rio 2016 Olympic Games there have been taken a lot of steps forward. The Olympic channel is serving as a multi-platform, global media destination which provides content relayed with Olympic Games, sports and athletes all year round. Aiming to engage and bring closer the younger generations to the Olympic Movement through offering content and ways which are friendlier and commonly used by those ages via social media and mobile apps.

The primary objectives of the Olympic channel according to the Olympic Channel Commissioning Brief is to provide a platform for the continuous exposure of Olympic sports and athletes beyond the Olympic Games period and create an active and alive environment to relive the experience of the games and create a sense of anticipation for the next Games Highlight the relevance of the Olympic Movement's ideals to the challenges of today's world.(IOC, 2016)

The objectives of the Olympic Channel

The primary objectives of the Olympic channel as mentioned by the official side are the following 4.

“Provide a platform for the continuous exposure of Olympic sports and athletes beyond the Olympic Games period and help create anticipation while providing opportunities to “re-live the experience” after the Games. (OCS, 2016)

Continuously highlight the relevance of the Olympic Movement's ideals to the challenges of today's world. (OCS, 2016)

Provide a platform for sharing the IOC's very rich patrimonial assets and archives with the world and create additional value and content for the IOC archives. (OCS, 2016)

As a matter of priority, engage the young generations around the world using methods that are relevant to them, building understanding, entertainment and education.” (OCS, 2016)

The Olympic channel is using a holistic approach to reach its goals, by making accessible the content of the channel to as many ways as possible. Available worldwide via mobile apps for Android and iOS and at the olympicchannel.com (Dovaliene, Masiulyte, & Piligrimiene, 2015), having in mind the goal of targeting younger audiences between 16 to 35 years old who are more active in social media and . The Olympic channel can be followed via Facebook, Instagram, Snapchat and YouTube. The strategy used by the Olympic Channel is called “cross-pollination” which according to Professor Emilio Fernandez Pena is:

“A cross-pollination strategy between and among all the institution's presences on the Internet should be employed. That will allow some Facebook fans and Twitter followers to be redirected to the Olympic channel website and to discover new content. To enhance the integration of all these Internet initiatives and to implement a mutual feedback strategy” (Fernández Peña & Arauz, 2011)

The Olympic Channel offers a dynamic environment in 11 different languages free of charge for users/viewers with the option of a premium content for subscribers.

The Olympic Channel offers a variety of contents including original programming, news, live sport events, social media and interactive content ensuring exposure for sports and athletes during and after the Olympic Games period themselves.

The thematology covers a great array of subjects such as:

Training

Educational and Youth oriented topics

Sustainability

Sports science and nutrition

Healthy and active lifestyle

Historical footage and official films from the IOC's archives (OCS, 2016)

CHAPTER III. METHODOLOGY

The present study investigates which contents engaged most the public's interest from the official accounts of the Buenos Aires Youth Olympic Games in Facebook and Tweeter. In order to achieve it the investigation used the organizations official Twitter accounts (@BuenosAires, @youtholympics, @Olympics, @iocmedia) and the (@OlympicChannel) to accomplish the study's purpose. Specifically the tweets in Titter and the posts in Facebook that were published via the official accounts(@BuenosAires, @youtholympics, @Olympics, @iocmedia) and the (@OlympicChannel) three days before the competition starts, during and three days after the end of the Games.

This study used the TCAT Software digital methods to extract all the data from the total number of the tweets, number of times a tweet was retweeted or marked as "like" through the Twitter application programming interface (API). Thanks to this Software we target data which were published in the official Olympic actors' accounts. We were also able to assess the use of hashtags related to the Games like #YOG, #BUENOSAIRE, #OlympicChannel and #Olympics and a number of others which are linked with the Buenos Aires Youth Olympic Games.

To achieve the same result and study which content produced the greatest engagement levels in Facebook the study used Netvizz which is an extract and data analysis program designed for research(Rieder, 2013). This tool also gives us access to data through Application Programming Interfaces (API), which regulates the access to information for third party applications according to the rules and conditions of Facebook. After selecting the pages and the timeframe, we obtain the necessary data to produce tables and diagrams which shows us the engagement levels(Gila, 2014)

To find the interrelation between the different actors and stakeholders of the games we focused in social network and analysis methods, so we can be able to represent the networks of interest and it's interaction between the official actors of the Buenos Aires Youth Olympic Games .

Thanks to TCAT again and after targeting the data which were published from the official accounts. Three days before, during and three days after the end of the Games. Twitter's application programming interface (API) allowed us to have access to entities, such as @usernames mentions, via tweet's metadata values and though the entities field (Russell, 2014). That's how we were able to locate and extract all the @usermentions tweets published in the official accounts and examine the frequencies of each one and finally to understand how active the actors were individually and between each other.

That was made through a graphical representations to show the relationship and attributes of the given network, to achieve it this study used Gephi which is a social network visualization software.

In this graphical representation we can see nodes and ties, the node type affects the kinds of ties and together they are interlinked (Borgatti & Everett, 1997). Where nodes represent the actors and the ties represent the relationship between them. In this case, nodes represent the users who have been mentioned in tweets published in the official Twitter accounts of the Olympic actors, and the represents the user mentions relations.

According to (Borgatti, Stephen P.Everett, M. G., & Johnson, 2015) social network analysis examines more than just the networks. The nodes can differentiate from one another according to their attributes categorical or quantitative. Their similarities then can be specified in terms of node's attribute. Some groups can become central among groups, which means that by spotting at common characteristics it is possible to identify the cohesive subgroups and examine if a group has the tendency to become central in groups.

To visualize and interpret such a large and complex structure of networks the study employed the social network visualization and analysis software Gephi to operate a various of analytical procedures that allowed us a number of analysis measures like density, core-periphery, and density structure to visualize the interrelation between the nodes and also the clustering and interactivity between nodes that are forming a sub network inside the observed network its self.

Density was measured because is used to as a mean of comparison.(Borgatti, Stephen P.Everett, M. G., & Johnson, 2015). Density is the number of ties in the network, density was also measured the strength of the ties in the network as a group as well within the subgroups.

In a network with core-periphery the nodes are separate in two categories. The core nodes which are connected to one another as well to others, and the periphery nodes which are only connected to core notes.(Johnson, Boster, & Palinkas, 2003)

The degree of centrality of a node is characterized as the number of edges incident upon a node (Borgatti & Everett, 1997). Therefore the maximum degree is the maximum number of ties, in this way we can identify which actors had more interaction among each other and in general.

RESEARCH QUESTIONS

This study analyses all the post in Facebook and Twitter uploaded in the official accounts of the official Olympic actors of the Buenos Aires Youth Olympic Games and examines which are the contents that produced high level of engagement, the type, the language, the subject, and the strategies behind it. Furthermore the study applied a social network methodology to examine the creation of communication networks and their interrelation individually and within the Youth Olympic Games social network between the official actors of the games and the key role of the Olympic Channel in the coverage of the games are analyzed and presented in the following study.

The research questions of this study are the following:

Which are the contents that produced highest levels of engaged in Facebook and Twitter?

Which is the interrelationship between the deferent actors of the Buenos Aires Youth Olympic Games?

Which is the engagement of the Olympic Channel?

CHAPTER IV. RESULTS

Research Question 1

About the first research question and the search for which contents created the highest level of engagement, the study will present analytic tables showing important details about the activity of all the Official Olympic Actors in Facebook and Tweeter starting with Facebook and the official account of the Games @BuenosAires2018

Facebook

Buenos Aires 2018

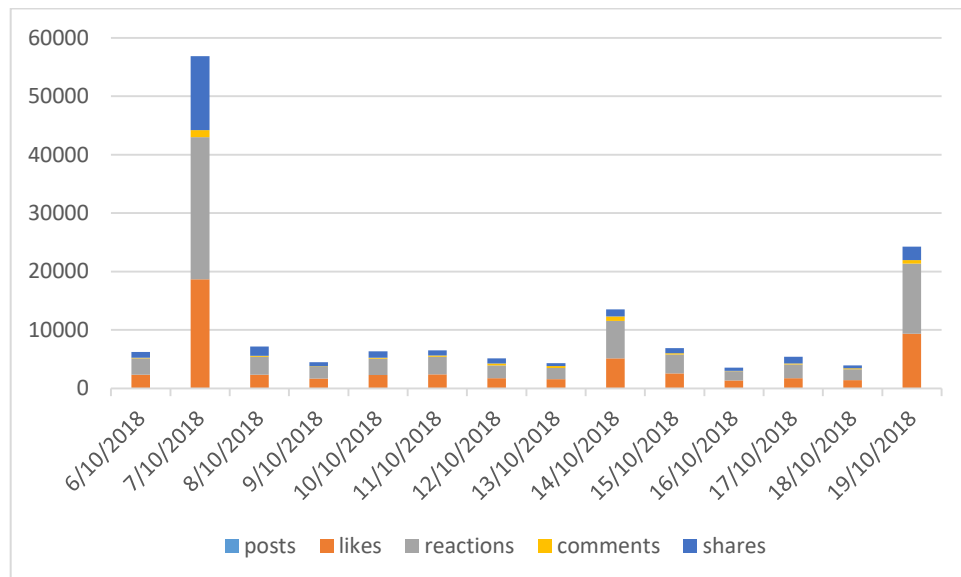


Chart 1: Daily activity of Buenos Aires 2018 in Facebook

In this chart we can see the daily activity of the official Buenos Aires 2018 Facebook page between 06-10-2018 and 19-10-2018 (one days before, during and one day after the event). We can see that during that period the official account of the Games uploaded 201 posts (status, videos, photos and links) and received 4842 comments and 74929 reactions in total. The table shows the daily activity of the account and separates in different colors the comments, the shares, the likes and other reactions.

day	posts	likes	reactions	comments	shares
6/10/2018	12	4015	4870	176	2194
7/10/2018	39	18392	23993	1190	12221
8/10/2018	6	2407	3078	190	1589
9/10/2018	7	1677	1996	103	698
10/10/2018	14	2253	2792	174	1112
11/10/2018	11	2405	2992	222	856
12/10/2018	10	1727	2192	366	845
13/10/2018	21	1554	1906	337	459
14/10/2018	19	5103	6407	764	1179
15/10/2018	10	2549	3223	221	859
16/10/2018	9	1336	1612	60	500
17/10/2018	5	1727	2384	158	1157
18/10/2018	7	1448	1853	174	483
19/10/2018	13	9327	12016	598	2306

Table 1: Analytic daily activity data of Buenos Aires 2018 in Facebook

In this table we can see that the day with the biggest activity and highest engagement levels is the 07-10-2018 the first day of the competition with content related to the opening ceremony.

In this graph we can see the most engaged uploads made by the Buenos Aires official Facebook account sized according to their engagement level, the biggest it is the highest the engagement level. And colored according to the type of the post. Blue for status, red for video, yellow for the photos and green for the links. We can see that the account chose to post more photos than videos but the second reach higher levels of engagement.



Graph 1: Engagement according to the kind of post uploaded from the Buenos Aires 2018 official account in Facebook

In the following table we can see the top 5 post made by the Official account of the Games, the type of the post and in detail the engagement levels it reached.

type	post_message	likes	comments	reactions	shares	Engagement in Facebook
photo	#BuenosAires2018! B"La 9 de Julio es una fiesta!	3405	186	4653	2885	7724
video	El Obelisco se convirti³ en una pista de remo! The Obelisk was turned into a rowing course!	1853	123	2671	3963	6757
video	Hoy las chicas argentinas juegan la final de #Hockey5 y te mostramos en VIVO el detr"as de escena de un momento hist³rico! #BuenosAires2018	2959	550	3758	380	4688
photo	1.001.496 personas fueron testigos del poder del Olimpismo en estos inolvidables 12 d"as! #BuenosAires2018	2415	108	3207	942	4257
photo	#CeremoniaDeApertura!Pura adrenalina en #BuenosAires2018 !	1441	72	1968	1307	3347

Table 2: Top 5 posts of Buenos Aires 2018 in Facebook

We can see that photos and videos are the post with the highest engagement levels. Posts number 1, 2 and 5 are referring to the opening ceremony of the games. Post number 3 is referring to the Argentinian female hokey team which dominated in the final and closing the top 5 post number for which is a photo from the closing ceremony of the games.

At this point it is worth mentioning that except from the top 5 post there was a great number of post related to the ceremonial parts of the Games mainly the opening and closing ceremony. Also worth mentioning is that the majority of the post were written in Spanish language. Showing that the communication policy of the official account of the Games was targeting mainly Spanish speaking groups in the country and Latin America.

Youth Olympic Games

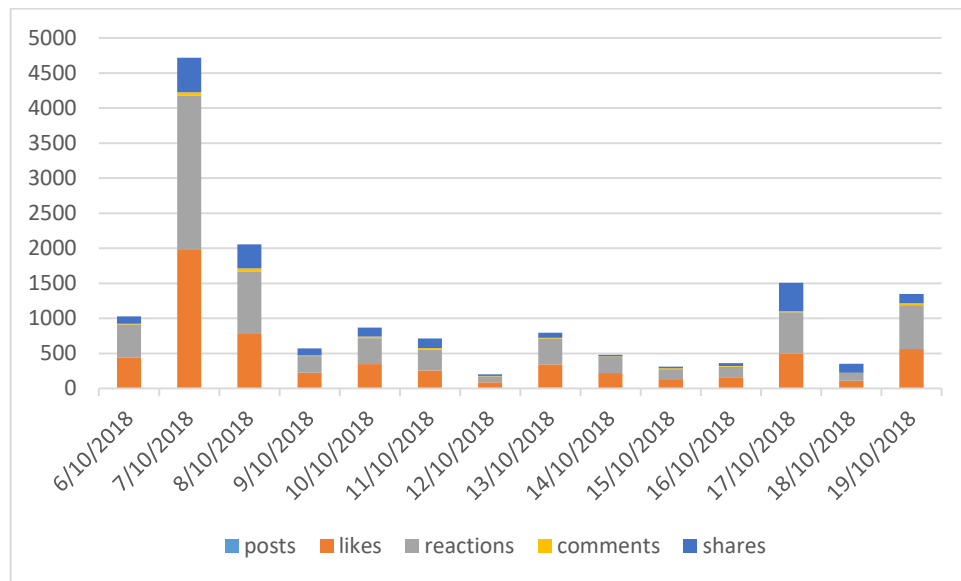


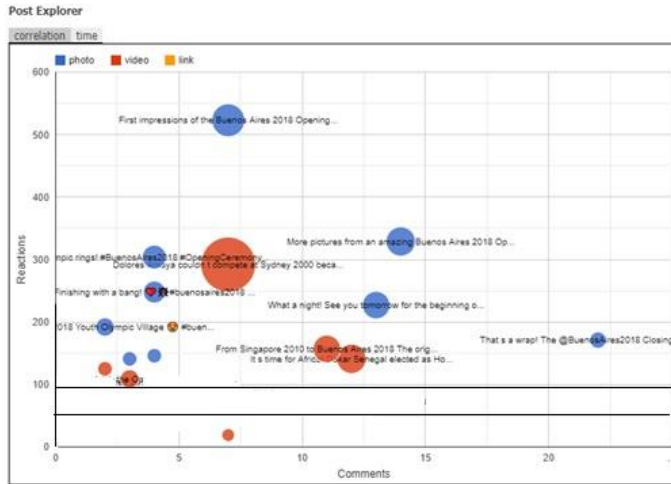
Chart 2: Daily activity of Youth Olympic Games in Facebook

In this chart we can see the daily activity of the official Youth Olympic Games Facebook page between 06-2018 and 19-10-2018 (one days before, during and one day after the event). We can see that during that period the account of the Games uploaded 104 posts (status, videos, photos and links) and received 282 comments and 7069 reactions in total. The chart shows the daily activity of the account and separates in different colors the comments, the shares, the likes and other reactions. Blue for comments, red for shares, yellow for likes and green for other reactions.

day	posts	likes	reactions	comments	shares
6/10/2018	7	433	475	8	106
7/10/2018	20	1969	2189	46	491
8/10/2018	6	772	885	50	345
9/10/2018	5	220	238	10	100
10/10/2018	6	342	371	22	127
11/10/2018	6	250	296	26	134
12/10/2018	4	84	88	4	24
13/10/2018	9	333	370	11	75
14/10/2018	7	213	228	8	27
15/10/2018	5	127	143	16	19
16/10/2018	6	147	161	9	39
17/10/2018	7	493	586	16	406
18/10/2018	4	106	113	4	126
19/10/2018	6	559	625	27	130

Table 3: Analytic daily activity data of Youth Olympic Games in Facebook

In this table we can see that the day with the biggest activity and highest engagement levels is the 07-10-2018 the first day of the competition with content related to the opening ceremony, just like the findings of the previous account.



Graph 2: Engagement according to the kind of post uploaded from the Youth Olympic Games official account in Facebook

In this graph we can see the most engaged uploads made by the Youth Olympic Games official Facebook account sized according to their engagement level, the biggest it is the highest the engagement level. And colored according to the type of the post. Blue for photo, red for video, yellow for links. We can see that the account chose to post more photos than videos but the second reach higher levels of engagement.

In the following table we can see the top 5 post made by the Official account of the Games, the type of the post and in detail the engagement levels it reached

type	post_message	likes	comments	reactions	shares	engagement
photo	First impressions of the Buenos Aires 2018 Opening Ceremony!	465	7	523	119	649
video	Dolores Amaya couldn't compete at Sydney 2000 because she was pregnant. 18 years later at Buenos Aires 2018 her daughter Sol Ordas made her proud π□'□ Watch the Youth Olympics live on the Olympic Channel: https://bit.ly/2IJ5taF #GameChangers	239	7	292	343	642
photo	More pictures from an amazing Buenos Aires 2018 Opening Ceremony! #BuenosAires2018 #YouthOlympics	290	14	329	92	435
photo	Olympic rings! #BuenosAires2018 #OpeningCeremony	276	4	304	60	368
photo	What a night! See you tomorrow for the beginning of the sporting action! #BuenosAires2018 #YouthOlympics	212	13	227	74	314

Table 4: Top 5 Post of Youth Olympic Games in Facebook

We can see in this table that for the Youth Olympic Games account the top 5 is dominated by posts related with the Opening Ceremony just like the Buenos Aires 2018 official account but with a few differences. There are more photos than videos in the top 5. There is no post related to the Closing Ceremony but in the second place there is a video originally posted by the Olympic Channel about a Young Argentinian female rower who won gold in the Buenos Aires Youth Olympic Games revealing the history of her Olympic Family.

Another difference worth mentioning is that the YOG account is posting only in English. A big difference between the Games official account and the YOG page proving the different policy the two social media accounts followed with the last one aiming to a more international target group than local.

Olympics

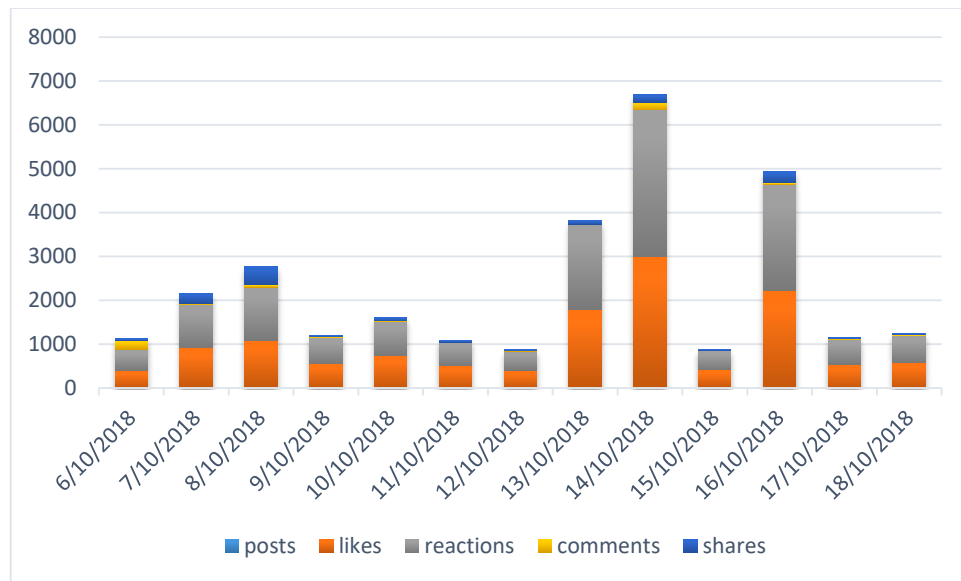


Chart 3: Daily activity of Olympics in Facebook

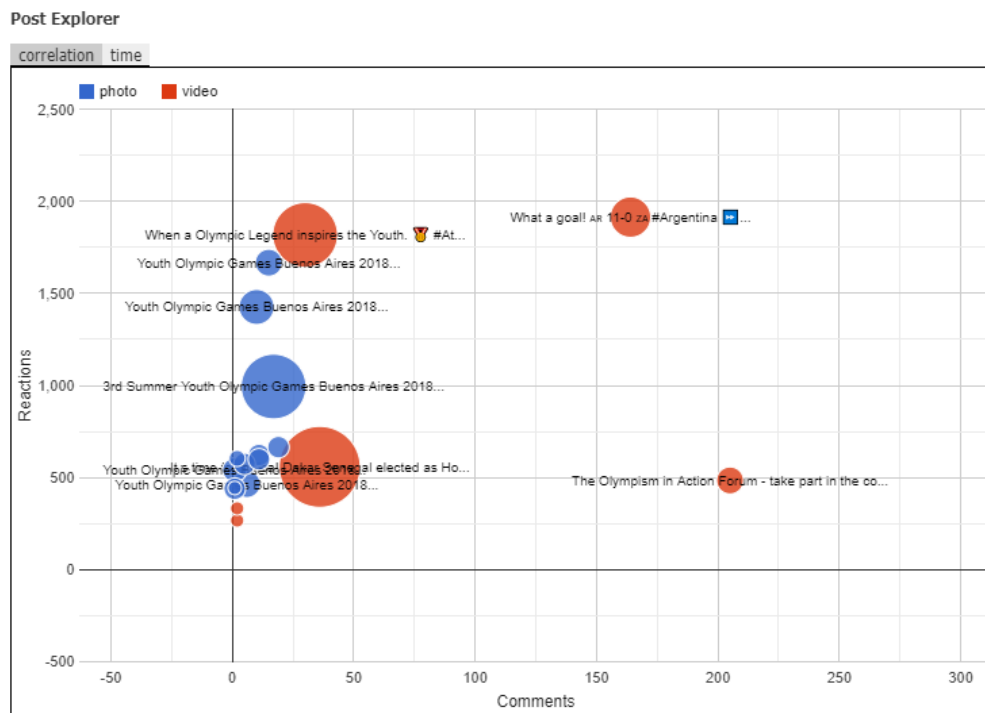
In this chart we can see the daily activity of the official Olympics Facebook page between 06-10-2018 and 19-10-2018 (one days before, during and one day after the event). We can see that during that period the official account of the Games uploaded 18 posts (status, videos, photos and links) and received 538 comments and 14402 reactions in total. The table shows the daily activity of the account and separates in different colors the comments, the shares, the likes and other reactions.

In this table we notice the extremely low number of post of the Olympics official account in comparison to the other accounts. Only 18 posts with the highest engagement levels seen not in the opening ceremony but in the days of the competition and the Closing Ceremony.

In the following table we can see a more detailed representation of the Olympics Facebook account during the days of the competition.

day	posts	likes	reactions	comments	shares
6/10/2018	1	393	483	205	50
7/10/2018	1	912	994	17	237
8/10/2018	2	1077	1221	55	419
9/10/2018	1	555	598	11	36
10/10/2018	2	727	794	8	74
11/10/2018	1	503	540	1	42
12/10/2018	1	402	438	1	35
13/10/2018	2	1786	1933	17	74
14/10/2018	2	2999	3343	174	179
15/10/2018	1	412	442	1	20
16/10/2018	2	2223	2422	32	265
17/10/2018	1	538	573	5	37
18/10/2018	1	576	621	11	39

Table 5: Top 5 posts of Olympics in Facebook



Graph 3: Engagement according to the kind of post uploaded from the Olympics official account in Facebook

In this graph we can see the most engaged uploads made by the Olympics official Facebook account sized according to their engagement level, the biggest it is the highest the engagement level. And colored according to the type of the post. Blue for photo and red for video. We can see that the account chose to post more photos than videos but the second reach higher levels of engagement.

In the following table we can see the top 5 post made by the Official account of the Games, the type of the post and in detail the engagement levels it reached

type	post_message	likes	comments	reactions	shares	engagement
video	What a goal! π□‡!π□‡· 11-0 π□‡Ωπ□‡! #Argentina β□© Final #Hockey5 #YouthOlympics #BuenosAires2018	1687	164	1916	104	2184
video	When a Olympic Legend inspires the Youth. π□¥‡ #Athletics #BuenosAires2018 #YouthOlympics #GameChangers Watch the Youth Olympic Games LIVE on the Olympic Channel π□‘% http://bit.ly/2y1VxPm	1654	30	1819	240	2089
photo	Youth Olympic Games Buenos Aires 2018	1549	15	1668	52	1735
photo	Youth Olympic Games Buenos Aires 2018	1312	10	1427	75	1512
photo	3rd Summer Youth Olympic Games Buenos Aires 2018	912	17	994	237	1248

Table 6: Top 5 posts of Olympics in Facebook

At this table we can see a bigger variety in the content of the top 5. Which consist of videos and photos with has as a subject great moments of the Games, medal ceremonies and a video shared from the Olympic Channel Aiming to inspire the young athletes with Usain Bolt as the main character. The posts are written in English, proving that the accounts policy is to address to a wider and international audience but the results shown a low correspondence.

Twitter

In this chapter we will examine and present in tables and graph the results of the extracted data obtained from the Twitter accounts of all the official Olympic Games actors in the social media @BuenosAires2018, @Youth Olympic Games and @Olympics.

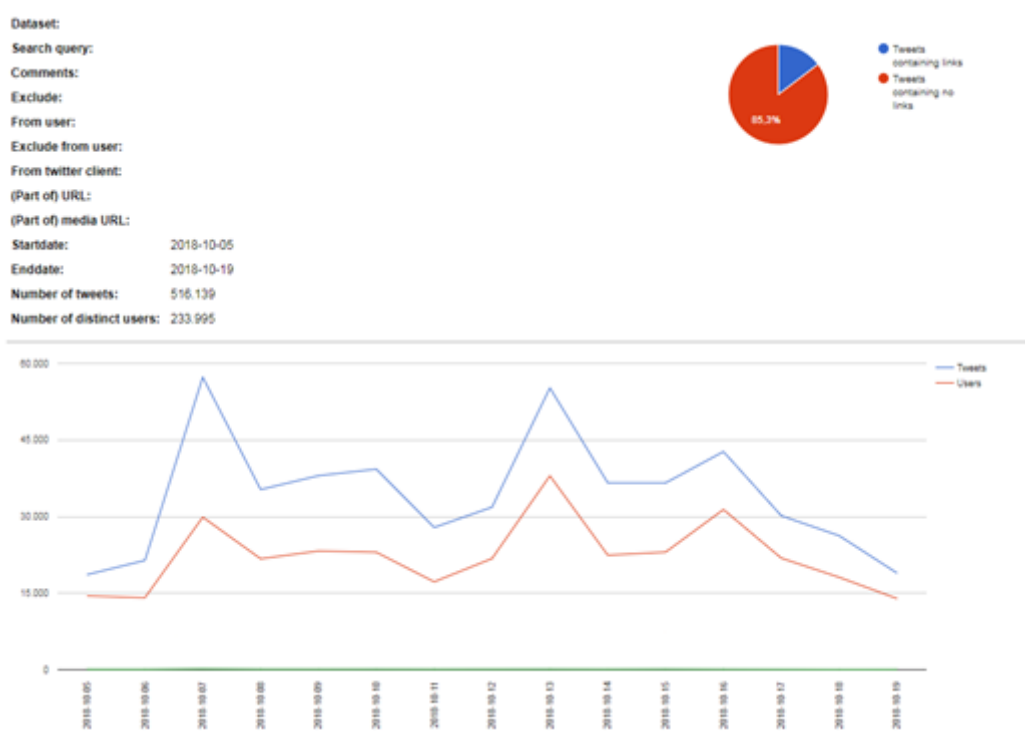


Chart 4: Daily activity of Olympic Actors in Facebook

In the chart above we can see the daily activity of the official accounts in tweeter from the period 06-10-2018 to 19-10-2018 (one days before, during and one day after the event). The total number of the tweets extracted, 513.139 (blue line) and the number of distinct users, 233.995 (red line).

We can notice in this graph that the most active days which reach the highest levels of engagement were the 7-10-2018 which was the first day of the competition with content mainly from the opening ceremony, which was the same case as in the Facebook but also we can see a positive curve in the following dates 13-10-2018 and another one in 16-10-2018.

In the following chart we can see the exact number of tweets made in a daily base from the official accounts of the Olympic Actors between the dates 06-10-2018 and 19-10-2018.

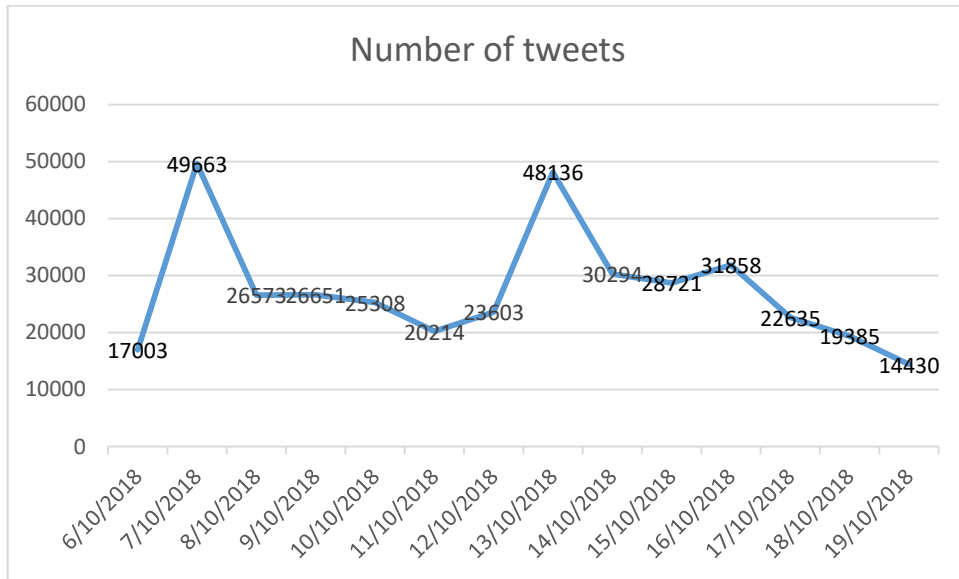


Chart 5: Number of tweets by the Olympic Actors in Twitter

In the next table we can see the top 10 of the most popular hashtags during the Games.

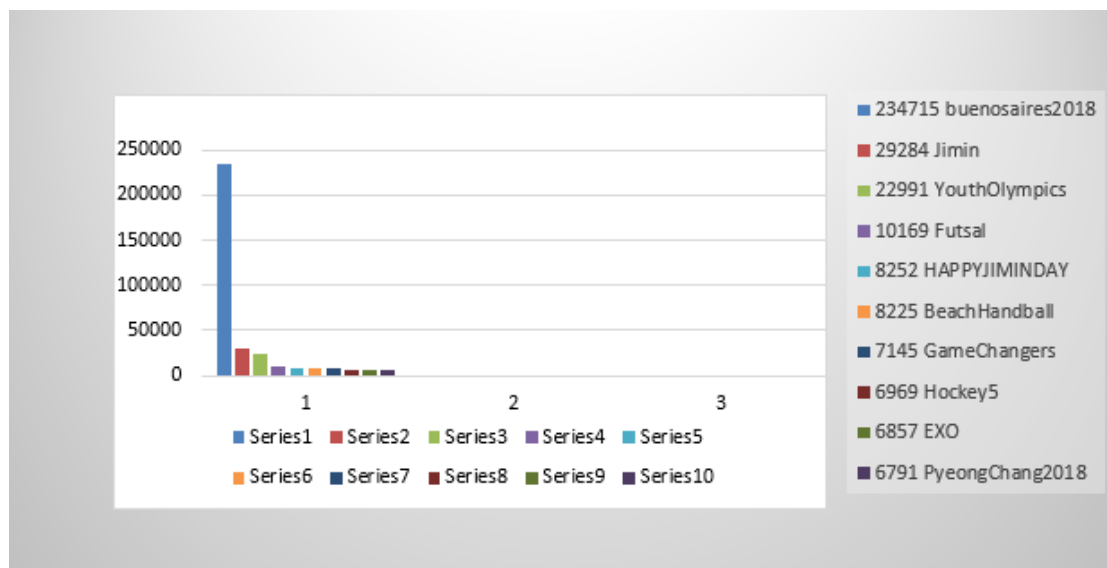


Chart 6: Top hashtags

We can see that the #Buenosaires2018 was the most popular hashtag by far with 234.715 mentions which is no surprise what is interesting thought and worth mentioning is that in the 2nd, 5th and 9th place out of the top 10 list of hashtags we have #Jimin #HAPPYJIMINDAY and #EXO respectively. The answer why we see a pop star and K-pop bands in the top 10 list of hashtags during the competition can be found in number 10 of the ranking the #PyeongChang2018.

The Korean pop star performed with his band in the opening ceremony of the Pyeong Chang 2018 wither Olympic Games and the band EXO performed during the closing ceremony of the Games.

The singer and the group was mentioned in the Twitter accounts of the Olympic Actors in 13-10-2018 the day of the popstar birthday which happened to be during the same period the games were held in Buenos Aires.

We can also see the big effect of the K-pop music in the Games through the following table which shows us the most mentioned (@username) frequency during the games.

1	118708	BuenosAires2018
2	50335	youtholympics
3	27142	Olympics
4	23152	BTS_twt
5	13217	olympiko
6	13065	weareoneEXO
7	12603	olympicchannel
8	9520	canaldeportv
9	8317	PrensaCOA
10	6262	gorin

Table 7: Top username mentions

As we can see in the table in the 4th and 6th place we can see the 2 Korean bands under the @buenosaires 2018 ,@youtholympics and @Olympics and higher than the @olympicchannel.

Many users utilize other people's content by retweeting the, sharing other people's uploads in this way they spread the message in a bigger range of people and reach higher levels of engagement. In the chart we can see that the day with the most retweets was 13-10-2018.

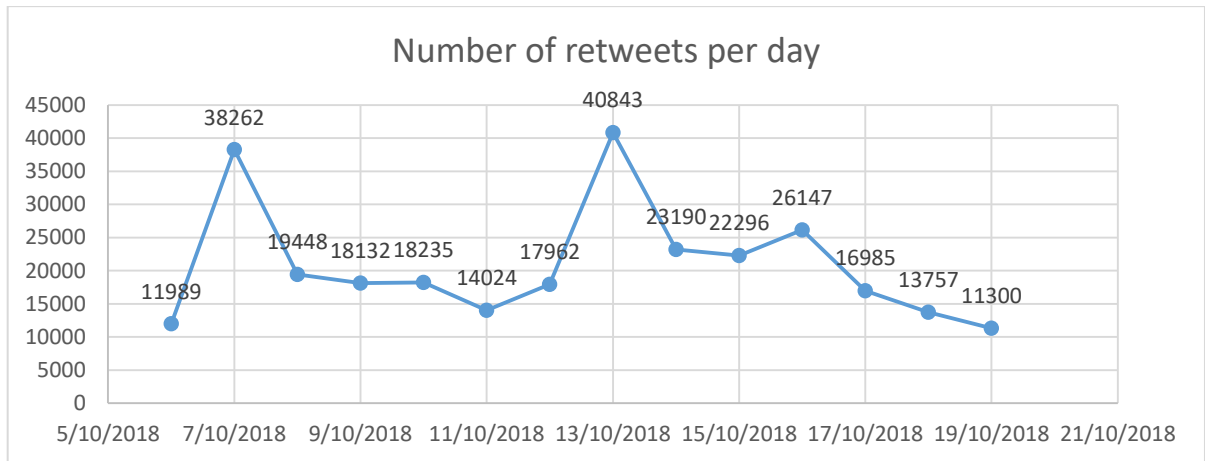


Table 8: Number of Retweets

What is interesting here it's that the number of retweets was higher during the 13-10-2018 which was the birthday of the K-pop singer than in the day after the opening ceremony where was the pick of the twitter activity during the Games. The network of the Korean popstar, having a greater number of followers on Twitter generated higher number of engagement by retweeting the post dedicated by the Olympic Channel to the Korean singer. Managing to get the first place in the top retweeted posts made by the Olympic Channels official account during the days of the event. Despite the fact that the content of the post didn't have any relation to the event.

In the following table we can see the top 3 URLs visited. The URLs represent the websites visited through the tweets posted by the YOG official social media actors.

6766	https://twitter.com/alexhuot/status/1051906202609827840
1677	http://trendingsportstoday.com/2018/10/youth-olympic-games-buenos-aires-2018-live-stream/?-
1117	https://www.olympicchannel.com/en/youth-olympic-games-2018/?utm_source=twitter&utm_medium=tw-post&utm_campaign=bayog-owned_

Table 9: Top visited URLs

In the first place we have again the Kpop band EXO though a video uploaded playing one of their famous songs. In the second place we have a sports website which is supporting the live coverage of the games. And in the third place the official website of the Olympic channel and the special section made for the Buenos Aires 2018 YOG.

And finally regarding RQ1 the top 5 photos with the highest engagement levels from the Olympic actors twitter account for the Buenos Aires 2018 YOG.



Photo 1

In photo number one we have the Argentinian rower Maria Sol Ordas who won the first gold medal for Argentina during the event in junior women's single sculls.



Photo 2

In the second photo we have the Argentinian junior women's Hockey team which won gold medal in the final versus India

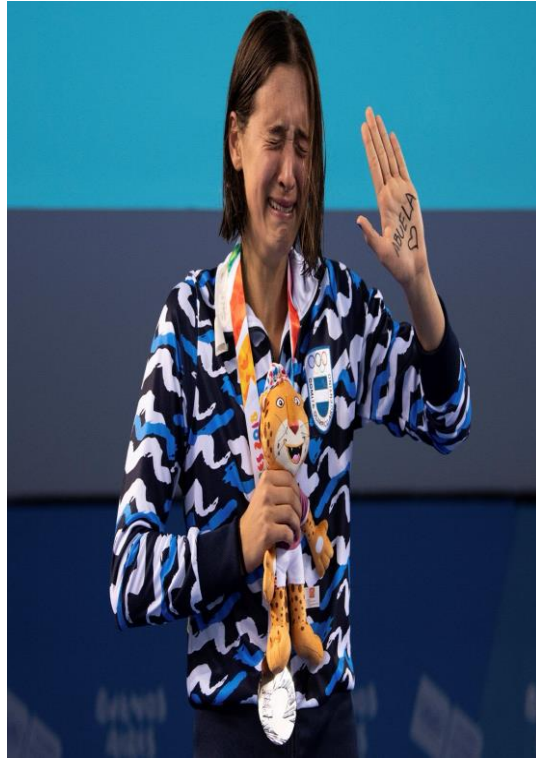


Photo 3

In photo number three we have the Argentinian Swimmer Delfina Pignatiello who won silver medals in the junior women's 800m and 400 freestyle. During the medal ceremony of the 800m she raised her hand having written the word "Abuela" grandmother in Spanish. Dedicating her medal to her, who passed way one week before the race.



Photo 4

In photo number four we have again another Argentinian female team this time the junior women's Beach Handball team which won the gold medal in the final against Croatia.



Photo 5

The top 5 photos are finished with a photo from the opening ceremony and the lighted Obelisk.

Research question number 2

Buenos Aires

Answering the question, which is the interrelationship between the deferent actors of Buenos Aires 2018 Youth Olympic Games we extracted data from the official accounts of the games @BuenosAires2018, @Youth Olympic Games and @Olympics from tweeter, tracking down their activity and interaction individually through their account during the days of the event and between each other.

This graph visualization of their activity was made through data extracted by TCAT and analyzed by Gephy.



Graph 4: Network of Buenos Aires 2018 in Twitter

In the graph above we can see the interaction of the events official account @Buenos Aires 2018 with other actors in the social media.

In order to understand the chart we have to explain some things. First of all the notes represent deferent actors through their social media account. The size of the notes varies according to the number of times they have been referred in the accounts network we

are examining, the bigger they are the more times they have been referend, shared and commented in their account and vies versa. The color of the note represents the nature of the actor. For example Athlete, Sport Organization, Non-profit Organization etc...

Every note is connected with more than one notes via lines colored with the same color as the node they connect. Having in mind a degree centrality rule the notes in the center of the graph are connected with more notes than those at the edges.

This mosaic of colored, sized and connected notes creates the network of the actor we are examining each time and the interrelation of it with the other actors.

So in graph number 4 we are examining the network interaction one of the main actors of the games, the official account of the event @Buenos Aires 2018 .

It is no coincidence that this node is the biggest node of all and that it is placed right in the middle of the graph. This means that the account of @BuenosAires2018 is referent the most times in this network and that it is connected with all the other actors directly or indirectly through other nodes.

Color	Category
Pink	Athlete
Light green	Sports League
Light blue	Organization
Black	Non-Profit Organization
Orange	Sports Event
Purple	Government Organization
Green	Sports
Grey	Sports Teams-Airport-Media-Stadium/Sport Arenas- Food&Beverage (smaller actors)

Table 10: Colors according to category

Mentioning one example of each category starting from pink color and the athletes the name of Leo Messi the Argentinian footballer who is one of the most representative and famous athletes from Argentina.

Moving to the second category with light green labeled as sport leagues we have the Olympics which is the second biggest node in the graph and essential part of the network

With light blue we are moving to organizations and no better example can be than the Buenos Aires 2018 in the center of it but also the Youth Olympic Games in a smaller size but still in the center.

With black and representing a Non-profit organization we have ENARD which is a non-government nonprofit organization related with the promotion high performance sport in Argentina.

With orange color and representing the sport events Lausanne 2020 winter Youth Olympic Games and Tokyo 2020 summer Olympic Games are the 2 Olympic events are related as part of the Buenos Aires 2018 network.

With purple color and illustrating nodes related with government organizations we can find in the graph the ministry of innovation and technology

Moving to green color the basketball, rugby and football Sala are the sports that find a place in the graph and this is no coincidence since the national team of Argentina in all of the sports above played a major role in the games winning medals and presenting very competitive teams.

And finally with grey color one of the most famous actors and important sponsor of the event and the Olympic Movement Coca-Cola.

We can see state related actors in the core of this graph, next to the center which is the Buenos Aires 2018 Official account. We have a node representing the ministry of modernization, innovation and technology. Another node representing the ENARD which comes from National High Performance Sport Entity, which is a semi state organization under the administration of National Sport Secretariat and the Argentinian Olympic Committee. Which also has its own node next the center of the graph.

We can see a high level of state involvement in the promotion of the event having a notable place in the core of the graph.

The existence of Argentinian national federations enforces the level of high interrelation between public actors and the event in this network representation.

But those nodes despite been close to the center they are no match in the size of the Olympic Movements official Actors. Which nodes are notable in size and number. With nodes representing the Olympic and Youth Olympic Games those Olympic actors including the Buenos Aires 2018 are three bigger nodes in the graph with the most relation links so higher level of interrelation.

Moving further out of the center of the network we have a number of different actors which are all connected to the main three nodes. National and international organizations and federations future sport events, famous athletes which all together interrelate and contribute to the network.

In regards of the color and representation of each category of nodes the following table will clear the things out.

Color	Category
Pink	Athlete
Light green	Sports League
Light blue	Organizations
Black	Olympic teams
Orange	Non-profit Organization
Purple	Sport Events
Green	International Federations
Grey	Sports, Local Business, Sport and recreation, Sport club, National teams (smaller actors)

Table 11: Colors according to category

Giving an example of each category starting with pink and the athletes. We have the athlete Role Model from Germany Claudia Nystad. The role model athletes it's a program running in parallel with the Youth Olympic Games, giving the chance to young athletes to learn and be inspired by adult Olympians.

Moving to the second category with light green labeled as sport leagues we have the Olympics which is the second biggest node in the graph and essential part of the network, another familiarity with the previous graph.

In category number three with light blue and in the center of the graph we have the biggest node representing the organizations, the self-looped Youth Olympic Games.

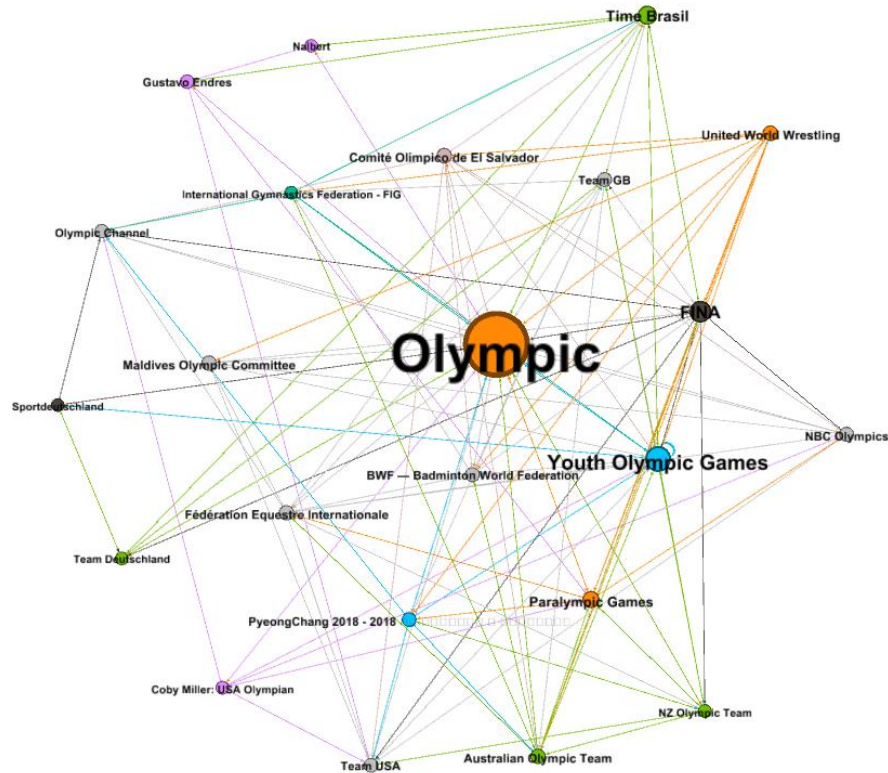
With black we can see plenty of Olympic Teams such as New Zealand Olympic Team, Australian Olympic Team etc.

Passing to orange with FINA which is a non-profit organization, very close to green which illustrates the international federations such as Equestrian and Volleyball.

And finally moving to purple where we have the following Olympic Event the next edition of the Winter Youth Olympic Games in Lausanne 2020 and with grey color smaller actors such as world sailing and world rowing.

Olympics

Moving on to the next Olympic actor Official account network @Olympics which can be illustrated in the next graph.



Graph 6: Network of Olympics in Twitter

In the graph above we can see the social media network of the official account of @Olympics with other actors in the social media.

Again the center of the network we have the biggest node which represents the Olympic account. Surrounded and interrelating with a greater number of Olympic actors such as the Paralympic Games node, the PyeongChang2018 node and of course the second biggest actor in the graph the self-looped Youth Olympic Games node.

We can see that the primary role and higher level of interrelation in his network is between the central node and different Olympic actors followed again by a number of international federations and Olympic teams.

Forming the same pattern as the previous graph. By creating an international network aiming for a global audience. This is reinforced by the presence of both NBC Olympics and the Olympic Channel in this network, two media accounts. Two actors whose network is broad and international and contributes to the goal of each network, reaching wider audiences and higher numbers engagement.

More analytically the nodes and the category they represent will be examined in the following table.

Color	Category
Pink	Athlete
Light green	Olympic teams
Light blue	Organizations
Black	Non-profit organization
Orange	Sports League
Green	Sport Federation
Grey	Media, Non-government organization (smaller actors)

Table 12: Colors according to category

With the pink color and the athlete's category we can spot two Brazilian volleyball players. Gustavo Enders and Nalbert Bitercourt.

Moving on to light green and Olympic teams like New Zealand, Australia and Germany. To the third category with light blue the self-looped node of Youth Olympic Games just like the previous 2 graphs.

With black one of the biggest federations labelled as non-profit organization FINA followed by the rest of international federations with green color like the gymnastics federation.

At the center of the graph with the biggest size node Olympic followed by Paralympic Games node close to it with orange color. And finally to the gray nodes where media and other smaller actors are represented in this network we have NBC Olympics and the Olympic Channel which we will examine its policy in depth in the next research question.

Regarding research question number 3

Facebook

In order to analyze the engagement of the Olympic Channel in the social media, we will present analytic tables, charts and graphs in which we will identify the content, nature and policy of the Olympic Channel. Starting with Facebook and the official account of the @Olympic Channel

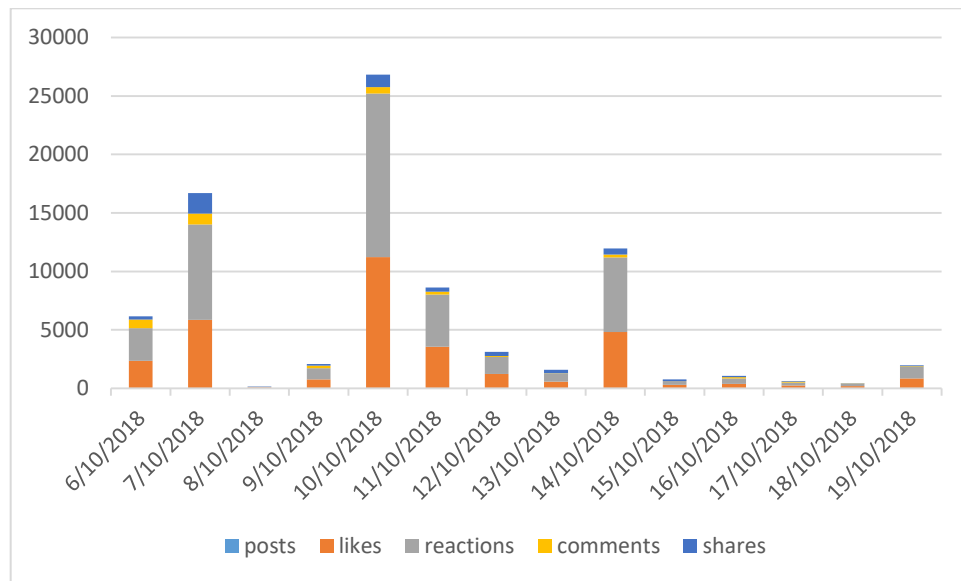


Chart 7: Daily activity of Olympic Channel in Facebook

In this chart we can see the daily activity of the official Olympic Channel Facebook page between 06-10-2018 and 19-10-2018 (one days before, during and one day after the event). We can see that during that period the official account of the Games uploaded 54 posts (status, videos, photos and links) and received 3257 comments and 41200 reactions in total. The table shows the daily activity of the account and separates in different colors the comments, the shares, the likes and other reactions.

In the following table we can see a more detailed analysis of the activity and the engagement level of the official Olympic channel account during those days.

day	posts	likes	reactions	comments	shares
6/10/2018	2	2357	2791	721	274
7/10/2018	5	5841	8172	938	1746
8/10/2018	2	65	74	0	23
9/10/2018	3	766	941	216	158
10/10/2018	3	11210	13999	545	1088
11/10/2018	5	3556	4459	239	354
12/10/2018	3	1223	1440	95	359
13/10/2018	6	565	679	25	295
14/10/2018	5	4801	6390	249	505
15/10/2018	5	286	335	7	118
16/10/2018	5	371	460	119	100
17/10/2018	3	221	268	64	67
18/10/2018	4	177	198	6	11
19/10/2018	3	840	994	33	86

Table 13: Analytic daily activity of Olympic Channel in Facebook

The top 3 posts with highest level of engagement during those days was made in 7-10-2018 with a small video from the opening ceremony. With the national anthem of Argentina and a boy walking down the landmark of the obelisk of Buenos Aires which held the opening ceremony.

<https://www.facebook.com/OlympicChannel/videos/323717601770199/>

In 10-10-2018 again with small video featuring the best moments of day 3. with medal ceremonies and highlights of fencing, swimming and climbing.

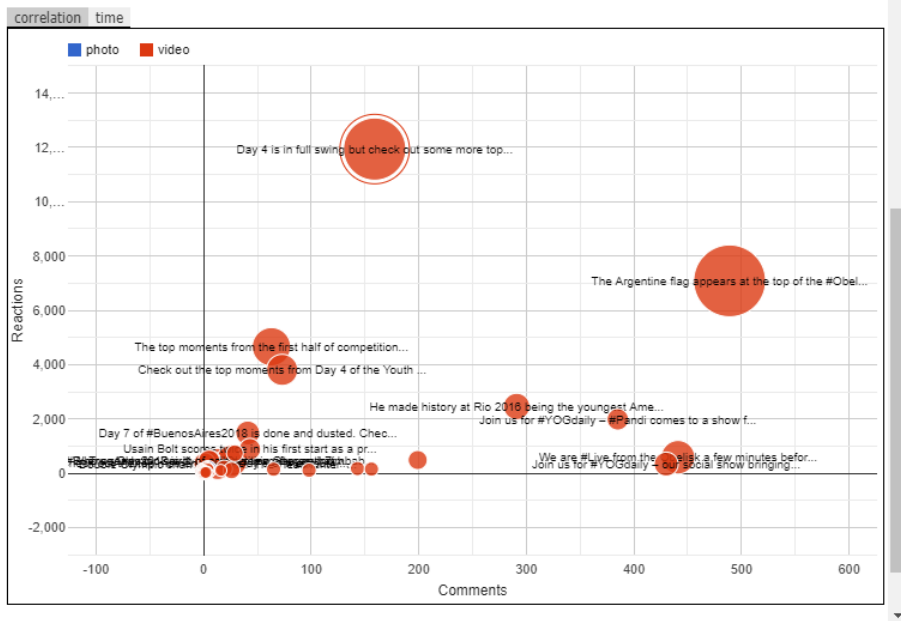
<https://www.facebook.com/OlympicChannel/videos/2438134672867575/>

And again in 14-10-2018 with another video featuring the best moments of day 8. With medal ceremonies and highlights of weightlifting, mixed archery and tennis.

<https://www.facebook.com/OlympicChannel/videos/186807298880452/>

In the following graph you can see all the post the Olympic channel official account did during those days, the most engaged post and their place among the others.

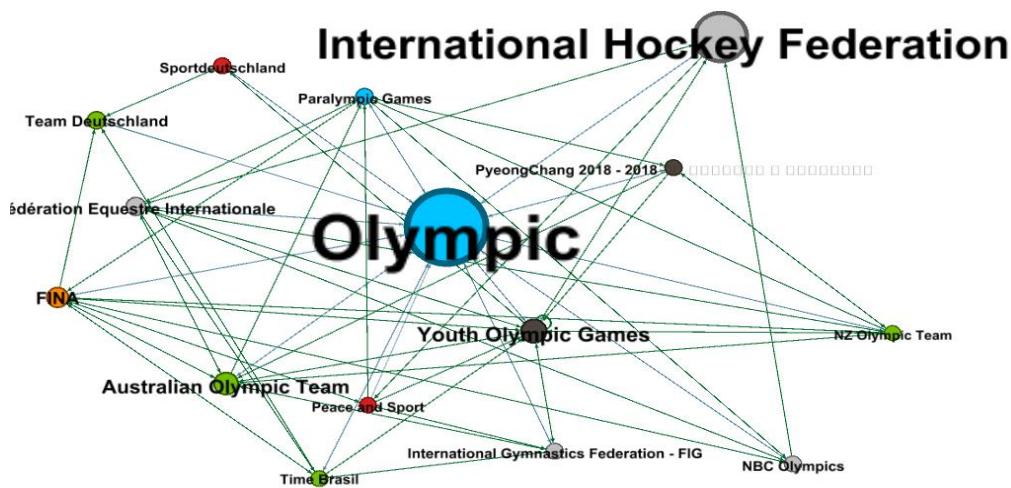
We can also see that the majority of the posts if not all were videos with highlights of the event, in English and featured special effects giving a more youthful and colorful content.



Graph 7: Engagement according to the kind of post uploaded from the Olympic Channel official account in Facebook

Moving on to the next graph which illustrates the network created by the official Olympic channel account in twitter during the days of the competition.

Twitter



Graph 8: Network of Olympic Channel in Twitter

In the graph above we can see the social media network of the official account of @Olympic Channel with other actors in the social media.

In the graph above we can see again the biggest node in the center of the network and the around it a great number of nodes representing Olympic actors such as @Olympic, @Youth Olympics and @Paralympic. This indicates the international orientation of the Olympic Channels network and the active role of the Olympic Movements official accounts by engaging and interacting with one another.

Another fact that supports this orientation is the presence of nodes representing Olympic team from all around the world and also international federations.

What is deferent and worth mentioning is the node of the International Hockey Federation, placed not in the center but its size draws our attention. This can be explained because, the event took place for more than one days. So there was a continuity and both the male and female Argentinian teams were protagonist claiming medals and driving high levels of engagement.

Another node which close to the center and linked with all the other big nodes is the @PyeongChang 2018 winter Olympic Games node. This is because of the policy of Olympic channel which used the coincidence of the birthday of a famous KPOP signer, who participated in the closing ceremony of the games, to wish him happy birth. This post created enough engagement to add this node in the network and close to the center of it.

More analytically the nodes and the category they represent in the following table.

Color	Category
Light green	Olympic teams
Light blue	Sport League
Black	organization
Orange	Non-profit Organization
Red	Sport and Recreation
Grey	International federation& Media

Table 14: Colors according to category

CHAPTER V. CONCLUSIONS

The study aimed to give us a better understanding in the role of the Olympic actors during the Buenos Aires Youth Olympic Games in social media. To see how active and effective they were in their communication strategy to promote and engage the highest number of audience with the event and its accounts. To understand why and which content created the highest level of engagement and which was the interrelationship among the actors and specifically of the Olympic Channel.

The result of the first research question indicates that in Facebook there were similarities as much as differences among the actors and the official accounts we have been examining regarding their policy and the content they uploaded intending to reach the highest level of engagement.

Regarding the official account of @BuenosAires 2018 the engagement of the public despite the high number of posts during all the days of the competition, the engagement levels were low despite the day after the opening ceremony and with lower levels of engagement but still high the day after the closing ceremony.

So we can see a clear preference of the audience in the content related with the ceremonies. We can also see that the videos generate higher level of engagement than the photos and also content written in Spanish than in English reveals that the account was or aiming more to attract the Spanish speakers in a Latin American country rather than international audience.

Moving on to @Youth Olympic Games Official account we spot similarities as much as differences among the communication policies of the actors account. Again most engaged content is related with the opening ceremony. This account generated less content but manage to engage the audience in less numbers but for a longer period of time during the days of the competition also, except just from the opening and closing ceremony. Some differences among the policies of the accounts is the choice of language where in this case English was preferred in addition to the Buenos Aires 2018 official account, aiming for a more international audience. Another difference in the nature of the content which was preferred by the audience in this case is that in the YOG official account the users engaged the most with photos rather than videos.

Regarding the official account of @Olympics it is very interesting that the most engaged content is not related with the opening or closing ceremony in addition with the other two official accounts. But there were two videos featuring highlights from the hockey event where the national team of Argentina was playing and also a video from the campaign of #Game changers shared by the official page of the Olympic Channel. This indicates that the policy of this account was different than the previous. Focusing not in the ceremonial part but in the competition. In a sport which lasted for more than one day in addition to the ceremonies and both the Argentinian national teams (male and female) gained medals. And also the shared video from the Olympic Channels official account indicates a strong interrelation and cooperation between the Olympic

actor's official social media accounts in the social media. By sharing content and promoting campaigns of one another.

Perhaps one of the most interesting findings about tweeter and the engagement of the audience in the accounts above including the Olympic channel. The audiences engaged just like in Facebook with content related with the opening ceremony. But the second most engaged content is not even related to the main event but to the KPOP singer Jimin who on the day of his birth day and thanks to his participation in the closing ceremony of the PyeongChang 2018 winter Olympic Games manage not only to reach the second place in the tweets over all but to have the higher number of retweets per day and being the second most common # during the days of the event.

In tweeter in regards to the most engaged photos we see again the same content reaching the highest levels of engagement just like in Facebook. With photos of the competition almost exclusively of Argentinian athletes gaining medals and of the opening ceremony.

It's not rush to say that the content that engaged the most the audience was related with those 2 factors in all the social media accounts and platforms. The policy of the Olympic actors in the social media was supporting the tendency of the audience witch was mainly from Latin America and especially Argentina. And keep on feeding the accounts with content which attracted their interest. With photos and videos which create a sense of national pride.

In regards of the interrelation between the actors of Buenos Aires 2018 Youth Olympic Games. The graphs illustrating the networks and the relation of each Olympic actor official accounts indicate a strong interrelation between each other. Having in all the networks the presence of different Olympic actor in the center of the network. Which according to the centrality rule that applies in this graph, indicates a high number of connection between the nodes, which are in the center of the graph than those at the edges. In every case we have the same pattern. The main account in the center and the surrounding nodes which represent the different Olympic actors been closer and better connected in this network than the rest of the actors. The only exception to this pattern is the account of the B.A.Y.O.G where closer to the central node we have can see state related actors of Argentina having a notable place in the core of the graph.

Another evidence that supports those finds is the size of the nodes related with the Olympic actor's official accounts. The size of the notes varies according to the number of times they have been referred in the accounts network we are examining, the bigger they are the more times they have been referred, shared and commented in their account and vies versa. In all the networks illustration except from the central place where the nodes of the actors are located, their size is always and in all of the greatest in the network. This means that the activity levels and number of times each individual Olympic actor have been referred, tagged, commented, shared and republished in each network is the greatest in regards to all the other actors.

We also see repeatedly the same international federations and national team been represented in the networks, but those nodes are not only connected with the main node but with most if not all the other Olympic actor's official accounts nodes that are represented in the graph. This creates a smaller subnetwork within the great network. Even in this smaller subnetwork, the connection and interrelation of the Olympic actors between each other and the smaller actors (sponsors, celebrities, athletes) that are represented is in all the times high.

Coming to the last part and the engagement of the Olympic Channel to the event. The IOC and the organizing committee build a common strategy having at its core the Olympic Channel. Since there wasn't any TV channel that covered the event, able to broadcast the games in a global scale, the responsibility came to the Olympic Channel to cover the Broadcasting and the creation off content for the Games. The Olympic Channel offered an extensive coverage of the event starting from day one with the opening ceremony, which created the highest number of engagement in most of the official accounts, the event during the competition and even after. With a 24/7 coverage, 550 live streaming hours of all 149 events. Launching hashtags (#YouthOlympics, #BuenosAires2018, #Gamechangers with daily news, highlights, medal standing tables, results and interviews live and on demand available in all the Social Media accounts. Content which was created by the Olympic Channel was republished by the other official accounts of the Olympic actors and managed to reach the highest levels of engagement in each page. Like the video promoting the campaign of #Gamechangers that reached the top of the @Youth Olympic Games account. Additionally the Olympic Channel offered at its website episodes from the original series Heroes of the Future. A content presenting young athletes and their ambitions and efforts to chaise their Olympic dream.

All those actions and for the first time strategically organizes synergy among the organizing committee and the IOC having as a tool the Olympic Channel shows the importance of it and the high level of engagement and effort put on this project of promoting content and the games in general through social media and official websites and platforms from Argentina and where the games took action to our screens and all over the world.

Limitations

Just like in every study there are some limitations, there is always room for improvement and further research. In this study the variety of social media was limited in two. The research examined the social media platforms of Facebook and Twitter. Thereupon further research could expand such investigation and include other social media platforms (e.g., Instagram, snapchat etc.) to capture a greater image and understanding in the social media usage in regards to the Youth Olympic Games.

The study has also a limitation to the time frame of the games one day before, during and one more day after the competition. Future studies can examine the usage of the social media pages for a longer period before start and after the games are finished to investigate how the pages promote the event and what do they do after the end of the competition to engage and keep active the interest of the existing fans-followers of the page.

The study focuses only in the Buenos Aires Youth Olympic Games. No comparison was undertaken with previous events. Future researches can use the findings of this study and compare them with the previous editions of the Youth Olympic Games.

Lastly since the study is focused in the Youth Olympic Games, future studies should investigate if the Games achieve their ultimate goal, to get the younger generations inspired by the Olympic values and adopt a healthier way of life by practicing sports. And if the Youth Olympic Games social media Official pages contributed to this cause.

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