ABSTRACT
This paper explores the creation and content of apps about Donald Trump (n=412) published in Google Play between June 2015 and January 2018. The relevance of the study stems from both its objectives and its methodology. On the one hand, the aim was to characterise the profile, motivations and purposes of the developers of Donald Trump apps; and on the other, to identify the main features of the discourses in the most downloaded apps. The study relied on two resources: a qualitative questionnaire of open questions for developers (n=376), and a quantitative analysis of the content of apps that exceeded 5,000 downloads (n=117). The questionnaire identified the influence of political current affairs in the developers' ideological and economic motivations, while the content analysis revealed the trends found over time, as well as the themes, discourses and ideological positioning of the most popular apps about Donald Trump. The findings provide an empirical basis for how the content of these apps was articulated with the news; the influence of content that went viral; hegemonic discourses; and the role played by developers of new expressive, commercial, informative and persuasive proposals in the intersection between mobile apps and political campaigns.

RESUMEN
Esta investigación explora la creación y el mensaje de las apps sobre Donald Trump publicadas en la plataforma Google Play desde junio de 2015 hasta enero de 2018 (n=412). El interés del estudio proviene tanto de sus objetivos como de su metodología. Por un lado, se pretende detectar el perfil, motivaciones y propósitos de los desarrolladores de apps sobre la figura de Donald Trump y, por otro, identificar los principales rasgos de los discursos de las apps más descargadas. La investigación se ha desarrollado en dos frentes: un cuestionario cualitativo de preguntas abiertas a desarrolladores (n=376) y un análisis cuantitativo de contenido del mensaje de las apps que superaron las 5,000 descargas (n=117). El cuestionario ha identificado la influencia de la actualidad política en los desarrolladores y sus motivaciones de corte ideológico y económico mientras que el análisis de contenido ha revelado la tendencia y evolución de los temas, discursos y el posicionamiento ideológico de las apps más populares sobre Donald Trump. Los resultados establecen una base empírica en relación a la articulación del mensaje de las apps con la actualidad informativa, la influencia de los contenidos virales, los discursos hegemónicos y el rol de los desarrolladores de nuevas propuestas expresivas, comerciales, informativas y persuasivas en la conjunción de los ecosistemas de aplicaciones móviles y las campañas políticas.

KEYWORDS | PALABRAS CLAVE
Political communication, Donald Trump, quantitative analysis, infotainment, mobile apps, mobile devices, entertainment industries, Google Play.

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1. Introduction

Mobile devices have a significant impact on all areas of everyday life and are now new mass media channels capable of meeting multiple needs (Ahonen, 2008). The services provided through these devices are based on applications (apps), which increase the original functions of mobile devices and are accessible on distribution platforms. The most well-known platforms are the App Store (for iOS-based devices) and Google Play (for Android devices), both of which have grown significantly in recent years. Google Play, for example, has gone from offering 30,000 apps in March 2010 to providing more than 3,500,000 apps in December 2017 (Statista, 2017).

This expansion comes from the interest of developers and the business opportunities that have arisen in this emerging and steadily growing sector (Gunwoong & Raghu, 2014). The scope of the academic discussion on this topic has been as wide as the phenomenon itself (Katz, 2008). It has been recognised as an independent field of research with distinctive characteristics (Taipale & Fortunati, 2014), and new methodological approaches have been developed (Boase & Humphreys, 2018). Research into apps is at a nascent stage (Light, Burgess, & Duguay, 2016), and has focused on areas such as health (Carroll, Moorhead, Bond, LeBlanc, Petrella, & Fiscella, 2017), education (Crescenzi-Lanna & Grane-Oro, 2016), and communication (Westlund, 2015, Silva & López, 2017). These uses were cemented into political practice through Obama’s use of apps in the 2008 and 2012 electoral campaigns (Shankland, 2008, Tau, 2012). A reading that has been complemented by the role of apps in activism (Yamamoto, Kushin, & Dalsay, 2013), electoral participation (Martin, 2014) and political satire (Gómez-García & Cabeza, 2016). The 2016 US presidential election saw the culmination of this process as the popularity of the different candidates was reflected in their presence in app distribution platforms (McCabe & Nelson, 2016). This confirmed the new importance of apps and their contents in a broader context that recognised the transformative capacity of digital social media (De-Aguilera & Casero-Ripollés, 2018).

In light of the above, this study explores the construction of Trump as a figure in the ecosystem of mobile device applications. Two research questions were articulated within the context of online “infotainment” (Berrocal, Redondo, & Campos, 2013):

- RQ1. What are the profiles, motivations, and purposes of creators of Donald Trump apps?
- RQ2. What type of message is conveyed in the most downloaded Donald Trump apps, and what are the main features of their discourse?

The objective of the study is therefore twofold. Firstly, it provides an approach to one of the less visible aspects of the Trump phenomenon which has not yet received scholarly attention, due to its novelty and uniqueness. Secondly, it addresses the current methodological challenge involved in research focused on apps and app developers (Light, Burgess, & Duguay, 2016), and proposes some elements to build an analytical model.

2. Material and methods

2.1 Strategy and sample collection

The Google Play search engine and Sensor Tower, an app monitoring tool, were used to identify and select the sample. The App Store platform was not included due to its opacity. It does not provide some pieces of data which were essential for this study, such as the number of times a particular app has been downloaded.

The keyword “Donald Trump” was used for the search, which was completed by linked terms suggested by the platform. The sample included 412 apps published from June 2015, when Donald Trump announced his intention to run as a candidate in the Republican Party primary, until January 2018, when he had been president for one year. Based on this list, a database was created that contained all the information provided by the platform on each of the apps. The analysis contained in the study was limited by the reliability of the data provided by the platform. The results were first classified according to the number of downloads (based on the range of downloads available in the platform).

As shown in Table 1 (see the next page), the apps about Trump were estimated to have exceeded 37 million downloads by the end of May 2018. The distribution of apps according to their number of downloads was uneven, as 99.2% of the estimated downloads were concentrated in a quarter of the sample (n=117).

2.2 Procedures

The twofold focus of this study, app creators and app messages, involved the use of different methods. A qualitative questionnaire was developed based on the app's database to determine the profile of the developers, whereas a coding sheet for quantitative content analysis was employed to analyse the message.
The information available on Google Play and a questionnaire administered to all the app developers that made up the sample (n=376) were used in order to build the profile and identify the purposes of content creators. The questionnaire used open-ended exploratory questions since it sought information about a specific area, but the interviewees' possible responses were not known beforehand. Three fundamental aspects were addressed: development characteristics (people linked to the project, infrastructure and production times), motivations, and purposes (reasons for choosing this media channel and topic). Responses to the questionnaire were received from 74 of the 376 developers. The exploratory analysis of response rates was based on previous theoretical frameworks on the creation of political content for the internet (Neys & Jansz, 2010):

- **Recording purpose.** The developer wanted to provide an information service about Trump and his activities.
- **Expressive purpose.** The developer stressed that the medium was unique as an expressive vehicle.
- **Persuasion purpose.** The developer sought to express an opinion, participate in a public debate, or generate a climate of opinion around Trump.
- **Engagement purpose.** The developer intended to promote a specific action in the political or social context.
- **Commercial purpose.** The developer’s strategy was using topical issues that go viral to obtain financial gains, visibility, self-promotion or app promotion.
- **Entertainment purpose.** The developers intended to provide entertainment to the users of their applications.
- **Self-realisation purpose.** The developers did not consider the connotations conveyed by the content and created the app for educational or hedonistic purposes.

The quantitative analysis of the apps and the definition of the discursive variables were both framed within the idea of the computational turn (Berry, 2012), which advocates the need for the social sciences and the humanities to build specific theoretical tools to identify the discursive features of apps. The analysis was only applied to the most popular apps (n=117), which were those that exceeded 5,000 downloads as of 31 May 2018.

**Figure 1. Proposed analysis of the apps’ discourse**
Two associated researchers did the coding using a coding sheet for quantitative content analysis recorded in a codebook. The inter-coder reliability was measured using Cohen's Kappa coefficient for each of the variables to increase the integrity of the process (Riffe, Lacy, & Fico, 2005). The following variables were collected:

a) Thematic approaches (K=0.91). These approaches were developed by using the references and prior sample analysis. The resulting classification included: popularity, physical appearance, private life, entrepreneur, presidential candidate, president of the United States, and political initiatives (both national and international).

b) Discourse type (K=0.86). Four categories were used (Haigh & Heresco, 2010): escapist (discourse that is not linked to reality, which provides an unreal or a merely viral construction); informative (discourse that offers information about Trump’s activities, such as his presidential campaign); meaningful (discourse intended to give an opinion); and dramatic-satirical (discourse that highlights emotional elements with an ironic purpose). The initial results suggested the need to include a fifth category: circumstantial (a discourse that used the popularity of Trump as a character, but without proposing a complementary construction).

c) Discourse focus (K=0.79). An analysis was made to see if the characters (Trump, Hillary, etc.), topics (United States immigration, health and so on) and events linked to current affairs (presidential elections, and the construction of a wall on the border with Mexico, among others) played a leading role.

d) Ideological positioning (K=0.94). The aim was to identify whether Trump (as an individual) and/or Trump’s actions were portrayed in a positive, negative or neutral way.

3. Results

3.1. Profile, motivations and purposes of app developers

3.1.1. Profile of the developers

The developers (n=376) were classified according to the total number of apps they had published on Google Play Store (Wang, Liu, Guo, Xiangqun, Miao, Guoai, & Jason, 2017), and were related to the number of downloads for the apps in the sample (Table 1).

Table 2 relates the activity of the developers to the popularity of the Trump apps they had published. This relationship was not clear from the available data. The relationship between both variables showed that “developers who created more apps are likely to have more accumulated installs” (Wang & al., 2017: 167). However, this statement should not be taken to include commercial apps when their content or theme has ideological or political premises. The data obtained in this study show that the distribution of downloads for the apps was even across the different types of profiles, with a tendency for active developers to obtain a greater number of downloads.

Another aspect of interest was that the number of apps and developers in terms of creating content was not constant, since only 31 of the developers published more than one Trump app. This divergence between the creators’ app publishing activities, and their Trump apps shows that the latter were circumstantial, heterogeneous and discontinuous, rather than being part of an ideological mobilisation strategy.

The questionnaires reflected that for the majority of the apps created by sporadic or moderately active developers, creators had teams of 1 or 2 people, while the developers that qualified as active or prolific involved teams of more than 5 members. Specialist development tools were largely used. An analysis of the most popular apps (n=117) using code comparison tools (Wang, Guo, Ma, & Chen, 2015), detection of third-party libraries (Ma, Wang, Guo, & Chen, 2016) and a formal content analysis identified similarities (interface, game mechanics, aesthetic elements, etc.) among 84 of the 117 apps (71.7%). These coincidences revealed a relatively simple rationale for the creation of contents, based on virality and popular genres, with slight aesthetic variations to secure the maximum number of downloads as quickly as possible. The development times of the apps also showed disparate...
values that were proportionally distributed between 1-6 days, between 1-3 weeks and between 1-3 months. The two extreme values were found for Trump Dab Simulator 2K17 (GadenDetErMig), which the developer claimed to have created in 30 minutes, and Border Clash (Catta Games), which took its single developer 13 months to complete.

3.1.2. Purposes involved in creating an app

The questionnaires revealed that developers had three reasons for creating apps. Firstly, a pragmatic one, insofar as this line of work involved a lower investment in terms of production and distribution compared to other options. Secondly, they had an expressive purpose, as the apps was perceived as being unique means of conveying a different opinion or discourse compared to other options, mainly due to their narrative peculiarities, or the platform or distribution channel they used. And thirdly, there was an interest in using these apps as self-promotion tools. As noted by Box10, “in addition to offering a funny interpretation, we wanted to prove that we could successfully develop high-quality applications” (Box10, Whack the Trump).

The developers largely chose to develop games (286 apps, 69%) and entertainment apps (72,17%), as opposed to other categories that were in the minority (54,13%). This trend was accentuated even further when considering the estimated downloads by gender. The apps that did not correspond to the two main categories (games, 70% of the total downloads; and entertainment, 25% of the total downloads) accounted for only 5% of the total downloads of the sample. This data set provides information to establish the optimal way for the developers to achieve their objectives.

3.1.3. Why Trump?

The constant presence of Trump in the media was key for the developers who used his popularity as a source of inspiration: “we took advantage of internet trends and memes to create content” (The Meme Buttons, Real Trump Button).

Figure 2 shows the influence between political current affairs and the publication of apps. It also indicates that the campaign of the 2016 presidential elections (when Trump was already the official Republican party candidate), and the first months of Trump’s presidency (from August 2016 to March 2017) were the time periods in which almost half of the sample was concentrated (202 apps, 49%).

3.1.4. The developers’ purposes

The developers’ reasons for creating an application about Trump were focused on various areas. The most frequent was merely entertainment, as “the application didn’t have any deeper meaning, aside from the fact that it is a simple runner with a celebrity” (Josh Barton, Trump Countdown), or the interest in spreading a message inspired by “a concern about the idea of building the wall” (Ignacio Rabadán, Chili for Trump). In this vein, some developers said: “the main reason was to lampoon Trump and make fun of one of his outrageous statements (Mexico wall)” (Esayitch, Taco Trump Down). This communication potential was important both inside and outside the United
States: “everybody is talking about Trump, and American politics is influencing everybody around the world. So as I can’t vote in America, I can at least make fun of what they are doing” (Rudie Productions, Trump Escape).

Despite this general trend, other developers stated that their Trump app was for information purposes but also had several additional aims. The official campaign applications and the Political Action Committees (America First and Great America) offered news about Trump, and provided information about geo-localised campaign events, organised door-to-door information activities, and donations. The same purpose was sought by another set of apps, although with a more critical intention. These allowed users “to have a record of the things Trump said that was easy to search” (Marshall Gordon, Trump Tweets Archive); as one of the developers said “his tweets about immigration inspired me to make a game to satirically ‘make fun’ of him” (Catta Games, Border Clash).

The aim to provide information was usually combined with a persuasive or engaging purpose. The official applications obviously went beyond a purely informative purpose, since they reinforced a positive view of Trump with a further engaging motive. However, apps that provided a negative construction of the candidate worked at different levels. The expressive capacity of the apps was combined with a sense of frustration, as stated by Rudie Productions: “I felt frustrated with the current politics all over the world and wanted to contribute something to the critique” (Rudie Productions, Trump Escape); or, as in the case of Marshall Gordon, “it was made to call out Trump on lies and hypocrisy” (Marshall Gordon, Trump Tweets Archive). The purpose of apps such as Boycott Trump was to create a climate featuring “a unified grassroots movement centred on holding companies and individuals that help Trump in any way accountable” (Democratic Coalition Against Trump).

The commercial or viral purpose also mobilised a large number of developers. As claimed by one of them, “the figure of Trump attracts a lot of people, and that means consumers” (Yunus Kulyyev, Trump'em!). Along these lines, another developer argued: “I used Donald Trump as a character because I felt that it would encourage more people to play the game as he was, and still is, a controversial figure” (Josh Barton, Trump Countdown). This trend was seen in the apps that were available in the database which exceeded 5,000 downloads (n=117). A line of distribution of the content can be identified through free apps (100%) that relied on advertising (87.3%) or purchases within the apps (34.9%) to obtain their revenues.

3.2. Message analysis

3.2.1. Thematic approaches

The popularity of the character (n=65) and his running as a presidential candidate (n=25) were the most popular reasons when compared with the rest, which were in the minority: political initiatives (n=14), president of the United States (n=5), entrepreneur (n=4), physical appearance (n=4) and private life (n=0). The majority of approaches subscribed to the logic of viral promotion that had been pointed out by the developers and was behind their specific uses. The more common option involved using the image of Trump without altering the essence of the original content. Existing resources and codes were used to simplify this work in similar apps such as soundboards (10), spoof calls (6) or mainly, versions of popular games (73), including Angry Birds, Super Mario Bros or Mahjong, among others.

The combination of the most recurrent approaches, popularity, and choices, explain the main peaks in the production of apps shown in Figure 2. The average number of apps published monthly in the stage when Trump announced he would run as a presidential candidate was 21.1, and it declined as the circumstances that made him popular (the novelty of his presence in the political sphere and the presidential campaign) were no longer current.

Thus, the monthly average of Trump apps after his inauguration as president decreased to 14.2 apps.

3.2.2. Discourse focus

The analysis of the discourse focus was based on three aspects: characters, themes, and events. The central character of the search, Donald Trump, was obviously the leading figure in the apps in the sample. Political campaigns can currently be personalised (Garzia, 2017), which explains the high average number of apps published in the periods when the primary and the presidential elections took place. The political figure that appeared most frequently (after Trump) was his main political rival, Hillary Clinton (14). Other Democratic politicians were also featured in the apps, albeit more symbolically (Barack Obama, Bernie Sanders), as well as some non-US political figures (Vladimir Putin, Kim Jong-Un). Trump’s personal circle was not much in evidence, and none of the apps analysed mentioned other Republican politicians. The hegemonic status of Trump in his own party was reflected in the app Trump on Top (IDC Games), which involved a fight between two sides: Republican and Democratic
politicians. One side was made up of characters who were Democratic politicians, including Hillary Clinton, Barack Obama, and Joe Manchin. The other side was composed of different characters that all referred to Trump (Entrepreneur, Trumpoline, SuperTrump). This reflected the perception of the heterogeneous Democratic leadership as opposed to the homogeneous leadership on the Republican side.

The analysis of specific issues and events revealed the ambiguous nature of this type of content. There were hardly any direct references to particular events, except for two important ones: the presidential election in the United States (n=24), and the proposal to build a wall on the border with Mexico (n=10). The discourse on the US presidential election adopted a confrontation perspective, while in the discourse related to the wall, most apps provided satirical or critical views about the building process of the wall, its demolition, and attempts to cross it. These constructions lacked complexity, but their repeated use indicated their significance within the overall themes being addressed.

3.2.3. Types of discourses

The narratives contained in the Donald Trump apps mainly focused on a circumstantial discourse (37.6%), followed by those that used dramatic-satirical (28.2%), escapist (18.8%), and meaningful (13.7%) discourses, and almost anecdotally, some of the discourses were provided for information purposes (1.7%). There were a series of apps (56.4%) circumstantial and escapist in their approach that sought to make their creators visible within the platform by using viral self-promotion techniques. Another group (41.9%) adopted an editorial strategy (dramatic-satirical and meaningful) to create a negative construction of the character, exploring the discursive capacities of this channel. It should also be noted that the apps were rarely used for information purposes about social and political actors. In contrast, it was particularly interesting to see how the discourses evolved over time in the three major segments identified by the study, as shown in Figure 3 (next page).

Two trends were identified in the publication of apps over the different periods. The first was the growth in the number of apps linked to viral strategies and an aseptic (circumstantial and escapist) construction of Donald Trump. The second trend reflected the reverse process, as largely editorial apps (dramatic-satirical and meaningful) were found. It was observed that the discourses pivoted around support or political confrontation in the campaign periods (primary and presidential elections), and later shifted to a more commercial view, banking on Trump’s popularity as US president and focused on content monetisation and self-promotion.

3.2.4. Ideological positioning

The apps that portrayed a neutral representation of Donald Trump were in the majority (68.3%), compared to those that advocated a negative (28.2%) or a positive (3.4%) view. This distribution points to a correlation between circumstantial and escapist discourses together with a positioning that exposed their interest in using Trump for commercial or satirical ends, rather than for ideological purposes. This pattern is shown in Figure 4 over the period of the sample (see next page).

4. Discussion and conclusions

The controversial popularity of Donald Trump in the American political sphere, and its manifestations in other countries, have spawned efforts to define a new political context, in an attempt to recognise the elements that
questions related to the messages produced and the creators of those messages. The creators of app content in the sample have heterogeneous profiles, although some common trends were identified. There were four major types of developers, according to their level of production. This may have involved creating apps of higher or lower formal quality, but was unrelated to their success after being published on Google Play. The largest number of apps came from sporadic and moderately productive developers (71.6%).

The purposes of these developers in creating the apps were either economic or ideological. For the majority of them, the revenues from creation and distribution, or directly produced by the app as it went viral, were part of the logic of “earned media”. This is the same economic logic that led US television channels to provide comprehensive coverage on Donald Trump without any editorial control (McIntyre, 2018: 109). In the same vein, this was the rationale used by one of the main architects of “fake news” about Donald Trump, Beqa Latsabidze, who stated that he had no political motive; he was just following the money (McIntyre, 2018: 121). However, very few developers reported on whether they had obtained the expected results from these apps, although the creators of one of the most popular ones – Dump Trump (Daydream)– identified its viral nature as a key element to its success.

In contrast, the least popular motivation, ideological positioning, was found to occur unevenly. Interestingly, the neutral apps that parodied Trump had more downloads than the apps that were markedly critical. In these cases, the developers favoured applications that created content (images, videos, memes, etc.) to be shared on social networks in order to go beyond the borders of the app ecosystem.

The developers’ intentions were reflected, both consciously and unconsciously, in the apps’ discourse. One of the main characteristics was that the apps simplified discourses, both by the use of caricature (aesthetics) and satire (message). It was therefore confirmed that the most popular set of apps (n=117) proposed archetypes and clichés through graphic humour. In this process,
two issues of interest were identified. The first was that the apps with a more critical discourse were in the minority (both in number and the quantity of downloads) compared to those that opted for greater simplification and virality. This trend can be explained by using the Elaboration Likelihood Model of Persuasion (Petty & Cacioppo, 1986). This was also seen in the case of games on social networks (Schulze, Schöler, & Skiera, 2014), because when users searched for apps merely for their enjoyment, they did not seek something more profound, or which could be used outside the scope of entertainment. The second question of interest was that the apps proliferated in parallel to the latest news. Since creation processes have become more automated and simplified, developers were able to obtain some kind of benefit (financial gain, prestige or self-realisation). This was directly linked to three converging vectors: the influence of current affairs on the users’ behaviour when consuming news on a mobile device (Westlund, 2015); the “prosumer” and “produser” logics attached to the digital environment (Bruns, 2012); and the controversial practice of cloning in mobile apps (Crussel, Gibler, & Chen, 2012).

The increasingly neutral content of the apps (shown in Figure 4) meant that it was not permeated by the news to the same extent that both the developers and apps themselves were. By cross-referencing the data presented in Figures 2 and 3, it could be seen that the apps dealt with the most topical issues. It has been confirmed that the current affairs of a given period were diluted in the sample; the message contained in the apps, therefore, was a simple construction based on stereotypes, rather than being based on issues related to the political agenda. The failure to include specific issues was only overcome (according to the data from the most popular apps) during the presidential election and when a proposal was made by Trump to build a wall on the US-Mexico border, a phenomenon that articulated cross-border public opinion (Meneses, Martín-del-Campo & Rueda-Zarate, 2018).

These factors indicated that there was no specific political discourse (other than a few isolated initiatives), and that the majority of the apps took advantage of political current affairs to gain virality and influence. Therefore, the ideological positioning in app discourse resulted from a direct critique on the part of the less productive developers, which became weakened and leaned towards cathartic and timeless positions (Figure 4). All in all, they moved away from the trends mostly found in the social networks, which privileged basic, visceral and uncivil discourses (Ott, 2017). In view of the above, two future lines of research can be outlined: firstly, conducting a detailed analysis of the discourse in politically-focused apps and, secondly, investigating the penetration and modes of reception of the political contents disseminated through mobile apps.

In short, Trump’s popularity in the mobile app ecosystem derived from the combination of a series of apparently unrelated factors: the developers’ motive of self-promotion; their interest in experimenting with new expressive formulas; the social, political and media importance of the political figure involved; and the simplified creation process and the current use of app content. However, while this set of features shapes the dynamics of the political content created in app distribution platforms, these ultimately adhere to the rationale that “there is no business like show business”.

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