

How post time and post type affect the engagement on Facebook: The case of a national media organization

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Abstract

Today social media play an important role in the disseminating of journalistic content. Thus, audience engagement is becoming an important factor for media organizations. The purpose of this paper is to examine whether post time and post type factors affect audience engagement in Facebook posts. We analyzed 2,630 posts of the Greek national broadcasting corporation (ERT). The findings indicate that the variables post time and post type affect user engagement in the posts. The user seems more positively involved in posting in the morning than in the afternoon, as well as being more active at the outset of the week. Posts that include a photo or a link motivate for user engagement. Based on the findings, media organizations can fine-tune their posting strategy in order to achieve higher user engagement.

Keywords: post time, post type, Facebook, social networking media, user engagement, post content, public broadcasting corporation

Introduction

We are living in an era in which the communication flow is affected significantly by data (big on not) produced by all involved actors (Veglis & Maniou, 2018). Digital social networks are contemporary info-communicational spaces, which are influencing the social and economic development of the territories (Tymoshchuk et al., 2019) and they have changed the communication practices by creating an acute need for continuous interaction (Suárez-Gonzalo, Mas-Manchón, & Guerrero-Solé, 2019). In this new information ecosystem, the increase in the use of social networking media has created a new field of communication in the center of which is the public that is actively involved in the social networking platforms. These platforms, such as Facebook, Twitter and Instagram, offer their users the ability to engage with the content of a post, since they can easily share their opinions and their feelings with others (Canter, 2013; Diakopoulos & Naaman, 2011). Oh, Bellur and Sundar (2010, p. 25) have defined engagement as “the progression from interacting with the interface physically to becoming cognitively immersed in the content offered by it and then onto proactively spreading the out-comes of this involvement”. According to Wang & Liu (2019) online engagement refers to the expansion and establishment of political and civic engagement interceding by social media. Since users are a node in a larger network, this means that they play an active role in disseminating news by deciding what content and articles to share with their contacts on different social media profiles (Segado-Boj, Díaz-Campo, Navarro-Asensio, & Remacha-González, 2020). The measurement of engagement has aroused significant academic and professional interest (Oviedo-García et al., 2014) as an indicator of the effectiveness of communication on social networks, while all user interactions show their degree of commitment and their connection to the brand (Martínez-Sala & Segarra-Saavedra, 2020). According to the authors, online engagement can express both satisfaction and dissatisfaction. Based on this, the authors propose two types: one that is related to online engagement (positive) and a second that is related to online release (negative) -the user refrains from engagement with posts-. Online engagement serves to retain users and, through them, to attract new users, and online release not only affects the user

who manifests it but can also alienate potential and existing users. In the field of social networks, the engagement level can be measured through the number of likes over the content, the number of comments, the number of shares, and the interaction duration (Cvijikj & Michahelles, 2013; Perez-Vega, Taheri, Farrington, & O’Gorman, 2018). Although there is no consensus among researchers on how to measure online engagement, everyone agrees on the need to measure it (Martínez-Sala & Segarra-Saavedra, 2020). According to Oviedo et al., (2014) the measurement that corresponds to Facebook online engagement should be based on the interactions that result from user participation in response to branding and communication. For this reason, their proposal includes variables related to the number of posts (brand communication) and the basic options for user interaction (user response in the form of "reactions", "sharing" and "comment"). Facebook offers three main types of engagement which allow the users to give their feedback on the content of the post: liking, sharing, and commenting while the users, from 2016, can express their reactions through five emoticons: Love, Haha, Wow, Sad and Angry (Salgado & Bobba, 2019) and more recently with the emoticon Care, which was added in May 2020. This social networking platform, with more than 2,6 billion active monthly users, is considered as the largest social network globally¹(Clemens, 2020). According to the data of March 2016, when active monthly Facebook users amounted to 1,59 billion, five billion items and 350 million photographs were shared on the platform and the “like” button was selected more than 4,5 billion times (Sijakovic & Vukotic, 2020).

At the same time, the posting of news items enables the platforms that host news to augment their public in the social media and to generate income from digital advertising through the response of users that click on their links (Kanuri, Chen, & Sridhar, 2018). It is clear that the role of social media is twofold. On the one hand, they are used to disseminate news content and on the other hand, they are a source of income.

In this context, the analysis of the factors which influence user engagement with the content of a news outlet post constitutes the basic object of interest in our study so as to fully comprehend the motives that drive users to respond in a digital environment. Various factors such as the type of medium, the content of the publication, the posting day and time, the posting frequency, post length, community size may influence the level of engagement. According to Pletikosa Cvijikj, and Michahelle (2013) there are two basic components correlate to the posting activity so as to trigger more user engagement. The first one associates with the post content (whether the post includes photo, text, video, or link), and the second one corresponds to post time (the time of day the post took place). We believe that these two aspects of user engagement need to be further researched. The examination of those factors is related, on one hand to the better understanding of the impact of different motives pertaining to the content of the posts and on the other hand to the optimization of the post’s engagement factor.

The aim of this study is to deepen our understanding of the relation between the time and type of the post to the response of the public. Explaining and understanding in depth the influencing factors which trigger the augmentation of the engagement level within online communities on social media in public media are a worthy and notable goal. It could offer useful information on how users participate in posts which could lead the public media to face their longstanding commercial antagonists, to enhance their public mission, and improve their posting strategy attitude towards the brand. In addition, the findings may motivate moderators of Facebook brand pages to sketch digital strategies that activate the engagement of users largely and drive

¹According to Clemens, J., 2020: Number of monthly active Facebook users worldwide as of 1st quarter 2020 (in millions). From: <https://www.statista.com/statistics/264810/number-of-monthly-active-facebook-users-worldwide/>

brand adoption in long term. Moreover, the research adds new knowledge in which factors such as post time and post type in social media platforms intervene and influence user engagement processes, potentially improving news medium profits.

For the purpose of our study, we have used the Facebook posts of the Greek national broadcasting corporation. Public media generally aim at attracting public at a global level, focusing their digital strategy for the social network media on user engagement. Their pursuit is both to accomplish their social, political, and cultural mission towards the society as well to promote their worth to the citizens in exchange for their operation permit and the public funding they receive (Schulz, Levy, & Nielsen, 2019). Moreover, the platform of Facebook was selected for our survey, since recent years, brands have welcomed Facebook Inc. as a key marketing channel to promote engagement and brand awareness (Malhotra, Malhotra, & See, 2013). Also, the selection of this specific platform was founded on the reasoning that Facebook is the largest growing social network globally with approximately 2.8 billion monthly active users for the last fourth months of 2020 (Tankovska, 2021).

The rest of this article is organized into four sections. The literature review section discusses the relation between post time and engagement, as well as the relation between post type and engagement. The methodology section presents the collection of data and the method of analysis. The penultimate section presents the results of the study. The article is concluded with the discussion and conclusions section that also includes possible extensions of the work.

Literature Review

The issue of user engagement has become the object of research study in various fields. For instance, in sociology it has been studied as "civic engagement", in psychology as "social engagement", in organizational behavior/management as "employee engagement" and in marketing as "customer engagement" (Kumar & Pansari, 2016). The two researchers define engagement as «the mindset, the behavior, the level of interconnectivity between customers and customer-employees in a business» (2016, p. 498) and they maintain that more positive mindset and behavior and higher levels of connection, lead to a higher level of user engagement. As social media are considered to be an incentive, customer's participation in them is a crucial forecast indicator of customer engagement (Touni, Kim, Choi, & Ali, 2020), since according to studies customer participation in brand communities influences loyalty positively and nourishes relationships (Culter, Gummerus, Liljander, Weman, & Pihlström, 2012). In addition, online loyalty has been correlated and evaluated based on different variables, including user engagement and interaction (Martínez-Sala & Segarra-Saavedra, 2020). Once online loyalty is achieved, a lasting relationship based on trust and confidence can be established that promotes the conversion of the user into an advertiser (Caro, Luque, & Zayas, 2015). The process of user engagement with a post is considered an important dimension because it is closely related to the credibility of the posting party and the value of the party itself (Beukeboom, Kerkhof, & de Vries, 2015; Pitt, Plangger, & Kietzmann, 2018). Besides, user engagement in post content is a key metric for digital organizations. The increase of users (followers, subscribers, etc.) or the interactions expressed by users through likes, comments, and shares, are common indicators for measuring the success of organizations' activity on social media and indicators of user satisfaction (Balbi, Misuraca, & Scepi, 2018). It

is obvious that the higher these indicators, the better for digital organizations. A recent study has found that social networking media followership can be used as a predictor of news website traffic (Angelou, Katsaras, Kourkouridis, & Veglis, 2020). Therefore, understanding how users engage with social media content is a vital issue for both news outlets and their audience, combined with an understanding of the role of technology of social media on this link (Aldous, An, & Jansen, 2019). The aim of all companies who are active on the social networking platforms is to develop a positive relationship with their customers and ensure customer satisfaction and devotion (Pansari & Kumar, 2017) through the cultivation of user engagement. With regard to news outlets, they are heavily dependent on the social media in order to disseminate their content to the public, which is produced in many forms and it is disseminated through multiple channels (Aldous et al., 2019; Veglis, 2012). Broadcasting social media news shows that consumers are controlling the content of news on social media, and they can actively participate in the process of using news through the selection of news stories (Rahbarqazi, Baghban, & Yenghabadi, 2019).

In recent years we have witnessed a systematic examination of certain aspects of user engagement with social media posts, such as content type, post time and post type in an effort to predict the factors of the public's response to the posts and to analyze in-depth the reasons that drive users to engage with a post. The number of likes is connected to the total positive impact or the feelings towards the post and constitutes a general indication as to the number of users that read the message while the number of comments indicates the level of public engagement generated by the post. Likewise, the number of shares reflects the level of importance attributed to the post by the users and indicates a willingness to support and promote the post (Saxton & Waters, 2014). The most popular forms of public online participation are considered user's comments (Reich, 2011), which, in recent years, have evolved into a well-established aspect of online news (Walther & Jang, 2012; Weber, 2014).

Concerning the content type, studies have shown that entertaining content is the most instrumental, by reinforcing the engagement on all three distinct levels—liking, commenting and sharing (Cvijikj & Michahelles, 2013). The authors claim also providing informative content causes the greatest increase in the interaction duration. Entertaining content and informative content were found to be among the main stimulus for online engagement over brand-related content in the shape of consumption, creation, and contribution (Muntinga, Moorman, & Smit, 2011).

With regard to the time variable, previous studies suggest that the post time is related to user engagement and that the engagement-post time relation is important (Cvijikj & Michahelles, 2013; Dolan, R., Conduit, J., Fahy, J., & Goodman, 2016; Parganas, Anagnostopoulos, & Chadwick, 2015; Sabate, Berbegal-mirabent, Cañabate, & Leberherz, 2014; Srinivasan, B. V., Anandhavelu, N., Sinha, R., & Revankar, 2017; Zudrell, 2016). In their study, Villamediana et al., (2019) established that the best times for a Facebook post are at 8 a.m., 10a.m., 2p.m. and 5p.m., while the posts uploaded at 8 and 10 a.m. clearly achieved higher user engagement compared to other posts. Similarly, Kanuri et al., (2018) established that posting content in the morning leads to higher clicks on links than in the afternoon. Another study found that users pay more attention to new posts during working hours, probably because during this time they are positioned in front of their computers (Sabate et al., 2014), while for Brooks (2010) pre-afternoon posts achieve 65% higher public engagement compared to those posted after. Conversely, Mariani et al., (2016) found that morning posts have an adverse effect on user engagement since they claim that users tend to log on Facebook in the afternoon and evening, hence, they react more to afternoon posts.

Besides the post time factor, previous studies have proven that the post-type variable is also related to user engagement (Dolan, R., Conduit, J., Fahy, J., & Goodman, 2016; Mariani, Mura, & Di Felice, 2018; Pilitsidou, Tsigilis, & Kalliris, 2019) and that there is a positive relation between photos and likes (Zudrell, 2016). According to Došen & Brkljačić (2018) visual forms are a system of signs and symbols which gain their meaning in correlation with other objects. Posts with photos receive a higher average number of likes and a slightly higher average number of shares compared to those that include videos (Dolan, R., Conduit, J., Fahy, J., & Goodman, 2016). User engagement is positively influenced by posting visual content, mainly photo, the photos and the videos accompanying a post provoke more user comments (Mariani et al., 2018). Posts with photos receive a higher average number of likes and a slightly higher average number of shares compared to those that include videos (Dolan, R., Conduit, J., Fahy, J., & Goodman, 2016). Vries et al., (2012) maintain that there is a positive correlation between the number of likes and the features of the accompanying material of a post which determine its liveliness-vividness, with pictures and images at the low side of the scale and videos at the high one. Similarly, Sabate et al., (2014) conclude that including a photo or a video enhances the popularity of a post as measured by likes. Photos achieved 22% more engagement than videos and 54% more comments or likes compared to text, while videos achieved 27% more engagement compared to text (Brookes, 2010). According to the researcher those findings show that photos and videos are more popular types of content. A year later, Yu et al., (2011) claimed that on average photo posts receive substantially more likes than links and videos surmising that a possible explanation could be that many users choose not to spend more time clicking on links or videos. The same researchers suggest that the number of likes, comments and the overall tone of the comments are related to the popularity of the post. This assertion is also shared by Blease (2015), Sabate et al., (2014) και Zudrell (2016), who also correlate the popularity of the post to the number of shares. Furthermore, consumers spent more time reading the texts that had photographs attached (Kósa, Bálint, Ambrus, Sólyom, & Zsigmond, 2020). With regard to the degree of user engagement to the content of the post, the reaction "Like" on Facebook represents the lowest degree of engagement, "Share" is the next level and "Comment" is the highest level of engagement since composing a post requires more time and effort and denotes the user's wish to express their personal opinion (Salgado & Bobba, 2019). Consequently, when users choose to comment upon a piece of news, they display increased interest not only for the piece of news itself but also for their choice to share their thoughts on a public forum (Ksiazek, 2018). Allowing the user the opportunity to engage with the content of the news is one of the most constant and widely applied strategies of news outlets, according to a study that found that over 90% of news agencies offer that option (Stroud, Scacco, & Curry, 2014). This news outlet strategy is connected to their effort to retain their public partly due to the increasing use of social networking media (Kaplan & Haenlein, 2010). For this reason, news outlets focus on the potential offered by the internet and dedicate a significant amount of their resources to social networking media (Greer & Yan, 2010), since they increasingly depend on them to propagate their content (Aldous et al., 2019).

News outlet visibility is vital for the more successful approach of users and their engagement with the content of a post and thus, wider visibility which helps news outlets widen their reach (Aldous et al., 2019).

Given the widespread use of social networking media, it is increasingly important for news outlet to pay close attention to what is shared and discussed on them².

Based on the previous analysis this study we will attempt to comprehend whether specific features of the posts of the Greek national broadcasting corporation, such as post time and post type influence user engagement in media sector. We deem that the findings of our study could contribute to the systemization of optimal practices so as to elicit public response to the posts of public news outlets.

With this aim in mind, we pose the following research questions:

- RQ1. Do post time and post type affect public engagement to Facebook posts?
- RQ2. How is the impact of post time reflected to the public response to posts?
- RQ3. How is the impact of post type reflected to the public response to posts?

Methodology

Data collection

For the purpose of data collection, we proceeded to a daily recording of posts (from Monday to Friday) immediately after twelve (12) a.m. The recording period started on the 13th of August 2018 and ended on the 7th of December 2018 (seventeen consecutive weeks). The selection of this time period was based on news events, as we judged that there were special reasons that referred to news rich in coverage and analysis, resulting in the production of large volumes of data to be investigated. In order to study the differences in user engagement during the day, based on the activity of the users, we broke down the day to four six-hour periods. More specifically, the first group included posts from 00:01 at midnight until 06:00 in the morning. The second category included posts from 06:01 in the morning until 12:00 at noon. The third category consisted of all posts posted from 12:01 pm to 18:00 and the last category included all posts from 18:01 to 24:00. After that, we coded the type of the post (post type) in categories depending on the technical features that accompanied it each time:

- 1.text
- 2.photo
- 3.video
- 4.link.

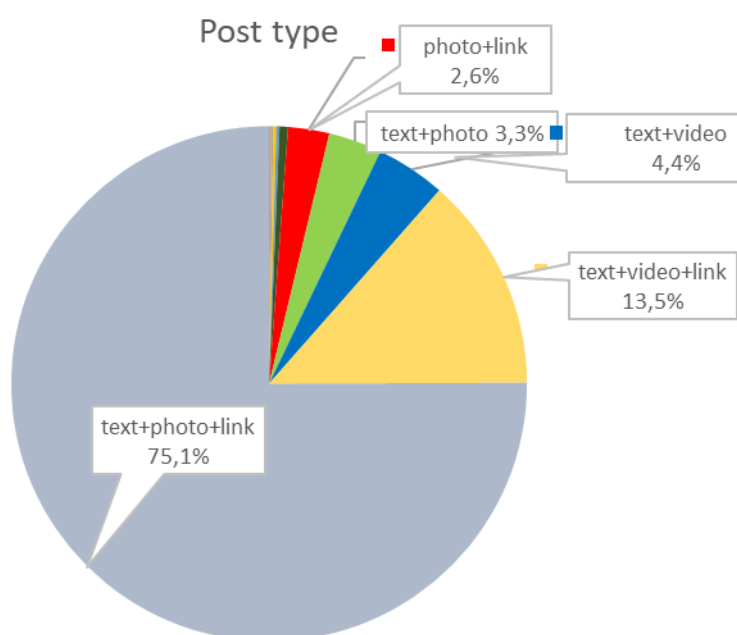
The counting of the audience's engagement in the posts included the five categories Like, Hearts, Emoticons (a single category for all emotional reactions), Comments and Shares, namely those reactions that social platform Facebook allows its users to easily share their emotions and thoughts with others. Data collection was recorded in a data encoding sheet (excel), identifying each post as a recording and analysis unit. Access to the collection data from the Facebook platform was achieved via Google Chrome. At the end of the four-month recording, 2,630 posts were generated. The collected data were entered for processing in the IBM Statistical Package for Social Sciences (SPSS 25.0) and their analysis was based on the Spearman correlation coefficient.

² BBC News, 2019: A social media intelligence study.

Results

From a total of 2,630 posts of the public broadcasting corporation during the 17 weeks of our survey, it emerges that 2,536 included text (96,4%) 2,424 included a link (92%), 2,135 a photo (81,2%) and 488 included videos (18,6%). The combination of text, photos and links gathered the highest rate of appearance with regard to post type with a total of 1,974 posts (75,1%), followed by the combination of text, video, and link with 354 posts at 13,5% (Figure 1).

Figure 1: Percentages of post type

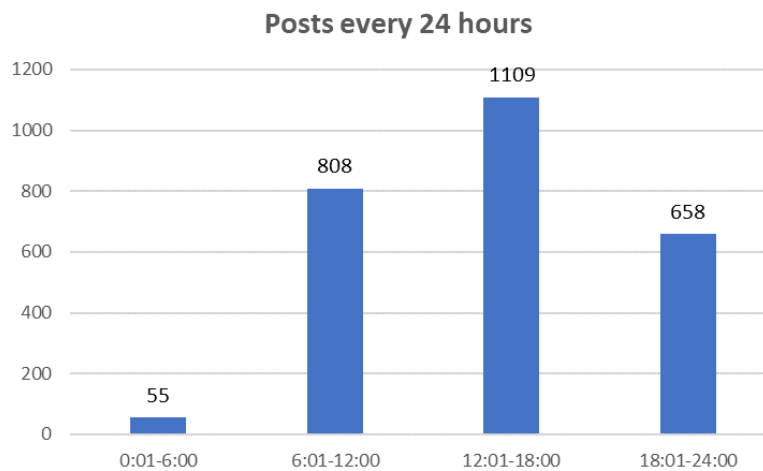


This particular post type which gathers the highest rate (text, photo, and link) indicates the way in which the public broadcasting corporation chooses to communicate its posts to its public. It appears that it chooses to utilize all the tools at its disposal to add further information on the posts and to highlight them in the most effective and most complete way with a view to satisfying its public. Schlosser et al., (2006) noted that visualized material is a good pointer of performance to customers, and may reinforce their satisfaction while transacting online. According to Shukla (2014), the visual appearance and brand image component become crucially keys as they have a remarkable impact on increasing online trust.

With regard to post time, the majority of posts, which amount to 1,109 (42,2%) are observed from 12.01, noon until 6 in the afternoon, followed by 808 (30,7%) posts from 6.01 in the morning till 12 noon and 658 posts (25%) from 6.01 in the afternoon till 12, midnight (Figure 2). The lowest post percentage is recorded from 12.01, midnight till 6 in the morning with barely 55 posts (2,1%). It is estimated that the promotion of the posts on the part of the news organization is mainly related to the news prime time, which as a rule begins at 12 noon and goes on for at least the next 6 hours, around which time the volume of news starts to stabilize and thus the volume of posts dwindles as the time passes. This can also account for the extremely low frequency of posts from 12.01 midnight to 6 in the morning (only 55). As Lischka (2018) claimed

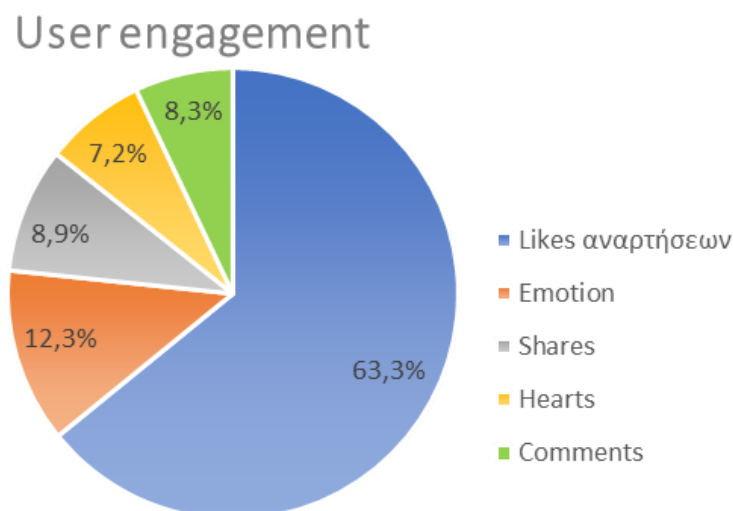
professional standards of journalists may adapt, as well as news content. This means, according to Dimitrov (2014) that social media forms the journalistic profession as new conventions deploy. Besides, content analyses have shown that news adjusts to user preferences (Lischka & Werning, 2017). The high rate of posts during this particular time period (12.01 noon to 6 in the afternoon) is most probably connected to the estimation of potential views (Saxton & Waters, 2014) and thus the potential public engagement, which is the objective of every news medium.

Figure 2: Distribution of Posts during the day



As it ensued from the analysis, the type of public reaction (Figure 3) encountered most frequently to the totality of the public broadcasting corporation posts is like with a percentage that amounts to 63,3% (in absolute numbers it is encountered 23,133 times) followed by the choices: emoticon at 12,3% (4,512 times), shares at 8,9% (3,245 times), comments at 8,3% (3,041 comments) and finally the option heart at 7,2% (2,628 times).

Figure 3: Percentages of users' reaction types



Therefore, we can conclude that the overwhelming preference of the public to the posts of the public broadcasting corporation is like. The like preference on the Facebook platform with a percentage of 63,3% remains the most popular and easily realized option and is globally considered as a simple form of activity in the above-mentioned medium of social networking (Veikko & Markku, 2015) and as they claimed, liking a post, comment, or photo is one of the most ordinary, straightforwardly conducted, and mere forms of activity on the Facebook platform.

At the beginning of the 24-hour period, users appear more active and willing to react to the posts with a like. However, as the time goes by the frequency of likes decreases. The same is true also, for the reaction comments, emoticons, and shares. The correlation of these reactions is strongly significant (Table I) while there seems to be no such correlation with hearts. Hence, we can surmise that the users are more active and react more readily to the posts in the morning hours probably because they are more rested, and they have more time to read the posts at their disposal. This finding coincides with the Villamediana et al., (2019) study, according to which posts that appear between 8 and 10 am achieve higher user engagement compared to the rest of the posts. The same claim is made by Kanuri et al., (2018), who discovered that the morning posting leads to an increase in the clicks on the links compared to those that appear in the afternoon. Sabate et al., (2014) concluded that the users pay more attention to the posts during working hours. For Brooks (2010) the pre-afternoon posts achieve 65% more public reaction compared to those that appear in the afternoon. Moreover, it is found that as the time goes by within the 24-hour period the decrease in the number of reactions is general and concerns the entirety of the reaction types. The trend is strongly significant for all reaction types.

Table 1: Post Time correlation analysis

| | Month | Day | Time |
|-------------------------|---------|---------|---------|
| Like | | | |
| Correlation Coefficient | -.081** | -.034 | -.103** |
| Sig. (2-tailed) | .000 | .085 | .000 |
| N | 2630 | 2630 | 2630 |
| Comments | | | |
| Correlation Coefficient | -.117** | -.050* | -.111** |
| Sig. (2-tailed) | .000 | .011 | .000 |
| N | 2630 | 2630 | 2630 |
| Emoticons | | | |
| Correlation Coefficient | -.168** | -.056** | -.120** |
| Sig. (2-tailed) | .000 | .004 | .000 |
| N | 2629 | 2629 | 2629 |
| Shares | | | |
| Correlation Coefficient | -,017 | -,027 | -,108** |
| Sig. (2-tailed) | ,383 | ,172 | ,000 |
| N | 2630 | 2630 | 2630 |
| Hearts | | | |

| | | | |
|-------------------------|---------|-------|-------|
| Correlation Coefficient | -.068** | -.030 | -.031 |
| Sig. (2-tailed) | .000 | .123 | .116 |
| N | 2630 | 2630 | 2630 |

**Correlation is significant at the .05 level (2-tailed).*

***Correlation is significant at the .01 level (2-tailed).*

With regard to the days of the week, there arise interesting findings for the user behavior during the working days. It is found that as the days go by the public reaction to the posts decreases significantly. The decrease concerns primarily the emoticons, where the correlation is strongly significant, demonstrably negative. The users do not express themselves via emoticons with the same frequency as the days pass by. At the beginning of the week the user reacts more readily via emoticons and day by day this reaction presents a decline. The comments also present a decline with the correlation in this case being soft. It is conceivable that the users are more willing to express their views at the beginning of the week. As the days go by the reaction declines possibly due to fatigue or increased workload and the users do not seem to be as willing to publicly share their views towards the end of the week. The day factor does not show any correlation to the number of likes, hearts, and shares.

As the months go by the reaction of the public in likes, hearts, emoticons, and comments seems to decline. There is a markedly negative strong correlation to all four above mentioned public reaction, which means that at the beginning of the survey there were significant and with the passage of the months the reactions presented a decline. One possible explanation is that the beginning of the survey coincided with a national, political, or social event of great interest, the posts of which caused a great number of reactions on behalf of the users. It was a piece of news heard around the world, covering extensively the history of the case, turning it into a prevailing topic in all Media.

At the same time, it was a piece of news that caused an emotional reaction to the public since it had been following its development for about 5,5 months. It is therefore conceivable that pieces of news with national, political, or social implications which remain in the limelight and carry and emotional charge that is reflected to the audience arouse the interest of the users and cause a reaction to the post more easily.

The correlation of the reactions to a post including a text is also significant. More specifically, a significant correlation to the like, heart and emoticons reactions has been recorded. This means that when a post included a text, the likelihood of a larger number of likes, hearts and emoticons increases. Therefore, the trend of correlation between text and user engagement is upward (Table 2). The two reactions that do not appear to be influenced by the presence of text are comments and shares, since there does not appear to be any correlation to user engagement. This last finding is probably the most important one ensuing from the text analysis. More specifically, it has been found that when a post includes merely a text, it does not evoke comments from the users, since they cannot be bothered to publicize their opinion and also do not seem willing to share the post. Apparently, what the findings show is that in a post that contains text, the user reacts more easily through likes, hearts, and emoticons, indicating in a concise, simple, and easy way, his agreement or disagreement with the content of the post. He may not prefer the choice of comments, probably because the post does not motivate him any further so that he proceeds to a more demanding,

penetrating, and in-depth personal position on the subject of the post. Likewise, he does not choose to share the post, probably because he does not express him to the fullest extent, so as to share it with the public. Moreover, this finding might suggest that texts facilitate the readers since after reading the post users end up expressing their personal reaction to the content of the post by choosing like, hearts or emoticons.

The trend of correlation of posts including a photo is particularly strongly significant with regard to the likes, the emoticons, and the comments and important with regard to the shares. What is noticed is that if the posts included photos the number of users reacting positively with likes, comments and emoticons increased strongly significant as did the number of users who chose to share the post, but in the latter just significant. Photos seem to evoke almost all user reactions with the exception of hearts which remains stable. This finding suggests that a user readily leaves his mark on a post accompanied by a photo and the likelihood of a reaction is very strong. A probable explanation is that the posted photos have a remarkable influence on shaping the user's opinion as well as the social point of view interaction with each other. The same finding is also confirmed by the Mariani et al., (2018) study, according to which user engagement is positively influenced by a visual content (mainly a photo). Likewise, in their study, Zudrell (2016) conclude that there is a positively significant relation between photos and likes. Finally, the Sabate et al., (2014) study reached the conclusion that the inclusion of photos and videos reinforces the reach of the post with regard to likes. Unlike the photos, the correlation of video to user engagement is strongly significant negative with regard to like, emoticon and comment reactions. This means that the more posts accompanied with videos, the less like, emoticon and comment reactions. This finding was rather unexpected since it demonstrates that the video as a visual tool does not attract the interest of users. It would be more logical for the users to leave their mark on the post after having obtained more complete information through the viewing of the video. This behavior could be interpreted either as a negative evaluation of the video or as an omission from the part of the user for specific reasons, for instance, a video of long duration could be tiresome.

With regard to the links, there appears to be a correlation to three types of user reaction, likes, emoticons and shares. More specifically, a strongly significant positive correlation is noticed between the link that is included in a post and the number of likes, emoticons, and shares. This means that the trend that appears between links, likes, emoticons and shares is markedly increasing. This finding gives as an idea as for user behavior towards posts accompanied by photos.

Table 2: Post type correlation analysis

| | Text | Photo | Video | Link |
|-------------------------|-------|--------|---------|--------|
| Like | | | | |
| Correlation Coefficient | .042* | .222** | -.212** | .148** |
| Sig. (2-tailed) | .031 | .000 | .000 | .000 |
| N | 2637 | 2637 | 2637 | 2637 |
| Comments | | | | |
| Correlation Coefficient | .029 | .104** | -.102** | .020 |
| Sig. (2-tailed) | .132 | .000 | .000 | .303 |
| N | 2637 | 2637 | 2637 | 2637 |
| Emoticons | | | | |
| Correlation Coefficient | .040* | .185** | -.182** | .097** |
| Sig. (2-tailed) | .040 | .000 | .000 | .000 |
| N | 2636 | 2636 | 2636 | 2636 |
| Shares | | | | |
| Correlation Coefficient | .008 | .041* | -.036 | .074** |
| Sig. (2-tailed) | .667 | .037 | .061 | .000 |
| N | 2637 | 2637 | 2637 | 2637 |
| Hearts | | | | |
| Correlation Coefficient | .039* | .015 | -.009 | .027 |
| Sig. (2-tailed) | .044 | .437 | .632 | .171 |
| N | 2637 | 2637 | 2637 | 2637 |

*Correlation is significant at the .05 level (2-tailed).

**Correlation is significant at the .01 level (2-tailed).

Discussion and Conclusions

Interesting assumptions for public engagement can be drawn from the results presented in the previous section. More specifically users seem more positively predisposed and more willing to engage during the morning hours- using mainly likes- as opposed to the evening hours, since the incidence of likes decreases as time passes. This means that users react more easily to the morning posts than to afternoon or evening ones. This finding coincides with previous studies (Brookes, 2010; Kanuri et al., 2018; Sabate et al., 2014; Villamediana et al., 2019), which reached the same conclusion. Moreover, it appears that the public of the broadcasting corporation chooses like as the simplest, quickest way of virtual support to the post while proving that it remains an active user who shows an interest in the medium's posts. The option to the button of like coincides with the general consensus that this particular reaction is an uncomplicated and the most extensive way to recompense a post through the function of an automated process and does not demand the readiness to create or consume time, contrary to other reaction types, such as comments (Veikko &

Markku, 2015). It is also noteworthy that the incidence of other reactions (comment, emoticons, shares) which also denote user engagement, seem to decrease as the 24-hour period reaches its end. Another important finding concerning post time is the pattern of user reaction during the week. Users appear more active and willing to engage to the posts at the beginning of the week. However, as the end of the week approaches the frequency of reactions seems to fade. This finding concerns primarily the emoticon reaction since the users are found to react more easily to the posts they see and read at the beginning of the week. In the middle of the week and as we move towards Friday users seem more subdued and relaxed towards the posts. This trend concerns the emoticons and comment reactions. The decrease could be attributed to the users' workload which increases during the week and consequently to the limited time at their disposal to read the posts. This result contradicts the finding of Brooks' (2010) research. According to the author, the effectiveness of posts variegates significantly per industry, but when all fan data is considered in total, Friday's publications generate the most engagement.

With regard to post types and user engagement, it is ascertained that the posts that include a photo elicit user engagement more easily, with the user choosing predominantly the like reaction, followed by comments, emoticons and less the share reaction. It is therefore obvious that the utilization photos in a post evokes more public engagement since the likelihood of a reaction from the part of the users increases significantly. It is crystal clear, that the visualization of the post with a photo seems to attract and entice the users who react more easily to the post. This demonstrates that the posted photos have a significant impact on forming the user's opinion as well as the social point of view interaction with each other. The information displayed and the details shown in the photo may play an essential role in this notable impact. Additionally, the use of a photo seems to fascinate the Facebook audience which reacts with "like" as a first choice more than of the written speech (comments). The latter seems to not be chosen as a significant public reaction to photo posts, while the growing tendency to engage in photos with "like" enhances the patterns of apparent attractiveness and seduction that appear in photos and affect users online. It is obvious also, that whether it is for likes or comments, any action on the part of the user signals his reaction and appreciation for the content he sees every time. This finding is supported by previous studies (Sabate et al., 2014; Zudrell, 2016; Mariani et al., 2018), which also concluded that there is a positively significant relation between public engagement and posts that include photos. User reaction to posts including links is quite similar. In this case the users who react express themselves mainly through likes, emoticons, and shares with a strongly upward trend. In any case, whether there is a photo or a link, it is clear that the user is strongly significant positively influenced and chooses to increasingly engage to the post by expressing the thought or feelings elicited by the post.

Another important finding about the post type concerns the posts accompanied by text. While a positively significant correlation has been recorded concerning the likes, hearts, and emoticons, it is noteworthy that the users seem disinclined to use comments and shares which remain stable. It is conceivable that as a post type, text does not mobilize the maximum level of user interest so as to make them either share the post or to devote time into expressing their opinion through a comment. A noteworthy, albeit unexpected finding concerns the posts accompanied by video because as a visual tool video might be considered highly probable to attract user attention and elicit a response. Perhaps factors related to the video duration or its content could prevent user engagement.

Additionally, the finding that the public broadcasting corporation chooses to communicate its posts to its public by utilizing all the tools at its disposal (photo, video, links) to enrich information rendering them most attractive and in the most complete way to its public, is almost expected, since visual appearance is connected with public satisfaction and may exert influence on increasing online trust (Schlosser et al., 2006; Shukla, 2014). Finally, predicted finding was the high rate of posts during 12.01 noon to 6 in the afternoon on the part of the public broadcasting corporation since it is related to the news prime time and the estimation of potential views (Saxton & Waters, 2014), which is the goal of every news medium. It should be clarified that our study investigates the effect of the abovementioned social media factors (post time and post type) on the media sector. However, there are studies (Mariani, Di Felice, & Mura, 2016; Mariani, Mura, & Di Felice, 2018; Villamediana, Küster, & Vila, 2019) that explore the same factors (increasing the chances of users liking, commenting on, sharing a company's Facebook posts), contributing in this way to various businesses, such as the tourism industry. Comparing the findings from the two different areas (media sector and tourism) reveals that our findings also apply to engagement in the tourism sector. In particular, this agreement in terms of user engagement is positively influenced by visual content (Mariani et al., 2018) as well as the post-time factor, which is related to user engagement (Mariani, Mura, & Di Felice, 2018). Moreover, our finding that users react more easily to the morning posts than to afternoon or evening ones coincides with Villamediana et al., (2019) study, which reached the same conclusion. Conversely, the Mariani et al., (2016) study reported that users react more to afternoon posts.

To sum up, the present study aimed at investigating the relation of post time and post type to public engagement to Facebook posts in order to ascertain whether these two specific variables influence public engagement with the posts. As for the post time variable, our study came up with important findings concerning user behavior within a 24-hour period as well as their weekly engagement with Facebook posts. Thus, interesting conclusions could be drawn with regard to the influence of factors such as post time and post type on user engagement to Facebook posts which could be taken into consideration when establishing the strategy of public media concerning the use of digital platforms with the view to maximizing public engagement to their posts. It would be very useful if a convergence of homogenous findings could be established through future studies for other news outlets which could greatly contribute to the improvement and the enhancement of their digital strategy. Moreover, it would be interesting to investigate the post time and post type variables for other public media with a view to facilitating the accomplishment of their public mission.

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