Giglietto, F., Valeriani, A., Righetti, N., & Marino, G. (2019). Diverging patterns of interaction around news on social media: insularity and partisanship during the 2018 Italian election campaign. Information, Communication and Society, 22(11), 1610–1629. [accepted post-print version]

Diverging Patterns of Social Media Interactions around Online News:

Information Sources and Partisan Communities in the Lead-up to 2018 Italian General Election

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Abstract

The paper considers how social media ecologies are affecting partisan engagement around

political news and online attention economies by investigating the case of the 2018 Italian

general election. By analyzing Twitter and Facebook interactions around political news in the

lead-up to the election, we shed light on levels of insularity characterizing sources preferred by

different partisan communities and investigate how specific patterns of active attention emerge

around different sources and around stories proposing different framing of specific political

actors. Our findings indicate that, on Twitter, sources mainly shared by supporters of populist

parties (the Five Star Movement and the League) are characterized by higher levels of insularity

compared to those shared by supporters of other parties. We also find that, on Facebook, news

items published by highly insular sources receive a higher number of shares per comment.

Finally, our analyses show that news presenting a positive framing of the Five Star

Movement—the unique "cyber party" in the system—receives a higher number of shares per

comment compared to items presenting the Movement in a negative light, while the opposite is

true for stories on all other political parties.

Keywords: Social media, attention economy, ideological self-segregation, political news,

election campaigns, Italy

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Introduction

In their highly influential study "Red media, blue media" Iyengar and Hahn (2009) observed how, in the US media market at the beginning of the century, media companies were strategically employing politically biased news to gain audience attention. As a result, ideologically homogeneous and disconnected niches of public, selecting news sources most proximate to their view of the world, were emerging (Hollander 2008). Natalie Stroud (2010) investigated this very phenomenon and defined it as "partisan selective exposure". Over the last few years, the radical transformations in communication ecosystems resulting from the increased centrality of social media have strongly contributed to renewed attention to the phenomenon of partisan selective exposure and its implications. The nature of social media affordances which offer their users opportunities to craft their networks of contacts led some authors (e.g. Sunstein 2017) to argue that, in such a high choice media environment (Prior 2007), citizens are very likely to develop homophilic information diets and conversational patterns (i.e. consuming only ideologically consistent news and discussing politics only with like-minded partners). According to this view, both as a result of individual choices and of algorithmic filtering (Bakshy, Messing and Adamic 2015), social media users would self-entrap themselves into "echo-chambers" (Sunstein 2017) of like-minded individuals.

In spite of these indications that technical functioning, as well as social media practices, might foster the emergence of homogeneous digital communities of news consumers, a growing body of research is challenging such a monolithic view. Several empirical studies have shown that echo-chambers might have been "overstated" (Dubois & Blank 2018) since their formation is resisted both by the frequent incidental exposure to news on social media (Fletcher & Nielsen

2018) and by actual news diets of most citizens (Flaxman et al. 2016). Finally, Dubois and Blank (2018) found that an exclusively supportive social media experience is conditional on specific political attitudes. Self-segregation within homophilic news bubbles should not be understood as a generalized reality but as the experience of segments of citizens having specific characteristics.

Moreover, the emergence and the growing popularity of hyper-partisan digital media outlets (Bhat 2018) doesn't necessarily imply that their publics avoid other news sources (Garrett 2009), or that their active social media engagement around political news is limited to the recirculation of such highly homophilic messages. Conversely, within social media environments, partisan users might be incidentally exposed to, or even intentionally flock to adversarial outlets to oppose their narratives through critical comments (Lee 2012).

The academic debate on how social media ecologies are affecting patterns of active engagement around political news by partisan communities is thus far from univocal. This work joins the conversation by analyzing the case of the Italian general election, held on 4 March 2018. In this sense, by analyzing Twitter and Facebook interactions around political news in the lead-up to the election, we shed light on levels of insularity characterizing sources preferred by different partisan communities and investigate how specific patterns of active attention emerge around different sources and around stories proposing different framings of single political actors. Our findings indicate that, on Twitter, sources mainly shared by supporters of populist parties (the Five Star Movement and the League) are marked by higher levels of insularity compared to those mainly shared by supporters of other parties. We also find that, on Facebook, items published by highly insular sources receive a higher number of shares per comment compared to news stories published by other sources. Finally, our analyses show that news

presenting a positive framing of the Five Star Movement receives a higher number of shares per comment compared to items presenting the Movement in a negative light, while the opposite is true for stories on all other political parties.

Some context information is necessary before presenting the theoretical framework and the research questions guiding our study. In March 2018 three main political parties and coalitions competed, unsuccessfully, to reach the threshold of 40% of votes necessary to obtain a majority in Italian Parliament. The centre-right coalition, formed by Silvio Berlusconi's Forza Italia, the League and Brotherhood of Italy (FdI), won the largest share of seats in both chambers with roughly 37% of votes. Within this coalition, only the League substantially increased its percentage of votes (17%), surprisingly outperforming Forza Italia (14%). At the opposite end of the ideological spectrum, the Democratic Party (PD), the main actor of a centre-left coalition, following a season of infighting, gained an unrewarding 23% of votes. The Five Star Movement (M5S), founded by the comedian and blogger, Beppe Grillo, and the digital evangelist Gianroberto Casaleggio (Bordignon & Ceccarini 2013), gained 32% of votes, significantly increasing the parliamentary seats secured after the 2013 general election. Finally, Free and Equal (LeU), a left-wing party launched by several popular former PD politicians, competed alone, obtaining just 3% of votes.

While lacking a clear winner, the general election resulted in a precise trend: populist parties (the League and M5S) substantially increased their share of votes, while the traditional parties, PD and Forza Italia were the big losers. This sharp division and altered balance among the political parties resulted in three months of political turmoil, culminating in May 2018 with the

agreement signed by the League and the Five Star Movement to form an unprecedented government coalition.

Literature review and Research Questions

Within the network-step flow of communication (Hilbert et al. 2017) characterizing social media ecologies, the role of news communities is crucial in the process of news delivery, multiplying the opportunities of circulation of a news story. In this sense, following Saez-Trumper and colleagues (2013, p. 2), in this paper we define as "social media news community" the group of active users who are exposed to the stories of a news outlet and are interested in sharing them.

Academic interest in news sharing practices on social media has been high during the last decade. In their review of the existing research, Kümpel, Karnowski, and Keyling (2015) considered 109 articles published on the topic between 2004 and 2014 and grouped them according to three different foci: features (and motivation) of users who are more likely to engage in sharing practices, nature of the content shared, and structure of sharing networks. More specifically Hasell and Weeks (2016) investigated sharing of political information online in the context of 2012 US presidential elections, showing that partisan news, by generating stronger emotional reactions, can boost sharing practices among social media users. Similarly studying the 2012 US election, Beam and colleagues (2016) found that sharing of political news online could have some limited positive effects on the political knowledge of those who engage in such practice. Finally, in the same context, Lane and colleagues (2017) found that experience of political disagreement online can motivate social media users to share political news, which in turn can result in greater engagement in political participation offline.

Most of the studies (e.g. Himelboim et al. 2013; Colleoni et al. 2014; Barberà 2015; Faris et al. 2017) that have more broadly addressed active political behaviors of social media users—e.g. following choices, patterns of interactions, and content sharing—have found that ideological homophily plays an important role in defining communities' borders, especially on Twitter. Similarly, studies dealing with news media consumption on social media have found some ideological self-segregation, at least in relation to users' active choices (An et al. 2011). Finally, literature has shown (Weeks et al. 2017) that partisan users of social media are actively engaged in sharing information that supports their opinions. All these elements suggest that different online partisan communities tend to share stories published by different media sources with different intensities. As a result, certain media are referenced by multiple communities while others are exclusively shared by online actors affiliated to a specific party. Colleoni and colleagues (2014) have already found that the appetite for homophily in term of following relations was not equally strong between US Democrats and Republicans. Following the lexicon introduced by Benkler and colleagues (2018), we use the term insularity to describe the degree to which a news media outlet is predominantly shared by a single partisan community.

It should be noted that almost all the above-mentioned studies focus on the US context where several systemic peculiarities might have a relevant impact on patterns of self-segregation of political users on social media. Guided by the intent of investigating political news communities on social media within a context markedly different from the US one, this study focuses on Italy.

Italy is a multi-party parliamentary democracy and has been included by Hallin and Mancini (2004) among "polarized-pluralist" countries, also as a consequence of its high level of political parallelism both in the press and in the television sectors. Political partisanship historically

characterizing the Italian legacy media environment (Mancini 2013) could affect also the way citizens employ social media to engage with political content produced by professional media actors (see Iannelli and Giglietto 2015), making the Italian case of specific interest. Moreover, in considering social media political news communities characterizing a multiparty system such as Italy, we should thus take into account that some partisan communities more than others might count on highly insular sources. In order to address this issue, we consider the peculiarities of two actors in the Italian political system, the Five Star Movement and the League, which can be included in a broad family of controversial political actors that have shaken several Western democracies in recent elections. Members of such a highly heterogeneous group of parties and leaders have been frequently defined by using the tag of "new populism" (Taggart 1995; Inglehart & Norris 2016; Brubaker 2017). These actors are very different in all sorts of ways and populism has been frequently described as a slippery and controversial concept (see for example Moffitt & Tormey 2014). However, some core elements that, according to existing literature, characterize populism both as ideology (Stanley 2008; Albertazzi & McDonnell 2007) and as a communication style (de Vreese et al. 2018; Jagers and Walgrave 2007) suggest that supporters of these parties, more than those of others, might need hyper-partisan sources to find the symbolic resources for the development of their identity and to participate in political information cycles (Chadwick 2017). These elements are: a strong polarization of the in-group versus all out-groups; an adversarial attitude towards the élites and a consequent delegitimization of established media institutions; an appeal to the "pure" people also through the rejection of the politically-correct and the endorsement of positions considered unacceptable by most, if not all, other political actors in the system.

Several authors (e.g. Waisbord 2018) have indeed observed how the recent rise of populist actors is strictly intertwined with the nature of contemporary media ecologies. In this sense, Hallin (2017) has contended that "contemporary populist movements develop within a fragmented media ecology in which it is possible for populist leaders to bypass legacy media institutions and challenge their legitimacy".

In light of these considerations, it is plausible that supporters of populist parties—more than those of others—systematically distrust mainstream media, favouring sources ideologically proximate to their party and highly critical of their opponents. At a systemic level, it is thus worth investigating whether such an attitude leads to the emergence of sources of political news whose stories are shared on social media almost exclusively by supporters of populist parties. Our first research question is thus:

Are sources dominantly shared by supporters of the Italian populist parties characterized by a higher level of insularity compared to those shared by supporters of other parties? (RQ1)

Considering the concept of social media communities understood as groups of partisan users actively sharing news produced by an information source (Saez-Trumper et al. 2013), however, does not give us a full picture of the extent to which the attention economy on social media (Tufekci 2013) in a given system is polarized, even if we measure it by exclusively considering active behaviours. Following Tufekci, we define the attention economy as the patterns characterizing production and distribution of attention in a given information ecosystem. In this

sense, focusing on users' actions, it should be first noted that the attention economy related to political news on social media is not only generated by the activity of openly partisan users but, more broadly, by all users engaging with political contents. Secondly, it should be pointed out that sharing is only one of the crucial practices connected to attention economies within social media environments (Tufekci 2013), and commenting has as much relevance (McCosker 2014).

Through sharing, users aim at amplifying the reach of a news story in order to "hack" the status of attention economy by trying to augment the visibility of contents aligned with their views (Shin and Thorson 2017). It could be argued that amplification is only one of the possible motivations behind the action of sharing content on social media, others being, for example, gaining visibility and reputation among peers, expressing a position on a specific topic, obtaining approval from contacts (see Kümpel et al. 2015). In any case, in spite of specific motivations, by sharing digital content, users deliberately try to increase the *visibility*, and thus the relevance of content in a given network (Zhang et al. 2017, p. 2).

Conversely, user's comments are new content that will be consumed by others together with the original information. In this way, they can affect the *type of attention* paid by others to a piece of information by trying to influence their interpretation (see Lee 2012). This can be done both by supportive comments and, most importantly, for practices of "hacking" the attention economy, through critical comments de-legitimizing the source, adding counter-information, irony, trolling, incivility or even hate speech. Thelwall and colleagues (2011, quoted in McCosker 2014) have found that YouTube videos related to politics are among those generating more comments and that the most commented videos are also those featuring the most robust percentages of negative comments. In commenting this finding, McCosker (2014, p. 204) has

argued that it highlights the importance of attention economy codes and the role of commenting practices in gathering together critics performing counter actions potentially generating conflicts. These dynamics can be explained by the fact that the encounter with hostile information can motivate social media users to perform "corrective actions" (Barnidge & Rojas 2014), intended as expressive behaviours aimed at reaffirming their interpretation of political reality. In line with this vision, Barnidge and colleagues (2018) have found that content-expressive behaviours, including commenting on political news, are more frequent among those who find themselves in heterogeneous information networks.

In line with these empirical findings and theoretical claims, stories published by news sources whose active audience is heterogeneous from an ideological point of view (and thus less likely to be characterized by a clear-cut ideological leaning), while satisfying some of the users engaging with them, could stimulate others who are not pleased by the framing of a specific story to perform corrective actions through content-expressive behaviors. As a consequence, we should expect a flurry of comments around the stories produced by these cross-partisan sources. Conversely, the homogenous communities characterizing highly insular sources should be especially concerned to amplify the reach of partisan news they agree with and, as a consequence, might be expected to engage particularly in sharing activities. Investigating the comment/share ratio characterizing the stories of different types of news sources circulating on social media can thus add granularity to our understanding of how users are engaged in trying to influence attention economies on these platforms. Consequently, we ask:

Is there a positive correlation between the insularity level of a news source and the number of shares per comment its stories get on social media? (RQ2)

Also in this sense, however, we should consider that actors within a system do not behave in the same way. Conversely, supporters of some parties might be better organized, or more motivated than others in engaging in practices aimed at strategically influencing the attention economy on social media. Irrespective of the fact that partisan users could rely mainly on insular media, some of them could patrol social media prairies to support their leaders and attack opponents or, when they incidentally come upon counter-attitudinal contents, some users might be more motivated than others to intervene. Also in this regards, some elements of populist ideology suggest that populist supporters could be more engaged, and capable, than those of other parties to influence social media attention economy. For example, the visceral attachment to the leader frequently characterizing populist constituencies (McDonnell 2016) and the critical attitude toward established media institutions might all represent an additional incentive for populist supporters to engage with political information on social media. Such elements could stimulate populists not only to gather around highly insular outlets (which is the focus of RQ1) but also to "correct" unfavourable information about their party or leader (or giving a positive framing of opponents) and, conversely, to recirculate the positive news related on their side and the negative news regarding their adversaries.

Another factor that can make supporters of some parties more proficient than others in developing strategies to influence the attention economy could be the centrality that digital environments themselves have for the party identity, organization, and communication, as well

as for its supporters as an arena for political information. In this sense, in the Italian context, the Five Star Movement stands as an outlier both on the supply and on the demand side. The Five Star Movement has been described (e.g. Hartleb 2013) as a cyber party, i.e. a party actor which gets rid of classic organizational and participatory infrastructures, replacing them with digital alternatives (Margetts 2003). As a consequence, supporters of these parties have to develop at least basic digital skills in order to get information on the party's activities and get involved in internal decision-making processes. In this sense, it should be noted that the Five Star Movement relies on an ad-hoc digital platform to involve supporters in relevant decisions concerning party life and action (Manucci & Amsler 2018). Moreover, several studies have shown that supporters of the Five Star Movement are avid consumers of digital news and that the internet and social media represent the most important component of their political information diets (e.g. Demos Coop 2018; Mosca & Vaccari 2013). To sum up, a robust literature has shown that the internet and social media play a crucial role for the Five Star Movement at identity, organizational and communication levels (Bordignon & Ceccarini 2013; Mosca, Vaccari & Valeriani 2015).

These elements, together with the broader discussion on populist actors we presented above, indicate that supporters of Italian populist parties, and especially those of the Five Star Movement, could be more efficient than those of other parties in developing tactics to strategically influence the attention economy on social media. If this is the case, then news items offering a positive presentation of these parties—as well as those giving a negative framing of other parties—will generate more shares per comment on social media, since supporters of populist parties will be keenly engaged in amplifying these stories, while supporters of other parties will not be as active in contesting them. Conversely, stories offering a negative

presentation of these parties, as well as those giving a positive framing of other parties, will generate more comments per share, since supporters of populist parties will be extremely active in contesting this news through their comments. To examine this possibility, which is crucial in order to understand the recent success of populist and tech-savvy parties across Western democracies and beyond, we formulate the following research question:

Do articles presenting a positive framing of Italian populist actors generate more shares per comment and stories presenting a negative framing of populist actors generate more comments per share, while the opposite pattern applies to non-populist actors? (RQ3)

Measures and Methods

In this paragraph, we describe the data and the analytical approaches we employed. First, we illustrate the measure of online media source insularity we used to characterize the sharing behaviour of political news stories on Twitter, in the whole system and by specific partisan communities (RQ1). Building on this measure, we then analyze the patterns of Facebook interactions around online media sources marked by different degrees of insularity (RQ2). Finally, by focusing on a subset of political news stories, we analyze the relationships between the sentiment expressed in the headline (title) and blurb (description) of the news story toward specific political actors and the patterns of Facebook interactions (RQ3) observed around stories expressing diverging sentiments.

While we are well aware of the wide range of dissimilarities that make Twitter and Facebook different socio-technical infrastructures, this study leverages on a combination of data gathered

from both platforms to get a richer picture of online news media sources and their audiences. As detailed in the following section, we employed Twitter data, a social medium mainly used in Italy to circulate news among an elite of users often interested in politics (AGCOM, 2018), to estimate the partisan attention of news media sources and thus sources' insularity. We instead used Facebook data, a widely popular platform with a broad and diverse audience (Vincos Blog, 2018), to analyze the patterns of engagement around those news media sources. Furthermore, due to the different structure of the two platforms in terms of data access and privacy policies it is not possible for an external researcher—at the time of writing—to perform an analysis of the links shared by individual Facebook users with known political leanings. In other terms, the strategy we conceived leverage on the peculiarities of the two platforms both in terms of audience and data access limits.

Measuring the insularity of an online media source

Building upon the Media Partisanship Attention Score (MPAS) developed by Faris and colleagues for their study of the media landscape during the 2016 US Presidential Election (2017), we relied on Twitter data to characterize the partisan attention toward a news source circulating within the Italian ecosystem of digital news. MPAS is based on the frequency of sharing media sources among users who retweeted messages from either of the two main presidential candidates (@realdonadtrump and @hillaryclinton). The general idea is to categorize users first (based on the proportion of their retweets) and then, in turn, categorize the news source they shared. Faris and colleagues subsequently validated their Twitter metric against partisan aligned measures estimated by researchers with special access to Facebook data

(Bakshy, Messing & Adamic 2015), reporting a high correlation (rho = 0.94) between the two methods.

In order to apply the MPAS method to the Italian multi-party political system, we initially built a set of official Twitter accounts belonging to the major Italian political parties¹ and respective political leaders aggregated per party². Using Twitter Enterprise search API via DiscoverText, we then collected the retweets of this set of accounts during January 2018 (N = 216,765). This dataset was employed to estimate the partisan affiliation of each contributor in the dataset based on the proportion of their retweets for each party. Subsequently, we employed DMI-TCAT³ to follow the Twitter timelines of the top 5,000 contributors in this retweet dataset and collected all their tweets between February 1 and March 4⁴, 2018 (N = 4,385,877). We extracted and resolved the nearly 1.3 hundred million URLs shared by these users to measure the attention devoted to different sources by partisan Twitter users. After selecting only the tweets containing a link, the final Twitter dataset we analyzed included 3,945 users and 3,500,575 tweets, which included 19,274 unique domains. We further cleaned up the list of domains by removing news aggregators and portals and content sharing websites and by retaining only

¹ Those polling at 1% or more in the latest December 2017 YouTrend's average of polls (see https://www.youtrend.it/2012/02/10/tabella-riepilogo-sondaggi-politici-elettorali-storico-2008-2009-2010-2011-201 2-2013-2014-2015-2016-2017/)

² We specifically collected tweets that matched a «retweets_of:» rule for the following Twitter accounts: angealfa, alternativa_pop (Popular Alternative, or «Alternativa Popolare»), bealorenzin, civica_popolare (Popular Civic List, or «Civica Popolare»), giulianopisapia, campoprog (Progressive Camp, or «Campo Progressista»), giorgiameloni, fratelliditalia (Brothers of Italy, or «Fratelli d'Italia»), forza_italia, berlusconi (Forza Italia), verditalia, insieme2018, partsocialista (Together, or «Insieme»), pbersani, articolounomdp, si_sinistra, nfratoianni, possibileit, civati, pietrograsso, robersperanza, lauraboldrini, liberi_uguali (Free and Equal, or «Liberi e Uguali»), matteosalvinimi, leganordpadania, noiconsalvini, legasalvini (Northern League, or «Lega Nord»), luigidimaio, beppe_grillo, mov5stelle (Five Star Movement, or «Movimento Cinque Stelle»), matteorenzi, pdnetwork, paologentiloni (Democratic Party, or «Partito Democratico»), emmabonino, radicali, piu_europa (+Europa), maurizioacerbo, direzioneprc, potere alpopolo (Power to the People, or «Potere al Popolo»).

³ https://github.com/digitalmethodsinitiative/dmi-tcat/wiki.

⁴ February 1, 2018 was the official starting point of the electoral campaign, subsequently closed by the election day on March 4, 2018.

domains mentioned by at least 31 tweets (or above the average value of the tweet distribution per domain). Following this procedure, we obtained a list of 1,372 unique domains (further reduced to 634 news sources following the datasets merge described in the next paragraph).

Using the average partisan affiliation of contributors who referenced a certain domain, we calculated a set of ten scores (one for each party we considered, excluding "Progressive Camp" and "Popular Alternative" that did not participate in the elections) and unique domain. Each score ranges from 0 to 1 and sums to one. The set of scores thus indicate a distribution of the partisan attention received by each domain in our dataset. Building upon the set of scores of such Multi-party Media Partisanship Attention Score (MP-MPAS), we designed an insularity score to measure the degree by which a news media source is prominently shared by online actors affiliated to a single party. In other terms, insularity is a measure of the audience ideological homogeneity of an online media outlet. Considering each party (j) and media source (i) whose MP-MPAS scores and the Gini coefficient (G) we calculated, we defined the insularity of a news media source ($I_{(i)}$) the index [0,1] calculated according to the following formulas:

$$I_{(i)} = \frac{(MPMPAS_{max(i,j)} + G_{(i,j)})}{MAX(MPMPAS_{(i,j)} + G_{(i,j)})}$$

The measure takes into account two properties of the MP-MPAS set of scores obtained by each news outlet. The maximum score [0,1] indicates the amount of attention devoted to the news source by the dominant partisan community. The Gini coefficient [0,1], a widely used measure of the statistical dispersion of the set of scores' distribution, is used instead to fine-tune the measure by assessing cases where the attention toward a news outlet is concentrated (higher Gini index) or spread across different communities (lower Gini index).

Finally, using the properties of the insularity distribution (M = 0.65, SD = 0.16) and the distance from the mean, we identified four classes of news media sources with different degrees of insularity: "High insularity" (N = 116), "Moderate insularity" (N = 181), "Low insularity" (N = 216), "No insularity" (N = 121). Using these scores, we proceeded to adjudicate the media source with low to high insularity to the partisan community with the highest scores in the set. Media sources attributed to the "No insularity" class were instead added to a "Cross Partisan" category (Fig. 1). In other words, when a media source is adjudicated to a party, it means that the source received a degree of attention (in terms of sharing activity) that was significantly partisan (concentrated among users who retweeted that party). On the other hand, a media source was attributed to the "Cross Partisan" category when it was shared by a highly heterogeneous audience⁵.

⁵ For an assessment of MP-MPAS method against survey data please see Giglietto et al. 2019.

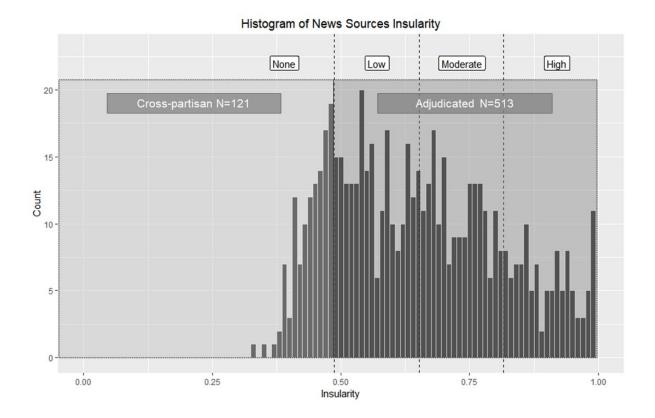


Fig. 1. Histogram of insularity scores with classes.

We employ these measures to answer our RQ1 which investigates levels of social media insularity among Italian political online news sources preferred by the online communities of populist parties compared to those preferred by supporters of other parties. For RQ1 we specifically limited our analysis to the four main online partisan communities (League, M5S, PD and LeU) due to the very small number of news sources adjudicated to minor partisan communities (see Tab. 2, presented in Findings section).

While based on an existing method developed for a two-party system, our implementation thus (1) works for multi-party systems, (2) includes an original method to measure the insularity in a given online media system, (3) use the distribution of the insularity scores to categorize news sources.

Patterns of Facebook engagement around insular online media sources

During the six months before the Italian 2018 election—between September 1, 2017 and March 4, 2018—a technological infrastructure based on the open source software Huginn collected in real time a comprehensive dataset of Italian news stories about politics, and their respective level of Facebook engagement (comments, shares and reactions). The news stories were collected from three sources: Google News, the Global Database of Society (GDELT) and Twitter (filtering for tweets including a link and mention of a candidate or a political party). This list was then used to periodically query Facebook Graph API (URL endpoint) in order to gather the global engagement metrics around the collected news stories. The social media lifecycle of a news story was followed every two hours for an entire week, starting from the time the story was published.

The final news stories dataset consisted of 84,815 news stories from 4,113 unique digital media sources, which collected a total of over 65 million comments, shares and reactions on Facebook during the observation period (Tab. 1).

	Reactions	Comments	Shares	Total Engagement
Absolute Values	39,818,195	16,874,919	8,739,960	65,433,074
Percentage	61%	26%	13%	100%

Tab.1 Facebook engagement in the whole dataset (N=84,815)

Our RQ2 asks whether news stories published by highly insular sources tend to receive a higher number of shares per comment compared to news stories published by sources characterized by lower levels of insularity. In order to answer this research question, we joined the list of domains and related MP-MPAS scores obtained from Twitter with the list of unique

domains of political news stories collected with respective Facebook aggregated engagement (sum, average, median and standard deviation), removing domains with less than two url in the news stories dataset, and ending up with a list of 634 news media sources that appeared in both lists. By summing comments (*C*) and shares (*S*) received by all the news stories of a news source (*i*), we calculated the following comments/shares ratio:

$$\frac{C_i - S_i}{C_i + S_i}$$

A value equal to zero means a number of comments equal to the number of shares, a value of "1" means there are only comments, and a value of "-1" there are only shares.

Patterns of Facebook engagement around positive and negative parties coverage

Finally, RQ3 asks whether the positive or negative framing of a news item toward different parties result in different patterns of social media engagement around that specific story. To tackle RQ3, we performed a manual content analysis on a subset of news stories with a high level of Facebook engagement. Following the rationale of our research question, we used the distribution of the sum of comments and shares to identify a subset of highly engaged news stories. After selecting those directly mentioning a political party or politician, we focused on the 3,731 news stories in the top 10th percentile of this distribution. The unit of analysis was the Facebook news stories headline and blurb, i.e. the textual content that social platforms prominently show to their users. From this content, we assessed the sentiment—positive, negative or neutral—towards the four main (as resulted from the popular vote) political actors (party or politician) who ran in the Italian general election: Five Star Movement (M5S), Democratic Party (PD), the League (LN) and Forza Italia (FI).

The analysis was performed by three coders (all authors): first, a code-book detailing the procedure was compiled by the researcher and distributed to the coders; then, the coders had three training sessions. During each session, each coder was assigned a set of 150 randomly selected news stories. After each session, intercoder reliability was checked using Krippendorff's alpha (Hayes & Krippendorff, 2007). Differences between the coders were discussed and consensus coded. Following this training, the coders reached an adequate level of intercoder agreement (Krippendorff's alpha = 0.842 for news stories mentioning the Five Star Movement, 0.724 for the League, 0.820 for the Democratic Party and 0.755 for Forza Italia). The remaining news stories were independently classified by the coders.

Findings

The process of adjudication results in an uneven distribution of news sources per partisan community (see Tab. 2). Over half of the news sources has been indeed adjudicated to one of the two populist parties. The prominent online activism of the League online community on Twitter also affected the low number of news sources adjudicated to the other members of the centre-right coalition (Forza Italia and Brotherhood of Italy).

	Media sources	%
League (LN)	215	33.9
Five Star Movement (M5S)	177	27.9
Cross-partisan	121	19.1
Democratic Party (PD)	60	9.5
Free and Equal (LeU)	49	7.7
Forza Italia	4	0.6

DIVERGING PATTERNS OF SOCIAL MEDIA INTERACTIONS

Power to the People (PP)	4	0.6
+Europa	3	0.5
Insieme	1	0.2
Civica Popolare	0	0
Brotherhood of Italy (FdI)	0	0
All	634	100

Tab. 2. Results of the adjudication process.

To investigate whether certain political communities predominantly rely on highly insular news sources – i.e. sources prominently shared on Twitter by online actors affiliated to a single party (Faris et al. 2017; Giglietto et al. 2019) – and considering whether this could be particularly the case of populist parties' online communities (RQ1), we compared the insularity of news sources adjudicated to Italian populist parties (Five Star Movement and the League) with non-populist ones (Democratic Party and Free and Equal).

To this extent, we performed a Kruskal Wallis test and found a highly statistically significant relationship (Kruskal-Wallis χ^2 (3, N = 501) = 25.68, p < .001).

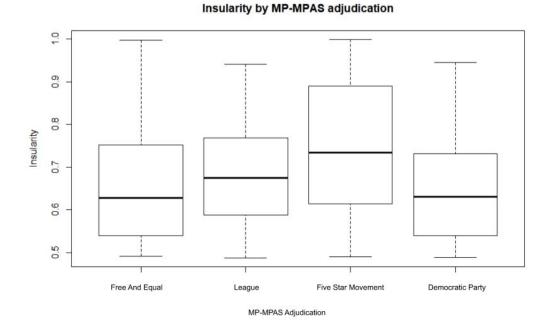


Fig. 2. Insularity by MP-MPAS Adjudication.

Looking at figure 2, we also observe that:

- 1. The news sources shared on Twitter by the Five Star Movement' online community are characterized by a significantly higher degree of insularity in comparison to the other communities;
- 2. The news sources shared by the League's online community tend to be characterized by a lower degree of insularity than those shared by Five Star Movement; however, their degree of insularity is also higher than those of the news media shared by the other two "non-populists" communities and slightly above the mean (see Tab. 3).

News sources adjudicated to	Median insularity	
Five Star Movement (M5S)	0.73	
League (LN)	0.67	
Free and Equal (LeU)	0.63	

Democratic Party (PD)	0.63	
Average	0.65	

Tab. 3. Median insularity by MP-MPAS adjudication.

To identify which groups of news media sources are significantly different from the others, we performed a Dunn's post hoc test (Tab. 4), finding out that the news media sources' group attributed to the Five Star Movement is significantly different from those attributed to PD (p < .001), LeU (p < .01) and LN (p < .01).

	Free and Equal	League	Five Star Movement
League	-0.983939		
Five Star Movement	-3.276976**	-3.677342**	
Democratic Party	0.470071	1.686712	4.146928***

Tab. 4. Dunn's test with Bonferroni correction for multiple comparisons.

Based on this evidence, we concluded that the insularity of news media sources shared by the two Italian populist parties' communities is higher than those of the non-populist ones, and the insularity of news sources shared by Five Star Movement's online community is significantly higher than those shared by all the other ones.

Relying on the scientific literature about the attention economy within social media environments reviewed above, we then investigated whether news sources characterized by different degree of insularity generate different patterns of social media interactions, and more specifically whether news stories published by highly insular sources—compared to the lower insular ones—are characterized by a higher degree of social media amplification (attained

^{**} p < .01, *** p < .001

through sharing actions), while comments—intended as re-framing attempts—are more frequent in the stories published by cross-partisan sources (RQ2).

We tackled this research question by running a Spearman correlation test to measure the relationship between insularity and comments/shares ratio. The test resulted in highly statistically significant and showed a weak/moderate negative correlation between the two variables ($r_s =$ -.31, n = 634, p < .001). Thus, when the insularity gets higher, the comments-shares ratio gets lower, indicating that the number of shares per comments increases; vice versa, when the insularity gets lower, the comments-shares ratio gets higher, indicating that the number of comments per share increases.

Finally, to add further granularity to our understanding of this pattern, we investigated whether populist communities engage more than others in strategic practices of news sharing and reframing, thus influencing more efficiently the attention economy of social media. If this is the case, we should see more shares per comment in stories presenting a positive framing of populist actors and more comments per share in those presenting a negative frame of the same actors, while we should observe the opposite pattern in the stories mentioning non-populist actors (RQ3).

We addressed this question by analyzing the sentiment of the top engaging news stories mentioning one or more political actors related to one of the four main parties running for the election (Five Star Movement, League, Democratic Party and Forza Italia). We ran a Kruskal-Wallis test followed by Dunn's post-hoc test with Bonferroni correction for multiple comparisons and found a significant relationship between sentiment and comments/shares ratio in all the four cases, moreover, we found that the news stories mentioning Five Star Movement's

actors catalyzed a diverging pattern of Facebook interactions when compared to the stories mentioning political actors affiliated with the other parties (Fig. 3).

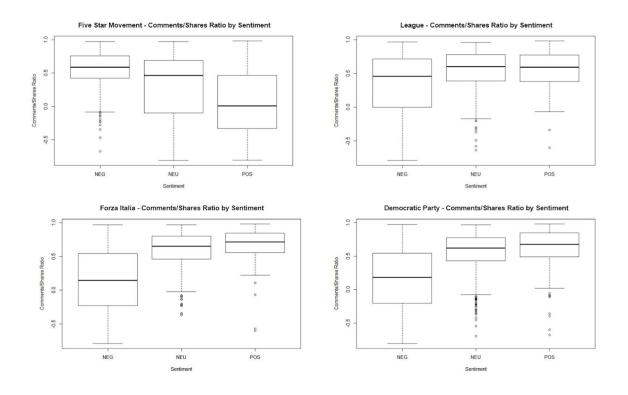


Fig. 3. Comments/shares ratio by negative, neutral and positive sentiment of the news stories. Negative values on the y axis indicate that news stories have more shares per comment, whereas the positive ones have more comments per share.

Indeed, positive news stories on M5S or on one of its leaders (Kruskal-Wallis χ^2 (2, N=1970) = 331.99, p < .001) are characterized by a higher degree of Facebook shares (p < .001), while negative ones by a higher degree of comments (p < .001). The opposite pattern characterizes the Facebook activity around news stories mentioning the Democratic Party (χ^2 (2, N=1581) = 347.92, p < .001), Forza Italia (χ^2 (2, N=936) = 253.46, p < .001) and the League (χ^2 (2, N=804) = 38.83, p < .001). In all these cases, negative news stories received more shares per comment (p < .001) while the positive ones received more comments per share (p < .001).

Based on this evidence, we concluded that the answer to our RQ3 is affirmative only for Five Star Movement.

Limitations

In the first place, we acknowledge that for a proper investigation of the practices of hacking the attention economy through sharing and commenting, a content analysis of comments, as well as of messages that sometimes accompany the recirculation of third-party messages should be performed. However, given the increasing restrictions that social media companies—and especially Facebook—are introducing for the retrieval of individual data, to carry out such an analysis, special access to social media data would be required. Secondly, considering the activity of social media communities in influencing the circulation of political news, our study does not investigate how spontaneous, coordinated, orchestrated or even unauthentic this activity is. However, while methods to detect botnets' activity on Twitter have been successfully employed in literature (e.g. Bastos & Mercea 2017), effective strategies to identify similar malicious actions on Facebook are not available. For these reasons, we believe that our research design, blending Twitter and Facebook data, offers an effective way to address the questions we focus on by using public access data. Along the same line, we should stress that the method employed to measure the attention of partisan communities toward online media sources relies on the analysis of the behaviour of a subset of Twitter users who actively create content on the platform. Similarly, only Facebook users who interacted with a news story are taken into consideration. Throughout this study, news exposure is thus measured starting from the footprints left by active social media users. Under this perspective, results can't be automatically generalized to the entire realm of social media users. Finally, we acknowledge that the ad-hoc

metrics employed have been tested on a single country in a precise point in time and consequently our findings are unavoidably partial since they could be related to national and contextual peculiarities. Nevertheless, this work introduces a new method of measuring the degree to which an online news media outlet is predominantly shared by a single partisan community within a multiparty system. This measure can be employed to estimate both single news media and system-wide insularity, thus laying the groundwork for studying the evolution of any national online news system over time and/or fostering future cross-country comparative studies.

Discussion and Conclusion

Our study sheds new light on the nature of the digital ecosystems of political news. We found that levels of insularity on Twitter tend to be higher for sources which are predominantly shared by supporters of Italian populist parties (the League and the M5S), and especially by those supporting the Five Star Movement. We believe this is an important finding that confirms the idea (Waisbord 2018; Hallin 2017; Speed & Mannion 2017) that the recent success of populist actors in several Western democracies has been favoured by the kaleidoscopic nature of contemporary media systems. The emergence of hyper-partisan niche outlets, presenting themselves as a viable alternative to the crooked mainstream media and self-describing as the voice of the pure people, is crucial to develop the strong in-group vs. out-groups juxtaposition which is central to the populist identity. These media offer an opportunity for the development of highly partisan narratives where opponents are fiercely stigmatized, possibly increasing levels of political polarization of their already homogeneously partisan audiences.

While both M5S and the League relied on insular news sources, this tendency is significantly stronger for the Five Star Movement's online community. This is probably due to the fact that the League took part in the election as a member of the centre-right coalition. While the prominent online activism of the League community resulted in the low number of news sources adjudicated to the other members of the centre-right coalition (Forza Italia and Brotherhood of Italy), the attention overlap vis-à-vis a similar set of media sources by party members of the same coalition also affected the insularity level observed for sources adjudicated to the League. Our research also revealed a nuanced reality when it comes to a broader understanding of how attention economy develops on social media. Considering patterns of engagement around political news on Facebook, we observed that stories published by sources with a lower degree of insularity generate more comments than those published by more insular outlets. We believe that this finding works against the "social media as echo-chamber" hypothesis (Sunstein 2017) since it shows that not only are there sources shared by highly diverse communities but also that these sources, more than others, become arenas for political discussion and confrontation between social media users. While our study does not investigate the nature of these discussions, the fact that sources attracting the attention of cross-partisan audiences are the most commented suggests that these sources give their users the opportunity, if not literally "to listen", to be exposed to the other side's viewpoints.

Our study revealed that supporters of the Five Star Movement are more proficient and efficient than others in influencing the attention economy within the whole social media environment, which confirms that even a community with its own "personal" polarized outlets does not fully self-segregate within such a "reservation". In this sense, our findings show that,

irrespective of the outlet publishing them, stories presenting the Five Star Movement in a favourable light tend to be given wider coverage than those which are well-disposed towards their opponents. Conversely, news giving a negative presentation of the Five Star Movement gets many more comments, suggesting a potential role played by supporters in contesting the bad coverage of their party. Such a pattern, reversed if sentiments towards other parties are considered, reveals how Five Star Movement supporters were more active, numerous or effective even when compared to the other populist actor in the system, the League. We interpret this difference in light of the stronger role played by digital media in the identity, organization and communication of the Movement, which can be considered a perfect example of an "anti-elitist cyber party" (Hartleb 2013). This interpretation would seem to imply that a party's capacity to lever its supporters in strategically exploiting the social media arena in order to affect the attention economy might well depend upon a combination of populist ideology and a long-term (symbolic and practical) investment in digital media.

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