

The Refugee Crisis in the Croatian Digital News: Towards a Computational Political Economy of Communication

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Abstract

This article tests how media ownership and political leanings influenced textual and linguistic output in the production of narratives during the 2015 refugee crisis in Europe. We focused on digital news reports in Croatia, a country that experienced the highest influx of refugees among the Western Balkan countries in late 2015. Ten news organisations were selected to capture various ownership structures and ideological positions. We collected all articles published by these organisations ($N = 352$) during the two weeks before and two weeks after the sexual attacks that occurred in the German city of Cologne on New Year's Eve 2015. The dataset was analysed with Natural Language Processing (NLP) and Correspondence Analysis. Our computational political economy of communication (CPEC) approach reveals a relative diversity of concepts used in the sample before the event, and an evident clustering of most viewpoints from media actors in the period after the event. There is a noticeable change from a humanitarian rhetoric to a security-oriented rhetoric that mobilises fear to legitimize stronger control of national borders. Based on the analysis, we argue that the majority of digital news media changed reporting style due to widespread moral panic and the economic incentive to commodify audience interest in the topic of the refugee crisis. In contrast, publicly funded news organizations showed that they provide the necessary counter-balance for informing citizens, producing quality content, and ensuring pluralism in the digital news environment.

Convergence, user-generated content, and recommendation algorithms are some of the innovations driving technological change throughout the news industry. Commercial interests promoting these

innovations aim to restructure the flow of information commodities and marginalize the role of regulation in fostering a democratic public sphere (Mansell, 2011). Ultimately, such changes established monopolies for digital intermediaries and online platforms (Dolata, 2017; Mosco, 2017; Srnicek, 2017). Internet advertising dominated by search engines (primarily through Google) commanded roughly 50 percent of internet advertising investments in Europe in 2016 (IAB, 2017). Too much reliance on digital distribution channels led to fake news, a clear case of how the democratic value of news is overruled by the monetising of audiences and the commercial logic of advertising (Fenton and Freedman, 2017). In order to sustain democratic debate and a plurality of opinions, news needs to be produced before it can be shared, discussed, commented, and criticized. Yet commercial journalism is increasingly faced with the difficulty of finding new business models to sustain digital media production. The main source of revenue for commercial, legacy media is advertising revenues. Faced with the capture of advertising by intermediaries such as Google and Facebook, the digital news industry is having difficulty providing quality journalism (McChesney, 2013; Pickard, 2016).

Notwithstanding these structural conditions, news organizations keep filling the public sphere with content. Accessing digital news in Croatia is, compared to other European countries, one of the main activities for Internet users [1]. Yet the digital media portals are not the only access points for news. Internet users worldwide access news via digital intermediaries (Reuters Institute, 2017) making it difficult for commercial organizations to capture advertising investments (Bilić and Primorac, 2017) [2]. Our analysis is grounded in two fields of inquiry that often operate far apart from each other. On the one hand, we use political economy of communication (PEC) to discuss the influence of ownership and political leanings on communication output. The key purpose here is to understand how communication processes are turned into processes of capital circulation and accumulation (Nixon, 2016). Yet the PEC field is by no means unitary. Winseck (2011) discusses four main positions: conservative and liberal neoclassical economics, radical perspectives on media political economy, Schumpeterian institutional political economy and the cultural industries school. In this article we emphasize media ownership, commercialization and commodification of communication in the digital realm. Our approach is similar to radical media political economies of the media. Yet we also acknowledge the fact that the empirical reality of digital news production is highly complex. Ownership structures include tangled cross-ownership patterns involving internet service providers, print, television and radio companies and their online outlets. In that sense, we are also taking into account what Winseck (2011: 12) calls the “social ecology of information” or “the expanding diversity of media and information forms that are created for reasons other than money and profit”. More precisely, we compare the news output from private, commercial organisations with the output from public and non-profit media organisations. Taken together, these organisation create a complex ecology of information. At the same time, we use a computational social science approach. This expanding field is often a-theoretical, administrative and concerned with large datasets, data mining, data modelling, data visualisation, and so on. In order to respond to key social issues, computational social science requires new epistemological approaches (Kitchin, 2014) and critical theoretical reflections (Fuchs, 2017). In our opinion, the fields of PEC and computational social science can benefit each other. Thus PEC is concerned with understanding the social totality (Mosco, 2009) while computational social science approaches are concerned with capturing the totality of digitally recorded human interactions. Traditional methods such as content analysis and discourse analysis enable researchers to unpack nuances of media reports and power relations embedded in publicly visible language. By comparison, the use of computational methods (Cioffi-

Revilla 2010, 2014; Conte et al., 2012) allows us not only to criticize extremist and xenophobic positions, but also to see what the relations between the relevant actors are and what the role of ownership is in promoting specific ideological discourses. We combine Natural Language Processing (Bird, Klein and Loper 2009; Daniel, Jurafsky and Martin 2016; Manning and Schütze, 1999) with correspondence analysis (Greenacre, 1999) in order to compare the recorded reports about sexual assaults that occurred in the German city of Cologne at the height of the refugee crisis in 2015.

We chose to focus on this crisis due to the polarizing nature of the debates concerning the management of migration flows. With the escalation of the war in Syria in 2015, record numbers of refugees started arriving in Greece via Turkey. Most of them were looking for a passage through the Balkan countries towards Austria, Germany and Sweden. After Hungary completed the construction of a fence and closed its border with Serbia in September 2015 the refugee flow shifted to Croatia. According to official sources, the region recorded 764 000 detections of illegal border crossings by migrants during 2015. The top-ranking nationality was Syrian, followed by Iraqis and Afghanis (WBN 2016a). Between October and December 2015 there were 465 506 detections in Croatia. Most progressive organizations, political parties and media outlets demanded the protection of basic human rights, called for open borders and humanitarian responses. Right-wing organizations emphasised control, security, and xenophobic responses towards a perceived threat to national unity. Yet the division was not as clear-cut as it might appear. Certain events during the crisis shifted the public discourse and altered dominant media reports.

The sexual assaults in Cologne sparked a media whirlwind that changed the dominant tone of media reports towards the refugees. These assaults were very real and many personal histories were dramatically affected by them [3]. The legal response to these events should have been confined to the jurisdictions and institutional mechanisms in the location where the acts were committed. The ethnic origins of the attackers should not have been identified as this is not a legally relevant issue when considering the infliction of physical and emotional harm on other human beings. Yet, the story that the media told became loaded with generalisations and assumptions that subsequently called for more border control, more security and more legal and policy action. The enormous flow of people challenged Europe's unstable democratic values and faltering economies. The moral panic reaction which ensued can be termed a thing of energy and emotion rather than a simple mistake in rationality and information (Young, 2011). The 'Other' with which Europe was confronted was not an episodic actor, but rather a global, 'transnational folk devil'. The Muslim-terrorist-refugee was the figurative object in the 'war on terror' (Martin 2015). The sexual assaults in Germany added another stereotypical layer to the already burdened label of the immigrant, asylum seeker and refugee.

After the sexual assaults, in the first quarter of 2016 (from January to March), the Western Balkan region recorded an 84% decrease in the number of illegal border crossings between borders in the region compared to the previous quarter (between October and December 2015). This is mostly attributed to the imposition of various restrictions for the free flow of refugees by individual states (WBN 2016b). After many high-level meetings an EU-Turkey agreement was established on 18 March. It followed on from the EU-Turkey Joint Action Plan activated on 29 November 2015 and the 7 March EU-Turkey statement. The agreement ended irregular migration from Turkey to the EU. Although closing down the Western Balkan route was not a part of the agreement, the day after the agreement Slovenia closed its border and other countries on the route followed suit. In the second quarter of 2016 (from April to June) the route was almost completely blocked due to tighter control and security measures. Some refugees still found their way through the corridor but numbers remained low (WBN 2016c). By the end of March 2016, there were only 178 initiated asylum requests

in Croatia (Šelo-Šabić and Borić 2016: 11). In this article, we try to explain how these events unfolded in reports by the select group of digital news outlets.

Ownership and digital news production

Neoliberal ideology holds that the Internet is impossible to regulate and that the open network infrastructure automatically implies an unimaginable diversity of content. This position, often expressed by technology journals, online marketers and digital pundits is taken as a point of departure for a critics of digital mythologies (Mosco, 2004), digital discourses legitimizing capitalist social relations (Fisher, 2010) and the general ideology of engaging/connecting/sharing (Fuchs, 2015). With regard to key Internet services such as web search, social networking and e-commerce there is much concentration and hardly any diversity in terms of ownership. Simultaneously, the Internet is reproducing class inequalities through the unequal distribution of popular access and the unequal distribution of Internet usage skills amongst those who are connected (Fuchs, 2009). Furthermore, digital news production is in many ways an extension of legacy media production. Print, radio and television media have the perception of an open and growing digital market and seek to commodify Internet audiences. The industry data for Croatia shows a systemic “digital advertising gap” between annual digital advertising investments and annual income of digital news companies (Bilić and Primorac, 2017). The gap points to the fact that Google, YouTube and Facebook, the most accessed websites in the country [4], capture the majority of Internet advertising.

The Croatian digital news industry finds itself between a rock and a hard place. On the one hand, the main source of revenue for print companies has been dropping steadily over the past years [5]. On the other hand, Internet advertising is rising but global companies are the primary beneficiaries [6]. Understanding the sources of revenue for the digital news industry helps explain the type of cultural output in digital media production. Private companies have a strong incentive to report on rapidly developing events such as crises, disasters and scandals. Editorial decisions for covering sudden events and capturing audience attention are driven by audience metrics and clicks (Bilić and Balabanić, 2017). In the face of drying revenue streams digital news media deploy aggressive display banners, native advertising and other techniques for attracting revenues. Ownership is, therefore, an important predictor for producing, or not producing, quality journalism. The connection between media ownership, editorial policies and media production is a long-standing theme in political economy of communication (PEC) research (Downing, 2011; Hardy, 2014). From a democratic perspective, problematic aspects of media ownership and control come into play once a small number of companies manage to establish a commanding position within a given market. High revenues generated from media-related activities, and large audience shares increase the power and reach of media owners. In short, the key issue is the distribution of communicative power in public space, which, structurally, boils down to the diversity of media ownership (Baker, 2007).

In the case of Croatia, the PEC perspective enables us to differentiate between private, public and non-profit types of digital media ownership (Bilić and Balabanić, 2017). Private media are structured as corporations and their economic survival is largely dependent on attaining, and maintaining, the widest possible audience reach. Many digital news organizations cater to niche audiences in terms of targeted age groups and their political preferences. This is particularly the case with legacy media such as print, wherein there is a differentiation between centre-left and centre-right media outlets. The public media in most European countries depend on state funds, largely in the form of compulsory license fees imposed by legislation. As such, they are not as dependent on the market.

However, their survival depends on the control imposed by the state, or the ruling parties in parliament. The political leanings of the public media in Croatia can be described as centrist and public interest oriented (Roller, 2015), although this assessment depends on the political party in power [7]. The non-profit media are mostly organized as non-governmental organizations with bottom-up, publicly funded organizational structures. Non-profit media usually promote human rights and values associated with the widening of democracy and citizen engagement. They provide alternatives to the dominant, advertizing-chasing models of private companies and the traditional public service media (PSM) (which are reliant on the political appointments of journalists). Focusing on investigative journalism, critical writing and independence, non-profit media organizations fulfil a key democratic role of promoting social inclusiveness, equality, and media pluralism in the digital sphere.

Political economy of moral panics

The refugee crisis in Europe can be theoretically elaborated through the concept of moral panics. The approach deals with high-intensity events that stimulate public debate and result in moral outcries and condemnation of social groups perceived as a threat to the majority. Within sociological research, moral panic critiques have been applied to youth deviance, AIDS, child abuse, drugs, immigration, asylum seekers, media violence, street crime, and so on (for an overview see Critcher, 2008). A recurring theme is the importance of the media in generating, fostering and constructing a moral panic. Most studies also share an implicit, or explicit, political stance of challenging power structures who benefit from stereotypes and prejudice towards a 'deviant' other.

The original research analysed 1960s youth subcultures in the United Kingdom (Cohen, 1972). The theoretical and empirical scope of the moral panic approach has since spread in multiple directions. Goode (1990) argued that a moral panic refers to an increase in the number and severity of specific 'claims-making' activities. In an approach developed by Goode and Yehuda (1994), a moral panic reveals multiple characteristics such as concern, hostility, consensus, disproportionate action and volatility. An important part of the debate focuses on the relationship between moral panic, regulation, normalization and socialization as well as the question of whether some moral panics threaten rather than reinforce the hegemonic order. For example, Hier (2011: 524) states that a moral panic is a "volatile short-term manifestation of long-term moral regulation processes". In other words, these events are crises in the routine processes of moral regulation aimed at (re)affirming a sense of existential security in moments of insecurity. Moral panics eventually lead to legal action and can be seen as a tool for conservative and liberal governments.

Critcher (2011) agrees that moral panics become matters of public debate, enter into the political process and have clear political outcomes in the form of legislation or administrative enforcement. He asks for an integration of cultural, political and economic considerations in a political economy of moral panics: "[w]hat or who are singled out for moral disapproval is never going to be the outcome of wholly moral judgements. There are bound to be political forces in play and, at least potentially, that is true of economic forces" (Critcher, 2011: 273). The unpredictability of moral panics results from cultures of fear, largely promoted and distributed by the media. As Altheide argues (2009), the purpose of "fear is to promote a sense of disorder and a belief that 'things are out of control'. Fear, crime, and victimization, and more recently, terrorism, are experienced and known vicariously through the mass media by audience members" (95).

Moral panic research includes the study of immigrant groups and asylum seekers. Public attitudes may range from quiet concern involving apathy, indifference and denial to the noisy moral panic of exaggeration, prejudice and over-reaction (Welch and Schuster, 2005). Prevailing patterns of language are often entangled with racist notions of national security and sovereignty. This presents a paradox whereby global culture is celebrated as creating porous borders, while national borders are consolidated. In the latter context, immigrants and asylum seekers are positioned in a certain way: “[r]ather than be presented as people who are trying to escape threat, they are, in most cases, represented as the threat. It is a representation based on fear of ‘them’ as a threat to ‘our’ national security and ways of life” (Bailey and Haridranath, 2005: 283).

Understanding the role of the media in articulating and constituting a moral panic is a complex epistemological issue. On the one hand, the refugee crisis and the sexual attacks were indeed real phenomena. On the other hand, the social responses to the crisis were, to a large extent, shaped by mediated depictions of the refugees in general. Ultimately, an unfortunate event hyped through media representations shifted the public perception of refugees and directed the political decision-making process towards a security-oriented logic. It was, to put it bluntly, too costly for politicians to go against the negative public perception of the refugees. In this article, we argue that the moral panic surrounding the refugee crisis was a sort of over-exaggeration of actual social trends and events which was also shaped by political and economic factors influencing the cultural production of digital news media. It is important here to test how ownership and political leanings influenced textual and linguistic output in the production of media narratives during the refugee crisis. In order to answer the main research question we selected a number of digital news organizations representing three types of ownership (private, public, non-profit) and three types of political commitment (left, centre, right) [8]. The ten chosen digital news organizations (see Table 1) included the public service medium (*HRT*), two mainstream private organizations (*24 sata* and *T-portal*), one centre-left private organization (*Jutarnji List*) and one centre-right private organization (*Večernji List*), two right-wing private organizations (*Dnevno* and *Direktno*) and three left-wing, non-profit organizations (*H-alter*, *Lupiga* and *Forum TM*). Such an encompassing selection enabled us to gather articles that represented a broad diversity of potential societal responses to the crisis and to identify the general social ecology of information (Winseck, 2011). Ownership structures and the political differentiation of viewpoints provided us with a set of assumptions about the potential behaviour of media actors in light of the reported sexual assaults.

Table 1. Selected news organizations

News organization	Ownership	Political leaning
<i>Hrt.hr</i>	Public	Center
<i>24sata.hr</i>	Private	Center
<i>T-portal</i>	Private	Center
<i>Večernji.hr</i>	Private	Right-center
<i>Dnevno.hr</i>	Private	Right-conservative
<i>Direktno.hr</i>	Private	Right-conservative
<i>Jutarnji.hr</i>	Private	Left-center
<i>H-alter</i>	Non-profit	Left-progressive
<i>Lupiga</i>	Non-profit	Left-progressive
<i>Forum TM</i>	Non-profit	Left-progressive

Methodological approach

The first step was to design a data collection protocol to determine which articles published by the selected group of organizations were related to the refugee crisis. The articles were chosen based on the thematic scope as announced in each headline. For example, all articles explicitly mentioning the words refugee, migrant, refugee crisis and migrant crisis were selected for analysis. Articles with headlines relating to subtopics such as the Schengen area, international agreements, and national responses to the crisis were also included. This protocol was applied to all content published by the selected group of news organizations within two specific time periods: in two weeks immediately before the sexual attacks which occurred in Cologne (between 18 and 31 December) and two weeks immediately after (between 1 and 14 January 2016). A total of 352 articles were collected for analysis. Afterwards, textual data obtained from the selected articles were parsed into databases suitable for the application of algorithms derived from natural language processing (NLP).

Research hypotheses

In order to establish certain benchmarks for ascertaining shifts in media reportage, we proposed two hypotheses which operationalized the PEC approach. We used computational methods to test these assumptions and to identify any differences between the corpus of texts from the selected group of ten news organizations in the period before and after the events in Cologne. We categorized them according to the variables of ownership and political leaning. For the ownership variable, we clustered six private organizations, one public organization and three non-profit organizations (see Table 1). For the political leaning variable, we clustered four left wing organizations, three centre organizations and three right-wing organizations (see Table 1). The hypotheses were as follows:

H01: There is no difference in content between two time periods (before and after) with regard to ownership (private, public, and non-profit).

H02: There is no difference in content between two time periods (before and after) with regard to political leaning (left, centre, and right).

We also decided to check the reports by individual organizations in order to understand what the actual linguistic content was. We used visualizations to trace the distribution of news organizations and the terms they used to describe the refugee crisis.

Applying computational methods

Within the wider framework of social science research, the emergence of computational methods for analysing large quantities of data collected from the Internet is a relatively recent phenomena. The need for computational methods arises from the challenge posed by the so-called ‘data deluge’; a scenario wherein the abundant availability of digitalized (and online) sources have destabilized standard social science methodologies (Burrows and Savage, 2008; Savage and Burrows, 2014). While the techniques based on computational social science methods are diverse, they all tend to share two common features: automated or semi-automated collection of datasets from digital environments, and the usage of different techniques drawn from computer science to model or analyse the results. The computational approach differs from standard computer assisted quantitative analysis in that data is not organized in spreadsheets but as matrices. Purpose-built algorithms are employed to ‘mine’ these databases for correlational relationships. This is why computational approaches do not necessarily need to use statistics, even if univariate or bivariate data representations are useful to visualize some results (Giglietto et al., 2012).

The computational methodology developed for this study was derived from Natural Language Processing (NLP) (Bird, Klein and Loper, 2009; Daniel, Jurafsky and Martin, 2016; Manning and Schütze, 1999) and Correspondence Analysis (Greenacre, 1999). Most typically, NLP methods can be used to: classify linguistic units into separate categories, correct misspelled words in a corpus, or detect the grammatical roles of words such as subject, object or predicates. Such techniques were used to analyse the assembled corpus of articles published by selected digital news organizations. The algorithms were coded in the Python programming language and relied on the Natural Language Toolkit (NLTK) helper library during the preparation phase of the analysis. Additionally, R was used during the clustering aspect of our analysis. The first step of the NLP approach was *tokenization*. Here, the textual elements of the collected articles were converted into their linguistic components. Words, punctuations, dates, URLs, currency, emoticons are captured with simple string matching algorithms called regular expressions. Regular expressions cut the formulated string from a given text. The second step was to remove (annotate) stop-words. Stop-words are functional words such as ‘the’ or ‘of’ which connect the syntactic structure of a sentence together. These terms were eliminated from the corpus as they do not have any analytical value for our study. Once eliminated, Ngram collocation techniques were applied to capture the noun phrases remaining within the annotated corpus of collected articles. The rationale for Ngram collocation techniques was as follows: counting each word as an individual token would be an incorrect approach since terms such as ‘New York’, for example, would appear as two separate units. Accordingly, we modified our collocation technique to compile lists of unigrams (one worded noun phrases) and bigrams (two word noun phrases).

After the aggregation of Ngram noun phrase lists, we manually selected the terms that were meaningful in the context of the refugee crisis. Our list of unigrams and bigrams became the vocabulary through which the semantic distances between different news organizations were measured. The resulting actor-by-concept matrices are based on co-occurrence. The rows list the news organizations while the columns depict our chosen vocabulary. Each cell refers to how many times a concept co-occurs within the corpus of a news organization. To visualize the matrices, we used

correspondence analysis (CA) in an experimental manner. One of the main requirements needed for correspondence analysis visualizations is a non-negative count matrix. Our media-actor-by-concept matrix, where cell $[i,j]$ denotes how many times actor- i and concept- j appear together fulfils this requirement as there are no negative frequencies in the matrix. When CA is applied, it reduces the dimensionality where each media actor and term is represented with two abstract dimensions rather than a huge vector. Therefore, we can easily map them onto a two-dimensional visualization to interpret the results. Our individual actor-by-term matrix with the size of 11×10.000 is decomposed into two matrices for both actors and terms with the size of 11×2 and 10.000×2 . In the resulting visualization, media outlets with incongruous profiles are positioned at the extremes of the plane of projection. Terms with distinctive profiles are positioned at the fringes of the projection plane. Actors and terms with profiles that could be accounted by correspondence analysis were located near the centre of the visualization.

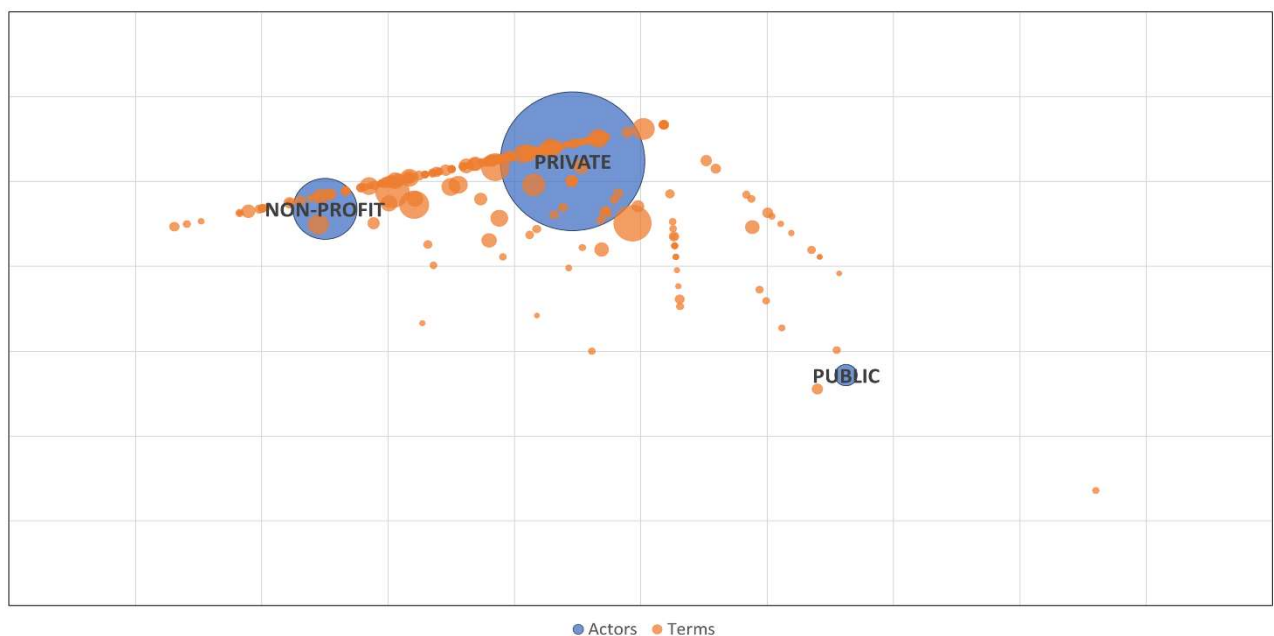
Results

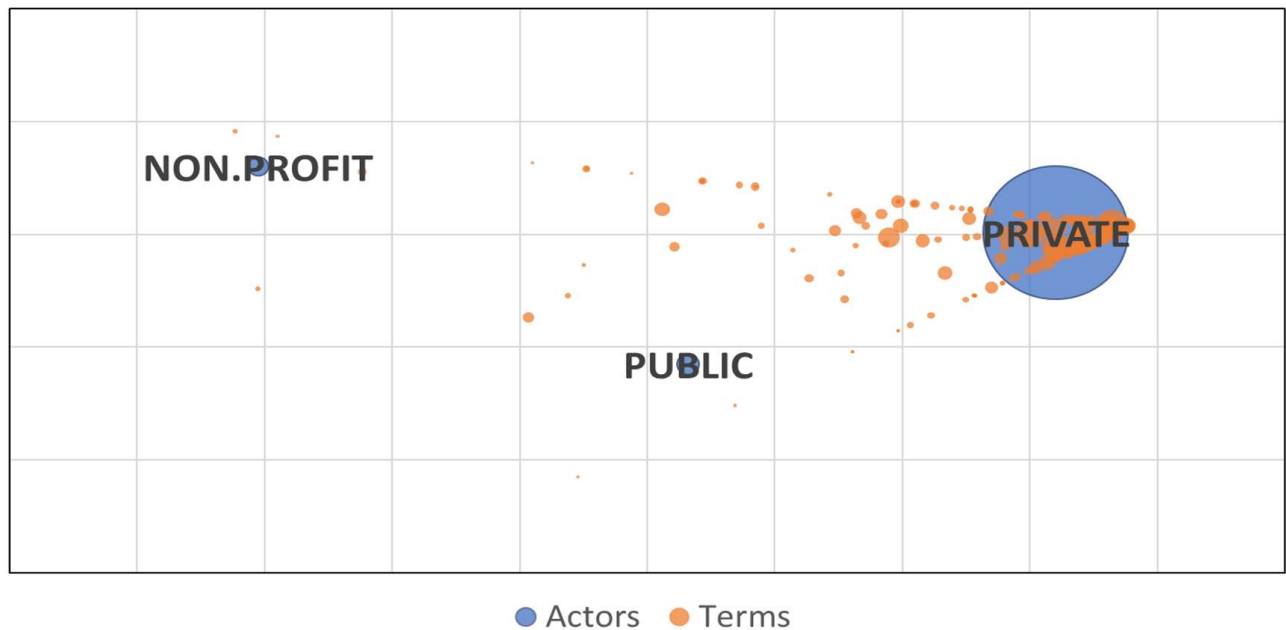
The hypothesis testing allowed us to determine whether ownership and political leaning were relevant categorical variables (Sourial et al., 2010) for predicting changes in two textual corpuses. The scatterplots based on categorical variables and correspondence analysis are visible in Figures 1 and 3. The before corpuses are shown on the left and the after corpuses on the right.

Ownership

It is visible from Figure 1. that the public and non-profit media were distanced from the private media in terms of the concepts (unigrams, bigrams) in the before corpus. For the second period, the distance between non-profit and private media has increased even further. To provide additional evidence we produced a merged analysis (Figure 2). If two actors appear far apart that means that they are significantly independent and different from each other. It is visible from Figure 2 that all categorical variables are well separated from each other.

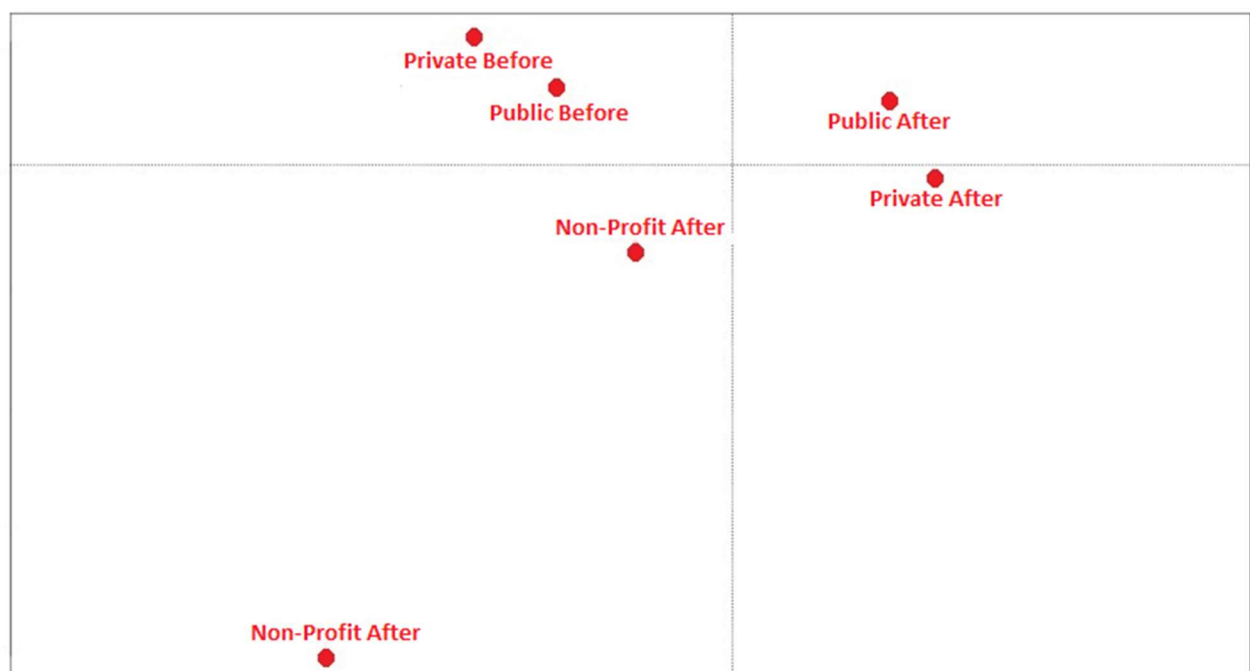
Figure 1. Before/after actor-to-concept ownership scatterplots





Since Correspondence Analysis is directly related to Pearson's chi-square analysis we also conducted a number of chi-square tests to confirm our results. The tests show that the p-value is below 0.05 meaning that the differences between analysed reports from the sample are statistically significant. In fact, the calculated value was $2.2e-16$ which is well below the statistical threshold for significance testing. Given the results, we can reject the null hypothesis (H_0) and assert that there is a statistically significant difference in content between the two time periods (before and after) with regard to the categorical variable of ownership (private, public, and non-profit).

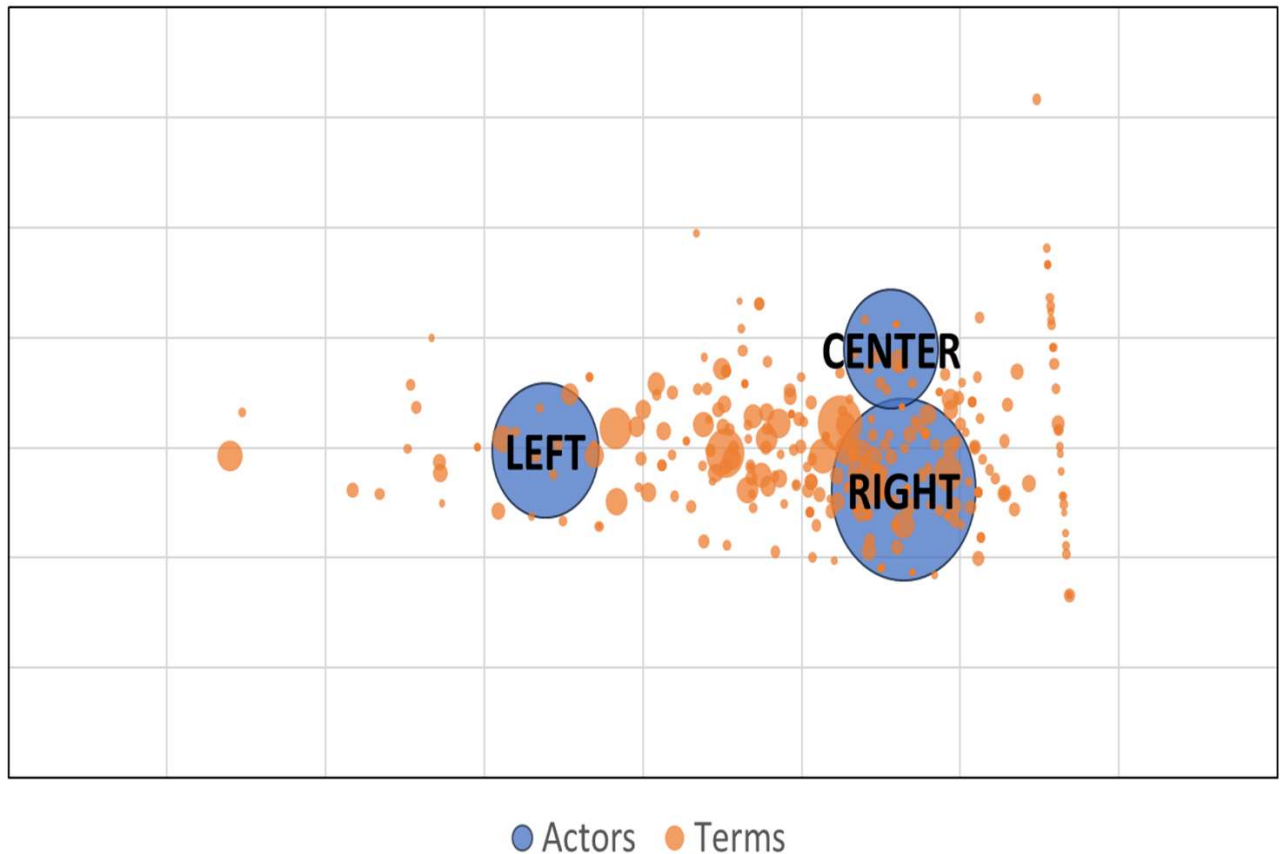
Figure 2. Merged analysis of ownership



Political leaning

We used the same method to test the categorical variable of political leaning. It is visible from Figure 2 that the left leaning media were distanced from the centre and right leaning media in terms of the concepts (unigrams, bigrams) in the before corpus. In the after corpus, the distance increased even further [9]. To provide additional evidence we produced another merged analysis (Figure 4) on the categorical variable of political leaning.

Figure 3. Before/after actor-to-concept political leaning scatterplots



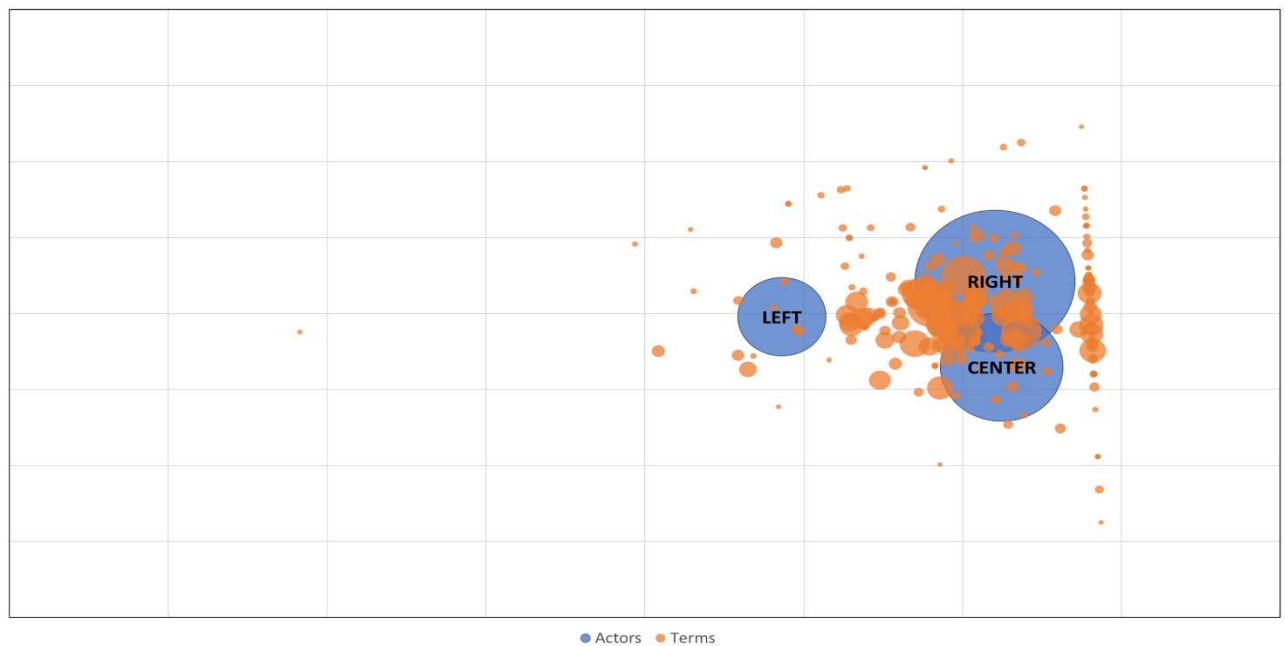


Figure 4. Merged analysis of political leaning

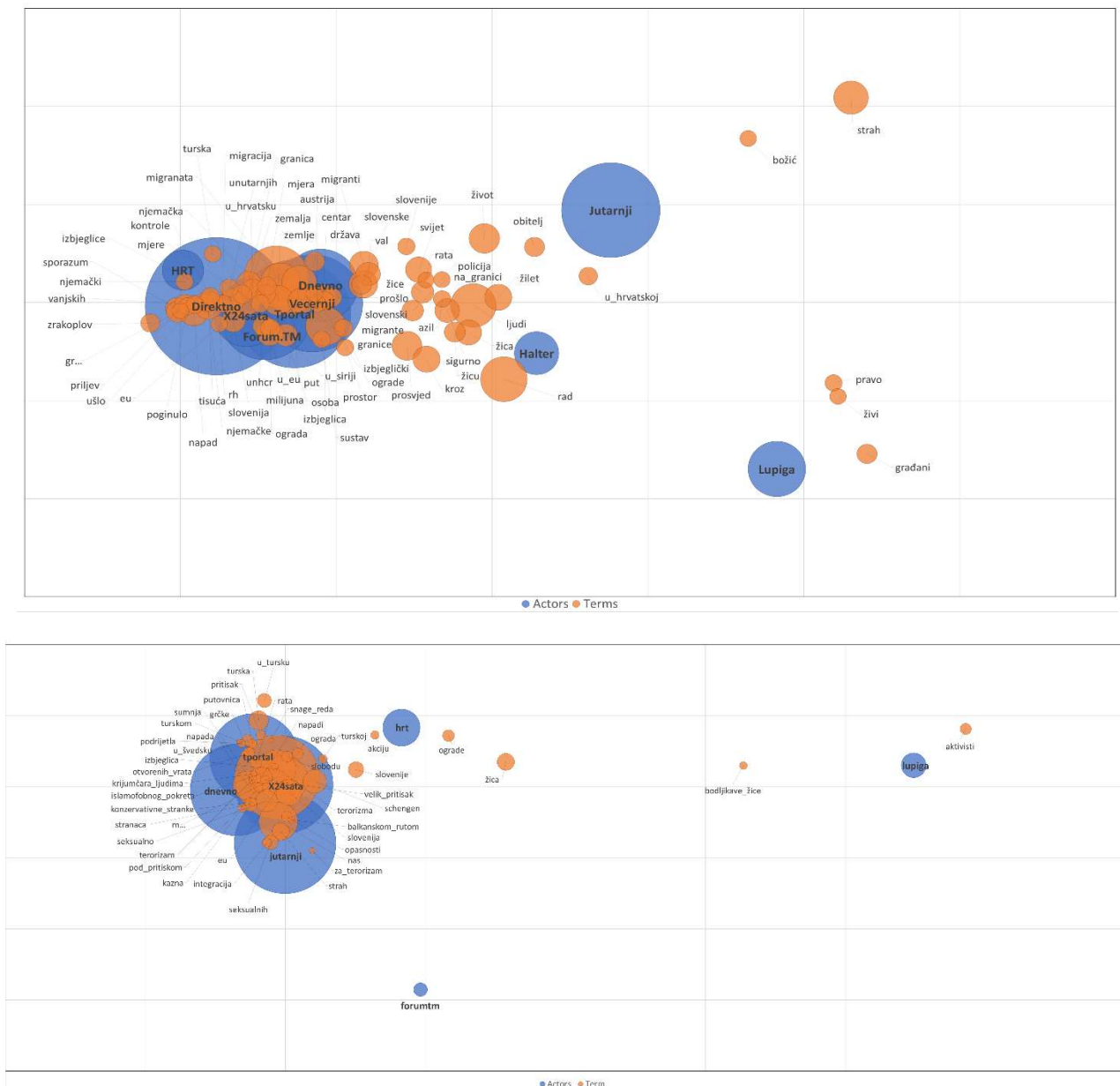


The merged analysis (Figure 4) shows that there are no overlapping categories in terms of political leaning. Chi-square tests also showed a p-value of $2.2e-16$. In the case of political leaning we can reject the null hypothesis and assert that there is a statistically significant difference in content between the two time periods (before and after) with regard to the categorical variable of political leaning (left, centre, and right).

Individual News Organizations

In order to determine changes at the level of concepts (unigrams, bigrams) in relation to individual news organizations we produced additional correspondence analyses. The resulting visualizations (Figure 5) for the collected article corpuses are shown below.

Figure 5. Before/after actor-to-concept scatterplots of individual news organizations



Before Cologne

The scatterplot on the left (Figure 5) suggests that the private, centre leaning news organizations (*24 sata* and *T-portal*), as well as the private, centre-right news organization (*Večernji List*) tend to use the same concepts and terminology when discussing the refugee crisis. The private, right-wing news organization (*Dnevno*) also partly overlaps with the centre-right news organization (*Večernji List*). The second private, right-wing news organization (*Direktno*) is relatively close to the mainstream cluster although it tends to emphasize the international dimension of the crisis. When we look at the actual list of terms that these actors use, they suggest the presence of a rhetoric that frames the refugee

crisis within a humanitarian context. For example, some of the most used terms within this cluster include “integrating refugees” [integracija izbjeglica], “shelter” [sklonište], “migration” [migracija], “responsibility” [odgovornost], “protection” [zaštita], “great pressure” [veliki pritisak], “surveillance” [nadzor] and “better life” [bolji život]. One curiosity of the main cluster is the positioning of non-profit, left organization (*Forum TM*) between private, centre leaning organizations (*24 sata* and *T-Portal*). This is because they shared an interest in some of the international sub-topics and country reactions to the crisis at the time. These include border disputes between Croatia and Slovenia regarding barbwire fences, health-care issue for refugees and economic integration at their final destinations. In contrast to the main cluster, the concepts associated with the public service medium (*HRT*) tend to be countries, state actors and geographical locations. What this suggests is that the PSM, while sharing the humanitarian framing associated with the main cluster, also emphasizes the international context of the refugee crisis. The main media cluster also uses these terms, albeit less frequently.

Located away from the main media cluster are private, centre-left (*Jutarnji List*) and non-profit, left leaning (*H-alter*) news organizations. The latter focuses on the activities of humanitarian, non-governmental organizations. Perhaps the most important concept associated with the private, centre-left organization is “barbed wire” [bodljikava žica]. This is a reference to the separation fence built between Croatia and Slovenia to prevent refugees from crossing the borders. The term “barbed wire” used to describe the boundary contrasts with the main media cluster that uses the term “fence” [ograda] more often to describe the same entity. The connotations associated with the term “barbed wire” frame the boundary in a negative manner. The concept cluster characteristic of the non-profit, left news organization (*Lupiga*) includes terms such as “rights” [prava], “citizens” [građani], “NGOs” [civilno društvo] and “left wing” [lijevo]. One concept that is uniquely associated with this organization is “tools” [alati]. The associated news articles give advice to activists on how to cut through the fence and let refugees pass through. For example, an article published on 18 December 2015 was titled “ANONYMOUS CUTTERS, WITH LOVE: Five tips for barb-wire freelance cutters” [ANONIMNI REZAČI, S LJUBAVLJU: pet savjeta za freelance rezače žilet-žice]. The position of the outlet is pro-refugee and anti-barb-wire since this barrier not only prevents refugees from crossing over into Slovenia, but also disrupts the wildlife routes between the two countries. The article concludes: “Animals do not know about administrative borders, and the migrant fence is in itself disgusting and fascist” [Životinje ne poznaju administrativne granice, a i sama ograda protiv izbjeglica sama po sebi degutantna i fašistička].

After Cologne

In the second period (Figure 5, right side) we see a realignment in the positioning of actors and concepts. The only news organization that has retained its position in relation to both other actors and to their associated concepts is the non-profit, left organization (*Lupiga*). The concepts associated with the PSM (*HRT*) are Sweden, Slovenia and “fence”. On the other hand, many of the other countries that were uniquely associated with the PSM in the dataset collected before Cologne have now moved to the position between the PSM and the main cluster. What this means is that both the PSM and the main cluster are now speaking about the refugee crisis with references to the international context.

Another concept associated with the term “fear” [strah] is “terrorism” [terorizam], which did not feature at all in the corpus collected before the Cologne event. In the aftermath of the Cologne attacks, the private, centre-left news organization (*Jutarnji List*) published an article titled “FEAR OF TERRORISM: Alabama does not want Syrians: ‘We do not know who these people are’ [STRAH OD TERORIZMA: Alabama ne želi Sirijce: ‘Uopće ne znamo tko su ti ljudi’]”. Similarly, the private, centre leaning news organization (*24 sata*) correlated the refugees and terrorism in an article published on the same day: “Two refugees arrested in the United States: Accused of terrorism” [Dvoje izbjeglica uhićeni u SAD-u: Optuženi za terorizam]. At the same time, more than the actual sexual assaults, the ethnic origin of the attackers was a prevailing news theme. At 14:00 on 8 January, *Jutarnji List* reported “ALL NATIONALITIES OF THE NEW YEAR’S EVE MANIACS KNOWN - There are refugees, one molester came from - Serbia” [POZNATE SVE NACIONALNOSTI MANIJAKA IZ NOVOGODIŠNJE NOĆI: Ima izbjeglica, a jedan od zlostavljača stigao je iz - Srbije]. This report cited the Croatian News Agency report based on information from the German Ministry of Internal Affairs. The report stated that two thirds of the 31 perpetrators were in the process of asylum requests in Germany. At 14:31 the private, right-wing news organization (*Dnevno*) ran an article titled “Brutality on New Year’s Eve - Identity of Cologne molesters revealed: One of them came from -Serbia!” [Brutalnost u novogodišnjoj večeri – Otkriven identitet zlostavljača iz Koelna: Jedan je stigao iz - Srbije]. At 15:01 on the same day, another private, right-wing news organization (*Direktno*) reported, “All rapists of German women identified, there are refugees and one Serb” [Identificirani svi silovatelji Njemica, ima izbjeglica, a i jedan Srbin]. Interestingly enough, all three media outlets reported on the Serbian citizen within the group as distinct from the non-Croatian others within the group.

The term “danger” [opasnost] is often mentioned, sometimes channelled, and reported as justified retaliation towards a vilified and stereotyped social group of immigrants. For example, the private, centre leaning news organization (*T-portal*) depicted mass attacks on foreigners as a retaliation for the riots that occurred on New Year’s Eve. The article published on 11 January was titled “Chaos in Cologne”. Simultaneously, private-right-wing news organizations (*Dnevno* and *Direktno*), accused the liberal and left wing media of covering up the scope of the sexual assaults and the origin of the attackers. They took a ‘we-told-you-so stance’ and amplified the dangers associated with the assaults by making no distinction between sexual offenders and refugees as a diverse social group. Lack of control by the migrants and their perceived threat to mainstream society was a common theme. For example, an article published by the private, right-wing organization (*Dnevno*) on 14 January was titled “MORE COVER-UPS: Immigrants raped a THREE YEAR OLD BOY in Norway” [OPET ZATAŠKAVANJE: Imigranti silovali TROGODIŠNJEG DJEČAKA u Norveškoj]. The use of capital letters indicates the vilification of an outside group. The subtitle of the article was “Along with women, children are the victims!” [Uz žene, i djeca stradavaju!]. Again, it uses an exclamation point to emphasize the dangers to social and moral order posed by the immigrant groups. Similarly, an article published on 11 January was titled “IMMIGRANTS LOSE CONTROL: Sexual attacks and brutal beatings on Dutch girls!” [IMIGRANTI IZGUBILI KONTROLU: Seksualni napadi i brutalni udarci po nizozemskim djevojkama!].

Many news organizations in the selected group reported on the need for tightening the border control and imposing stricter policies against the refugees. Perceptions of danger from the outside are closely related to safety of the inner group and the need for re-establishing the apparently broken social order. Private, right-wing news organization (*Direktno*) reported on 9 January: “After the fatal New Year’s Eve, women are saying: We want to feel safe again” [Nakon kobnog Silvestrova, žene:

Želimo se ponovno osjećati sigurnima]. Multiple media organizations reported on the diminishing support for the German chancellor in the following days including *24 sata*, *Jutarnji List*, *Večernji List*, *T-portal*, *Dnevno* and *Direktno*. On 13 January, the private, centre-right organization (*Večernji*) reported, “A reversal by desperate Merkel - migrants are being sent back along the same route they came with” [Zaokret očajne Merkel – migrante vraćaju rutom kojom su došli]. The subtitle added: “Under public and coalition partner pressure the German chancellor changes rhetoric and says: We are powerless. We have no control over migration” [Njemačka kancelarka pod pritiskom javnosti i koalicijskih partnera promijenila retoriku i poručila: Nemoćni smo. Nemamo kontrolu nad migracijama...].

At the same time, two non-profit, left-wing news organizations switched positions. In the period before the Cologne events, *Forum TM* was close to the mainstream actors in terms of the concepts employed. In the period after the attacks, it moved outside of the main cluster and started reporting about barbed wire fences in a similar manner to *Lupiga*. *H-alter* was outside of the main cluster in the period before the Cologne events. In the period after the Cologne events, the organization moved closer to the centre. While this may seem contradictory, the main reason is that the organization wrote critical reports about rising hate speech and the policies of Viktor Orban. Due to the usage of the same concepts as right-wing organizations, although with a different intent, *H-alter* was closely related to them in the visualization.

Interpretation

Based on the presented results, we can draw three main conclusions. First, ownership and political leaning are important categorical variables for predicting changes in media reporting. Both hypotheses were rejected by our analyses. We can conclude that there is a statistically significant difference between the reports prior to the Cologne attacks and the reports immediately after the Cologne attacks. The private media have shown that their primary interest is increasing advertising revenues through audience reach, a common feature for commercial media, as often explained within the political economy tradition. The digital news industry finds itself in an awkward position. Advertising revenues for print media in Croatia in 2016 were just one third of the recorded revenues in 2008 [10]. Simultaneously, digital intermediaries such as Google and Facebook captured more than half of internet advertising investments in 2016 (Bilić and Primorac, 2017). This creates sustainability problems for news organisations and puts additional pressure on news editors to chase crises, scandals and disasters at the expense of journalistic quality (McChesney, 2013; Pickard, 2016). Commercial, privately owned media provided little content diversity in the analysed dataset. Counterbalancing these trends, public and non-profit media provided different types of reports about the refugee crisis. They acted as alternatives to the commercially driven news environment in what can be labelled as a new “social ecology of information” (Winseck, 2011). Within this ecology, different types of ownership and funding mechanisms still matter.

Second, there has been a shift in the framing of the refugee crisis in the Croatian digital news. In the dataset collected for the period before the Cologne attacks, the concepts associated with the main cluster suggest the presence of a humanitarian rhetoric. One can argue that the framing is closely aligned with the policy of the Ministry of Internal Affairs (MUP) of the Republic of Croatia and the Social-Democratic Party, which was leading the Croatian government at the time [11]. The news organizations such as *Večernji List* framed the event by selecting the Minister’s statement from 20 December: “We will accept more migrants than asked for”. The subtitle cited the Minister stating:

“All of them will be integrated into our community. We will not put them into ghettos since we have plenty of state property and apartments. We want them to work and not to live off of social welfare”. In the corpus after the Cologne event, we see that the main cluster is densely concentrated around a large number of concepts. However, there is a relative homogeneity in the rhetoric used by the digital news to frame the migration crisis after the Cologne event. The framing of the refugee crisis shifted towards a security-oriented rhetoric.

Third, when we look at the scatterplots produced for both datasets, we see that private, centre leaning news organizations retain their semantic proximity to right-wing actors. Although the concepts associated with these actors change, the distance between them remains the same. While almost all media actors retain their positionality to one another in the dataset collected after Cologne, there is one dramatic realignment. The private, centre-left news organization has moved to the main cluster and now shares the same concepts with both private, centre and private, right-wing news organizations. There are several interpretations for this re-alignment. The collusion between centre leaning and right-wing media in shifting the framing of the refugee crisis exemplifies the political economy of moral panics (Cricher, 2011) and the culture of fear that drives it. Quite literally, the term “fear” [strah] featured in the before Cologne corpus but was located as an outlier not directly associated with any of the news organizations. After the realignment, “fear” moved to the main cluster of the scatterplot and is indirectly associated with the private, centre-left news organization. Additionally, terms such as “us” [nas] and “we” [mi] featured prominently in the main cluster after the Cologne events. This explains the heightened state of moral panic where the diverse social group of refugees and immigrants are positioned as outsiders. In short, the racialized and stereotyped representations were based on fear of “them” as a threat to “our” national security (Bailey and Haridranath, 2005). Within such a context, the realignment of the centre-left news organization suggests that the actor is opportunistically trying to commodify the moral panic generated by the Cologne event by gathering large audiences during an event of high public interest. As such, the actor takes on the role of other “moral entrepreneurs” (Cohen, 1972) who drive the societal response to the perceived social threats from “deviant others”. In this case, the main moral entrepreneurs were right-wing news organizations.

Conclusion

In this article we tried to assess the often taken for granted assumption that the Internet offers a diversity of opinions. As our study shows, this is hardly the case. Faced with pressures of realizing advertising revenues, private news companies in Croatia are unable to secure diversity of content in the public sphere. The editorial policies of private media are to chase crises, disasters and scandals, rationalised by audience metrics and clicks. The moral panic reported in the digital news media was amplified by the transnational dimension of the refugee crisis, geopolitics, and the 24/7 news publishing cycle. After the Cologne attacks, certain media reports were burdened with generalizations and assumptions that called for more border control, more security and more legal and policy action. The media conflated various human fates into the dominant frame of immigrants as sexual predators and terrorists. What we saw in Europe was the use of a high profile news event as a tool for the implementation of conservative and right wing policies. The closing down of borders and the imposition of tighter border control was proposed on the grounds of national security and the protection of national identity against the invading “Other”.

The computational political economy of communication approach (CPEC) provided us with a tool for broader assessment of news media responses. By simultaneously looking at a diverse selection of media outlets based on their ownership and political leaning, it was possible for us to trace moral panics with more precision and detail. Most private, centre leaning news organizations tended to commodify moral panics. Non-profit, left news organization (*Lupiga*) and the PSM (*HRT*) were the only two actors that remained relatively consistent in terms of their positions and the concepts they chose to employ. *Lupiga* remained consistent as an outlier within the rhetoric of Croatian news organizations. The HRT remained consistent in terms of the categories it chose to emphasize - mostly countries. This suggests that the PSM chose to focus on the international dimension of the migration crises in the articles it published. The chief moral entrepreneurs (Cohen, 1972) were right-wing media (*Dnevno* and *Direktno*). Predictably, they offered the most exaggerated xenophobic and stereotyped reports after the Cologne attacks.

There is also a broader conclusion to be drawn from this case study. The private actors showed little diversity in terms of the concepts used and their political preferences. The inability to capture digital advertising results in the overall impoverishment of journalism and the public sphere. Quality content is difficult to find within a system whereby the production, distribution and consumption of news is framed by market-related mechanisms. Publicly funded news organizations showed that they provide the necessary counter-balance for informing citizens, producing quality content, and ensuring pluralism in the digital news environment. Therefore, we must not forget that social inclusiveness, participation and democracy are alternatives that can only be provided through progressive policies outside of market-related mechanisms.

Endnotes

- [1] In 2016 90.6% of internet users in Croatia read or downloaded digital news (and magazines), ranking second in the EU behind Lithuania. At the same time the EU-28 average was 70.2 %. Available at: <https://ec.europa.eu/digital-single-market/en/create-graphs>
- [2] Main access points were search engines, news websites and Facebook (Bilić et al., 2017).
- [3] The majority of mass sexual assaults occurred on New Year's Eve in the German cities of Cologne, Hamburg and Stuttgart. In the immediate aftermath official sources were silent on the scope of the assaults and the number of attacks which provided fuel for media speculation. Six months after the attacks a police report was leaked revealing that there were roughly 2,000 perpetrators who assaulted around 1,200 women in different cities. The police reported that the majority of the attackers were of North African origin. The scattered reports in the first few weeks caused widespread concern in both Germany and Europe about regulating the migration flow. The news item about the German police report is available at:

https://www.washingtonpost.com/news/worldviews/wp/2016/07/10/leaked-document-says-2000-men-allegedly-assaulted-1200-german-women-on-new-years-eve/?utm_term=.1f593be261e1 (accessed 3 July 2018)
- [4] Available at: <https://www.alexa.com/topsites/countries/HR> (accessed 24 April 2018)

- [5] In 2016 print advertising revenues in Croatia were one third of the amount recorded in 2008. Available at: <http://hura.hr/istrazivanja/medijska-potrosnja-u-hr/>
- [6] According to the interviews conducted with digital advertising experts, more than half of the digital advertising investments relate to Google and Facebook (Bilić et al., 2017).
- [7] Since 2016 the PSM has seen an increase of political pressure and open pressure in establishing political control over management and editorial positions. For an overview of recent developments with regard to media freedom and media pluralism see <http://www.seemo.org/seemo-mission-to-croatia-2018.php> (accessed 24 April 2018).
- [8] Political leaning is certainly a problematic variable in terms of providing a clear-cut political position for individual media organisations. Within most of the selected outlets, apart from the radical conservative ones, it would indeed be possible to find publications and journalists who take opposing sides of the political spectrum within a single media organisation in their reports. The classification for this variable is, to a large extent, based on a number of interviews (Bilić and Balabanić, 2017) with editors and journalists of selected organizations and their responses to the question of their targeted audience.
- [9] In the figures the distance may appear smaller in the second graph. The reason is that, visually, the second figure is on a larger scale due to specific terms that were outliers. The actual measured distance has, in fact, increased.
- [10] See endnote [5] for reference.
- [11] The end of 2015 was marked by an unstable political situation. The parliamentary elections were held on 8 November 2015 and produced a hung parliament. The ensuing period was marked by political negotiations for establishing a stable coalition. A new government led by the centre-right Croatian Democratic Union (HDZ) took office only on 22 January 2016. The coalition fell apart in October 2016.

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