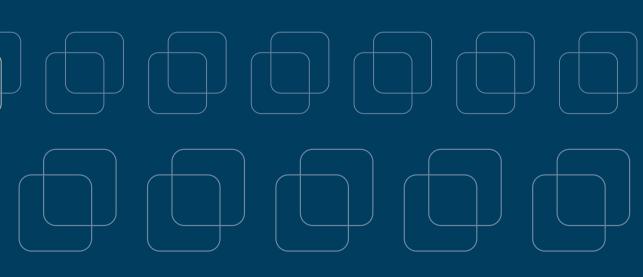
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LEAD ARTICLE

Macroeconomic indicators of Russia's media communication industry in 2000-2020: Quantitative analysis

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Abstract

Technological and social processes of last years inspired by the information and communication technologies development, such as processes of digital transformation of society and the convergence of (mass) media, have led to the formation of a new macro-social entity – the media communication industry, integrated into the national and global economy and interacting in various ways with other sectors of the economy and the world media system. At the same time, instrumental methods of data analysis, widely used in economic studies, are still not very common for media communication industry studies. To bridge this gap and answer the question of how the macroeconomic situation affects the media industry and vice versa, the authors conducted a statistical analysis of the joint dynamics of macroeconomic indicators and those of the Russian media communication industry over the past 20 years.

Keywords

Media communication industry, macroeconomics, statistical analysis.

Introduction

As a result of the rapid change in the place and role of information and communication technologies in socio-political processes, computerization, and the penetration of the Internet into politics, business and the everyday lives of people, media communications by the end of the first quarter of the XXI century

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reached a new level, expressed in the formation of a new socio-economic entity – media communication industry (MCI). It is an integral poly-subject socioeconomic system that combines technical means of representing, transmitting, storing and processing digital information in all existing types and formats, producing subjects and consuming subjects of information interacting through technical means within the framework of socio-economic relations that satisfy socially necessary information and communication needs (Vartanov, 2023). At the same time, it can also be perceived as a stage in the development of its subjects, their interaction, interpenetration, and unification on a common technical and technological basis. The main structural units of the media communication industry, which in their inextricable connection form its appearance, are previously unrelated sectors of the economy - telecommunications and media communication industries, film, television and video production, sound recording, advertising, public relations, which were not initially considered as components part of the media economy, but closely associated with it already in the early stages of media formation.

The functioning of the media communication industry in modern conditions is determined by such media characteristics as:

- level of development and current state of the national telecommunications infrastructure (Gladkova et al., 2019; Vartanova et al., 2021; Vartanova, & Gladkova, 2020);
- the level of development of the consumer economy, which determines the volume of the advertising market, audience spending on media and investment in the media business (Vartanov, 2015; van der Wurff et al., 2008; Vartanova, 2015);
- the level of interest of the population in media, expressed, among other things, by its proportion of an active audience of various types of media (television, radio, online and social media) (Nazarov, 2023; Vyugina, 2018; Kampes, & Brenthel, 2020);
- the level of competence of the population in matters of media consumption, defined in modern literature on media theory as the level of digital media literacy (Kazakov, 2017; Frolova, & Obraztsova, 2017);
- the presence of a national and regional legal framework regulating the activities of various types of media at the national, regional and local levels (Pankeev, 2019, Sharkov et al, 2023; Bates, & Chambers, 1999);
- the ability and capability of the media system to create a favorable environment for the emergence and implementation of innovations (Gorokhov, & Shilina, 2020; Bakhshi, & McVittie, 2009);

 the ability of the media to meet the information and communication needs of society as a whole and its individual citizens (Vartanova, & Gladkova, 2022; Kampes, & Brenthel, 2020).

Particular attention should be paid to the growing integration of the media and telecommunications industries, which began in the last decades of the XX century and led to the formation of the media communication industry. Throughout the XX century, the links between telecommunications and the information technology industry and the mass media were strengthened and expanded, and new production capabilities turned into an infrastructure (for production and distribution) and an environment for the existence of media content of all possible types (de Prato, & Ganz, 2004). In Russian realities, this integration was confirmed by the creation in 2014 of the Media-Communication Union. The Media Communication Union (MCU) is an organization that envisages equal partnership between leading media and telecommunications companies and represents their common interests, including in government authorities, with which two-way communication between the industry and the state is organized. According to the Union's statutory documents, the need for its creation is linked to the development of digital technologies in telecommunications and media.

Since the media communication industry is not only transmission technologies, channels, platforms, and content distribution system, but also a social space, social institutions and structures, social processes in individual, national and global space, a significant number of indicators are required to quantitatively describe its state. To characterize the level of development of the national media system, it is necessary to consider, on the one hand, heterogeneous but interrelated federal-level indicators describing the development of media, telecommunications, and culture, and, on the other hand, their regional counterparts. The latter are necessary not only to assess the (un)uniformness of the development of the national media system and the severity and depth of the digital divide, but also to study the spatial effects and interrelationships between the indicators of different regions.

Statistical analysis of the Russian media communication industry and its interrelationships with other spheres and sectors of the economy has not yet gained popularity in Russia. Instrumental methods of data analysis are still not as widely used in its research as in the study of other sectors of the economy. Nevertheless, due to the high degree of MCI integration into the national economy and its significant contribution to GDP it is difficult to underestimate its strategic importance. This paper is one of the steps to fill the gap in the

statistical analysis of the relationship between MCI in Russia and other spheres of the economy.

Methods

Theoretical framework for quantitative research on MCI

The theoretical direction of quantitative research of the media communication industry research focuses on the development of models and theories that explain the main aspects of the functioning and interaction of media firms, as well as the influence of other factors on their activities. This approach investigates universal models that can explain the media communication industry in different countries and contexts. One of the main goals of the theoretical direction is to offer recommendations and practical solutions for various participants in the media communication industry – both media companies and government regulators. Researchers seek to identify effective strategies that allow media firms to operate successfully in difficult economic conditions and consider the interests of society. In works in this direction, the authors seek to develop theoretical models that explain the main features and structure of the media communication industry. They consider factors such as competition, scale of production, product differentiation, economies of scale, subsidies, taxes, and other regulatory measures.

Based on the understanding of the media communication environment as a multi-subjective one (Vartanov, 2023) and characterized by a highly active audience that performs different functions in this environment, we should recall the special role of the latter in the economic behavior of subjects of traditional media. According to Picard's approach, the dual market of goods and services assumes that the media not only produce content for the audience, but also, because of this production, organize advertisers' access to the audience (Picard, 1989). This basic position of the media economy captures a key feature that characterizes not only producers, but also consumers, which has given rise to some researchers to add among the main resources of the media business such as money, time and – subsequently – the attention of the audience. Audience monetization, which underlies the most influential business model of the traditional media industry, is the result of a process of commodification of the audience, acquiring the properties of a commodity (Mosco, 2009; Doyle, 2013). In a multi-subjective digital environment this turns the audience into a key actor, both a consuming and a producing and distributing subject (Vartanova, 2022; Makeenko, & Vyrkovsky, 2021).

One of the key models presented in the works of Hendricks (1995) and Ramstad (1997) is the segmented market model, where firms compete for market

share and strive to maximize profits. This allows researchers to assess the impact of various factors on industry structure, such as market concentration, number of participants, level of integration, and others. In addition, many authors pay attention to the impact of government policies on the media communication industry. Policy research typically attempts to analyze the impact of specific regulatory measures on existing markets and industries. In the context of this direction, the economic consequences of radio deregulation and the impact of political regulatory decisions regarding US cable television and French cable operators were studied (Bates, & Chambers, 1999). Several studies have also addressed employment and labor market trends (Albarran, 2008). They also analyzed issues such as taxation, subsidies, restrictions and regulation of content, intellectual property rights and other aspects that affect the behavior of individual subjects and the development of the whole industry (Collins, & Litman, 1984; Fan, 2005).

In recent years, researchers have been increasingly paying attention to the short-term relationship between economic crises and the media industry (Van der Wurff et. al, 2008; Picard, 2001). Studying such connections can help to understand how the media industry interacts with the economy during periods of crisis and how these interactions can affect the overall economic situation. Some of these studies focus on the impact of advertising spending on GDP during economic downturns. They indicate that during periods of crisis, companies often reduce their advertising budgets, which can lead to a decrease in advertising activity in the media industry. This in turn may affect consumer activity and the overall economic condition. Some studies also suggest that changes in advertising activity during periods of crisis can be more dramatic than changes in GDP (Picard, 2001). Other works examine the influence of the media industry on economic growth and development. They show that media industry growth can drive economic development and innovation. The media industry can create new jobs, stimulate competition, and improve the quality of products and services (Albarran, 2008; Gustafsson, 1988).

Picard's seminal 2001 work examines the impact of economic indicators such as GDP and total advertising expenditure on the media communication industry in developed countries. The author uses statistics on the GDP of some European countries and their advertising budgets in the late 1980s and early 1990s. The main issue of the work is to determine the effect of recession and economic growth on media in developed countries. The author concludes that a decrease in GDP by one percent leads to a drop in total advertising costs by an average of 5%. However, the relationship between GDP and advertising

costs is different in each country. This is explained by various factors, such as the structure of the economy, the level of economic freedoms, the impact of the recession on different sectors of the economy and the economic policy of the state. The study also shows that print media were the most vulnerable to negative changes in the economy. The impact of the economic downturn on them was almost four times bigger than in the case of television. This may be explained by changes in advertising budgets and audience preferences during the economic downturn. Picard's work is of interest to researchers in the media communication industry and macroeconomics, as it explores the relationship between these two areas and shows how economic factors can influence the media.

According to more recent macroeconomic model (Van der Wurff et al., 2008), based on regression analysis of macroeconomic indicators of many national economies, the indicator of total GDP (in real terms) can predict with a high degree of accuracy the volume of the advertising market, in particular for the traditional printed press. The higher the overall share of the advertising market in the structure of GDP, the higher the level of accuracy of such a prediction. At the same time, the influence of "internal" competition between different media as advertising carriers on the advertising market turns out to be less significant than the influence of "external" (macroeconomic) factors. Thus, the need to use advanced mathematical and statistical tools for macroeconomic forecasting to analyze empirical data in the study of the media communication industry is substantiated.

Instrumental methods for analyzing statistical data in MCI research

Statistical analysis of the joint dynamics of the main indicators of the media communication industry and the economy allows us to analyze the relationship between them and identify possible interdependencies. Various methods such as correlation analysis, regression analysis, time series and factor analysis can be used in such analyses. In correlation analysis, the degree of relationship between different variables can be investigated, for example, between the revenues of media companies and a country's main macroeconomic indicators such as GDP, investment, and unemployment rate. A positive correlation may indicate that economic growth favors the growth of the media industry, while a negative correlation may indicate the impact of economic difficulties on media companies.

Regression analysis allows for a more detailed examination of the impact of one or more independent variables on the dependent variable. For example, a

regression analysis can be conducted to determine how changes in investment and advertising expenditures affect the profits of media companies.

Time series analysis allows to examine changes over time and identify seasonality or trends in the dynamics of the media industry and the economy. This can help in predicting future trends and the state of the media industry based on previous data.

Factor analysis is used to identify the most significant factors affecting the variables under study. In the context of the media industry and the economy, factor analysis can help to identify the main economic factors affecting the state and development of the media industry.

The use of instrumental data analysis methods in media industry research allows for a more accurate and objective assessment of its state and the impact of factors related to the country's economy. This can be useful for making strategic decisions and designing measures to improve the state and development of the media industry.

Conducting such a study may require access to reliable and extensive statistical information. Therefore, qualitative analysis will require collecting and analyzing data from various sources, such as official statistical reports, studies, and publications by media industry operators. To achieve this goal, the *Mediamonitor* project of Lomonosov Moscow State University has been monitoring the state of the Russian media communication industry since 2019. The *Mediamonitor* project is a Russian implementation of media monitoring as a process of monitoring the state of the industry. It consists of collecting retrospective and current data, monitoring the current state of the media communication industry, assessing its current state, building its model, and then analyzing and forecasting its development dynamics under the influence of various factors of economic, technological, social, and cultural nature.

The *Mediamonitor* project database contains several thousand variables for a time horizon of up to 20 years, collected from a variety of sources, both open (Federal State Statistics Service) and proprietary (*Mediascope*). Of these, about 100 variables correspond to indicators characterising the media communication industry in four aspects: online media, printed press and books, television, and radio. For each indicator the dynamics of its change over the last ten years is considered (i.e. we are talking about a time series), besides, for these indicators for all years there are values for all federal subjects of the Russian Federation. In total, this gives about 100*10*85=85,000 data elements. The total database of the *Mediamonitor* project contains 97 indicators in the "Technology" group, 122 indicators in the "Economy" group, 84 indicators in the "Demography"

group, 137 indicators in the "Culture and Institutions" group, 42 indicators in the "Human Capital" group and 87 indicators in the "Media" group.

The data sources were both open and proprietary databases. In particular, the database for the sets of variables describing the groups "Technology", "Economy", "Demographics" and "Culture and Institutions" is based on indicators collected by Rosstat. More data sources describing the media communication industry were used. Among the sources from which primary data were collected are not only the databases of the Federal State Statistics Service, but also other open and proprietary databases created and maintained by organizations such as:

- Book Chamber of the Russian Federation;
- Association of Communication Agencies of Russia;
- Federal Service for Supervision of Communications, Information Technologies and Mass Media (Roskomnadzor);
- Mediascope JSC (proprietary databases TV Index and Radio Index);
- Medialogiya LLC (open data on Russian media ratings).

A comprehensive qualitative and statistical analysis of the system of observed indicators is intended to form the basis of a "digital twin" of the domestic media communication industry and a model of its interrelations with other spheres and sectors of the national economy, ideologically and methodologically going back to the macroeconomic works mentioned in the previous section. On the "macroeconomic" side, GDP plays a key role in such analyses as the main macroeconomic indicator of the national level. When it comes to analyzing media consumption and telecommunications infrastructure, average annual income is also an important macroeconomic indicator.

Results

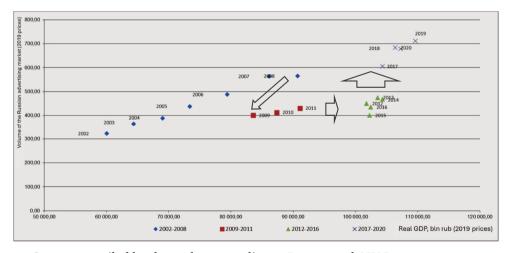
Dynamics of macro-indicators of the national economy and MCI of Russia in 2000-2020: Results and interpretation

According to several studies, the Russian economy in the years corresponding to the period under study experienced at least two shocks – in 2008-2009 and 2014-2015, which led to a situation of a change in the mode of functioning of its system and qualitative changes in the dynamics of its development (Vartanov, 2015). Both shocks were exogenous, external to the Russian economy: the first of them was provoked by the international financial crisis of 2008, the second – by the global geopolitical situation (the key role in it was played by anti-Russian sanctions and countersanctions of the Russian Federation). We should probably expect a similar picture in 2020-2022 due to a qualitative change in the conditions

of economic functioning due to the coronavirus pandemic, a new round of sanctions pressure and geopolitical instability, but at the time of creation of this article complete and reliable data for these years were not yet available.

Economists divide the period under study (2000-2020) into three periods (separated by crises and shocks), during which the dynamics of the Russian economy was unchanged from a qualitative point of view: the first one lasted just until 2008; the next stationary period - from early 2009 to mid-2014. Finally, the third period, which began in 2014, lasted until 2020. This period is characterized by the most difficult exogenous environment in which the Russian economy functioned, both from the economic (falling commodity prices, capital outflow from many emerging markets, lower growth rates of previously highgrowth economies, for example China) and geopolitical (conflict in Ukraine, reunification with Crimea, war in Syria, anti-Russian economic sanctions, and retaliatory countersanctions) points of view (Balashova, 2019; Mau, 2016; Nureev, & Petrakov, 2016). The qualitative difference between these periods, and hence the importance of 2009 and 2014 as key regime switch points, is so significant that econometric trend models for the main macroeconomic indicators are built separately for them. Within the framework of this approach, it is possible to study the qualitative features of the dynamics of some key macroeconomic indicators of the Russian media communication industry in the context of the general economic situation in Russia.

Figure 1
Total advertising market volume and real GDP in 2019 prices

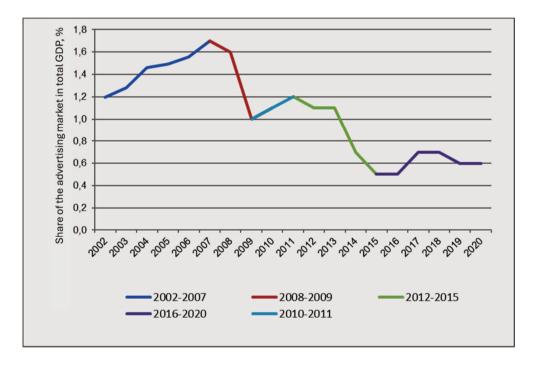


Source: compiled by the author according to Rosstat and AKAR

The first macro indicator analyzed in the media communication industry is the total volume of the advertising market. For many companies in the media communication industry, the sale of advertising inventory forms the basis of their business model, being a key revenue item (Vartanova (ed.), 2020). As it was shown earlier, the advertising industry is one of the most significant structural elements of the media communication industry as a sector of the economy. Vartanov (2020, 2021, 2022) also analyzed the close inter-sectoral ties that connect advertising with other sectors of the economy. These links become channels for the propagation of economic shocks from advertisers to participants in the media communication industry - from advertising intermediaries and media dealers to the media themselves (Vartanov, 2015). Moreover, since the advertising industry can be considered a fairly accurate representation of the entire media communication industry, as well as some of its elements and their connections, the state of the media communication industry can be assessed with sufficient accuracy by examining the state of the advertising market.

The scatter diagram for the variables representing the annual values of real GDP and advertising market volume (in 2019 prices) during 2002-2020 is shown in Figure 1. The set of points representing observations for these years visually breaks down into four clusters (groups of observations in consecutive years). The first cluster includes observations from 2002 to 2008, while the second cluster includes observations from 2009 to 2011. The third includes data from 2012 to 2016, and the fourth includes 2017 and later years. The selected system of clusters divided the entire period of observations into intervals during which the market dynamics had a relatively stable character. During this period (from 2002 to 2008), the advertising market volume and GDP were almost linearly related. At the end of the first period, in 2008, the advertising market growth almost stopped – against the background of continuing growth of the gross domestic product. The shock caused by the global financial crisis affected the inter-sectoral relations of advertising only quantitatively: the dependence of the advertising market volume and GDP retained a linear form and almost the same slope coefficient, having shifted below by "parallel transfer". It is possible to characterize this period (2009-2011) as connected with the search and formation of a new mode of functioning. "Linear" dynamics ended after 2012; until 2016 the market in the context of GDP functioned quite stably, not showing tangible dynamism. A sharp change in the mode of functioning occurred in 2016, and from 2017 it again entered the stationary trajectory. Most likely, the end of the previous period was associated with such significant events in the history of the Russian advertising market as the formation of the National Advertising Alliance (NAA) on the basis of the former Vi Group (formerly Video International) with the participation of four of Russia's largest media holdings (Gazprom-Media, Channel One, National Media Group, and VGTRK), which became a near-monopoly seller of TV advertising. By 2020, its share was estimated at approximately 95% of the total TV advertising market (see Boletskaya, 2019).

Figure 2
Percentage contribution of the advertising market to the Russian economy from 2000 to 2020



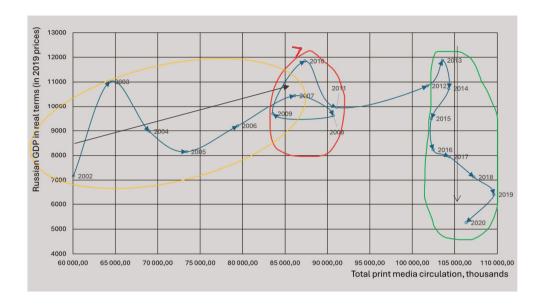
Source: compiled by the author according to Rosstat and AKAR.

Figure 2 illustrates the dynamics of the advertising sector's contribution to the total GDP. The time intervals identified earlier for other elements of the media communication industry with the same character of market dynamics are also found here. Indeed, in the first eight years (from 2000 to 2007 inclusive) the advertising industry was steadily increasing its contribution to the gross domestic product. The financial crisis of 2008, due to the increased

vulnerability of the advertising industry to external economic shocks, provoked a sharp drop in its share in the Russian GDP. However, this drop was followed by a correction and four relatively "calm" years (advertising's contribution to the Russian economy did not experience sharp fluctuations and amounted to 1-1.2%). In 2014-2016, the share of the advertising market in total GDP fell significantly again, with the general contraction of the domestic economy serving as a backdrop. In many respects, this confirmed Picard's hypothesis, formulated by him in 2001 for Western economies and mentioned in Section 2.1: during recessions, advertising expenditure declines much more strongly than the economy (Picard, 2001). After 2016, the advertising industry stabilized and reached a roughly stationary level of 0.6-0.7 % of annual GDP.

The state of traditional media is described by other indicators, such as annual print media circulation. When assessing these, a significant methodological problem is the absence of a continuously operating unified circulation audit service in Russia. Circulation data are provided by several state institutions and authorities: the Book Chamber of the Russian Federation, Rosstat, Roskomnadzor, and from 2004 to 2020 the Federal Agency for Press and Mass Communications (abolished in 2020) conducted the relevant monitoring. On the other hand, even the data collected from all available sources are either incomplete or in some cases contradict each other due to different methodologies of their collection. In addition, the circulation figures declared by publishers may be deliberately overestimated or underestimated by them. Nevertheless, there are no other data on print press and book publishing circulations, and the scale of potential distortions by individual industry players in relation to total print media circulations is insufficient to meaningfully distort long-term trends in the industry.

Figure 3
Russian GDP in real terms (in 2019 prices)
and print media circulation in 2002-2020



Source: compiled by the author according to the Russian Book Chamber, FAPMC RF and the Ministry of Digital Development, Communications and Mass Media, Roskomnadzor, Rosstat and AKAR.

The ratio of print media volume to real GDP during 2002-2020 is illustrated in *Figure 3*. From the point of view of print media, the entire period of observation falls into three stages with the expected periodization. The turning points that transformed the dynamics of print media development in Russia were 2008 and 2013. The first years of the noughties were characterized by simultaneous growth in both print media circulation and the economy, but already in 2003 fewer newspapers and magazines were printed than the year before. For three years in a row – from 2004 to 2006 – GDP showed stable growth, but the total volume of Russian print media became smaller (see *Figure 3*). In 2005, the dynamics changed to an "upward" trend: both the economy and print media circulation grew, forming an almost linear dependence, until the trend reversed in 2008. In that year there were 11% fewer newspapers and magazines than in the previous year. In 2009, the decline in GDP was 7.8 per cent, but in contrast, the volume of print media was virtually unchanged from 2008. By 2011, both indicators had returned to 2008 levels, and then a steady, economic-independent decline in circulation began, which continues to this day.

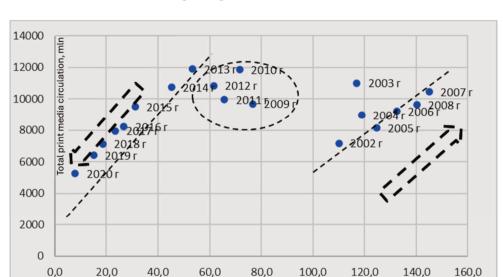


Figure 4
Print media advertising budgets and their total annual circulations

Source: compiled by the author according to the Russian Book Chamber, Federal Agency for Press and Mass Communications of the Russian Federation and the Ministry of Digital Development, Communications and Mass Media, Roskomnadzor, Rosstat and AKAR.

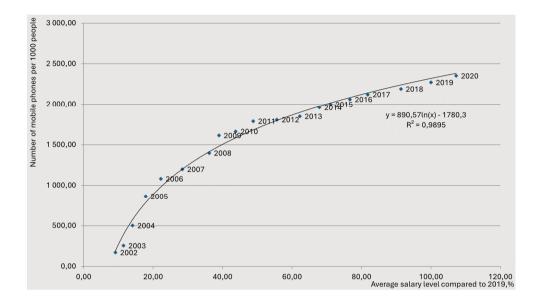
Volume of the advertising market in the print media segment, billions of rubles (2019 prices)

The analysis of the relationship between the aggregate advertising budgets of print media and their circulation reveals a similar picture (three characteristic periods: 2002-2008, 2009-2011 and 2013-2020). It is quite indicative that the interrelation of the studied indicators in the "extreme" periods – 2002-2008 and 2013-2020 – was close to linear with approximately the same absolute value of the coefficient. At the same time, in terms of dynamics they turned out to be "multidirectional" (see *Figure 4*). As in the previous case, the advertising industry's increased sensitivity to endogenous crisis situations was also evident in the print media segment.

The status and development of the third component of the media communication industry – digital media – is characterized by such economic indicators as the total volume of the online advertising segment and its share in the total advertising market. Among the infrastructural characteristics of Russian digital media development, the level of mobile telephonization (per

thousand people), as well as quantitative indicators of Runet are of interest, such as the total number of websites in national domain zones (*RU*, RF), etc.

Figure 5 Number of mobile phones per thousand people and average salary level (in % of the 2019 level)

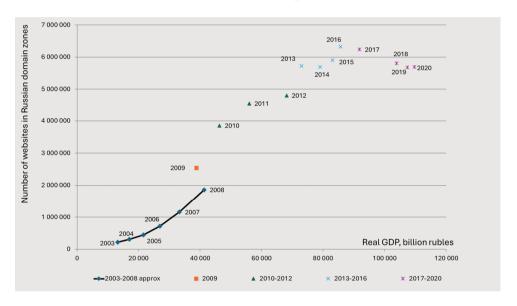


Source: compiled by the author according to Rosstat data

From 2002 to 2020, the level of mobile telephonization in Russia grew steadily (see *Figure 5*), despite external circumstances (more than a hundredfold increase from 22 to 2352 devices per thousand people). The nature of the observed correlation between mobile telephonization (or, more precisely, smartphoneization) of the population and average wages was unchanged and was not affected by any of the economic crisis shocks. The highest value of the indicator R^2 characterising the quality of approximation has a logarithmic trend line, and such a form is largely consistent with the qualitative features of the observed relationship. The logarithmic function is concave, i.e. it is characterised by growth deceleration. The same is true for the smartphone-related behaviour of Russian citizens: the higher the average salary level, the more its increase by the same constant value led to a smaller and smaller increase in the number of mobile phones. This can be explained by the gradual saturation of the market

with smartphones: people have practically satisfied their needs in them, and in the future there will be a renewal of the fleet of phones, while the process of its increase is likely to slow down.

 $\begin{tabular}{ll} \it Figure~6 \\ \it Number~of~websites~in~Russian~domain~zones~(.ru/.rf)~and \\ \it real~GDP~in~2019~prices \\ \end{tabular}$

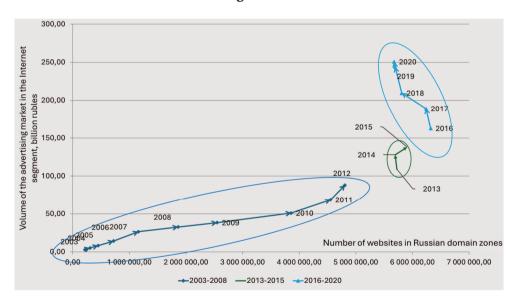


Source: compiled by the author according to the materials of Rosstat

The number of sites in Russian domain zones has been monitored since 2003, and until 2009 only the .RU domain zone was considered, but since 2010 the indicator began to consider the .RF domain zone as well. In the last 20 years the size of the Russian economy has related to the number of sites in a predominantly increasing dependence (see Figure 6). Based on the peculiarities of this dependence, the entire period under analysis can be divided into three shorter periods with relatively homogeneous dynamics. The first period lasted from 2003 to 2008, with the change of the relationship character in 2008, but it was provoked by general economic reasons rather than intra-industrial ones, because the number of sites did not stop growing during these years. The beginning of registration of sites in the .RF zone in 2010, in turn, contributed to a sharp and noticeable increase in the overall size of Runet. In 2009-2013, the growth rate of the number of sites in relation to GDP fell, nevertheless surpassing

the 2003-2008 trends extrapolated for these years (see *Figure 6*). A qualitative change in the relationship between the parameters in question occurred already in 2014-2016, growing for two consecutive years until 2016, after which it began to decline – with the economy growing unchanged. After that, starting from 2017, the dependence between the two indicators under consideration had an exceptionally monotonous character: the number of sites slowly decreased, while GDP increased. We can call this period a period of intensification: while the formal characteristics of the number of elements of the digital part of the media communication industry were decreasing, its role in the economy was becoming more and more significant, changing qualitatively. This is also evidenced by the joint scatter diagrams of the next two indicators under consideration – the volume of the advertising market in the online segment and the number of sites in the *.RU* and *.RF* zones (see *Figure 5*).

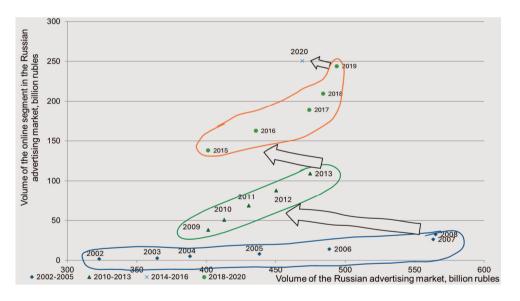
Figure 7
Number of websites in Russian domain zones (.ru/.rf) and online
advertising market volume



Source: compiled by the author according to Rosstat and AKAR

Similar in their periodization characteristic intervals of dynamics are highlighted in the analysis of the relationship between the volume of the online advertising market and the number of characteristics of Runet as a whole. For the first time, the relationship between the online advertising market volume and the number of sites changed qualitatively in 2013-2015 (see *Figure 7*). Until 2013, the rule "More sites – more investment in online advertising" was true, and during this period the market dynamics was non-monotonic and quite volatile. At the same time, since 2017, the studied indicators have switched to multidirectional dynamics: the number of sites broke the continuous growth, which it was characterized by in previous years, but the total volume of the advertising market began to recover and grow. This once again confirmed the transition to intensification and increased efficiency of advertising investments in the already existing online infrastructure, instead of the extensive development that prevailed earlier.

Figure 8 Volume of the advertising market as a whole and its online segment



Source: compiled by the author according to Rosstat and AKAR

The dynamics of the online segment's contribution to the overall indicators of the Russian advertising market is also divided into three periods, the boundaries of which are defined by the same years of "mode switching" as the boundaries of similar characteristic periods of dynamics of other indicators of the media communication industry development. Before the 2008 crisis, both the advertising market and the online segment's contribution to it were growing.

The "crisis" year of 2008 was marked by a noticeable decline in the advertising market, but the share of online advertising continued to grow that year, and from 2009 to 2013 both indicators grew (see *Figure 8*). In 2014, the online segment's contribution to the total volume of the Russian advertising market still showed slight growth despite the market decline. This process continued in 2015, after which the market dynamics reversed, until in 2020, the pair "advertising market volume – online advertising volume" showed a jump similar in direction to the jump in 2014.

Thus, the online segment of the domestic media communication industry developed quite steadily during 2000-2020, unlike other segments of the media communication industry and the economy. Nevertheless, it was not able to "dodge" the catastrophic external shocks for the whole economy. On the one hand, the digital media infrastructure has been steadily improving over the years, as has the growth in the volume of content in the Russian-language segment of the Internet. However, the monetization of the associated new opportunities for the media communication industry still depended entirely on the general situation on the advertising market. The latter, in turn, has reacted very sensitively to exogenous macroeconomic shocks over the past 20 years, and this has had a negative impact on the online segment of the media industry quite quickly.

Summing up, we can conclude that the key years for the media communication industry were the years when the entire economy was experiencing large-scale shocks. Crises, shocks, and other negative events external to the national media communication industry, which transformed the functioning of the financial and real sectors of the Russian economy during these years, had a significant impact on the media communication industry, and in some segments of the industry this impact was even greater than in the national economy. In addition, 2016 was equally significant for advertising, when the structure of the Russian advertising market changed dramatically due to the creation of the National Advertising Alliance, from an oligopolistic to a leader-competitor structure close to an absolute monopoly.

The discovered pairwise interrelationships between macroeconomic indicators of the national and industrial levels can form the basis for the methodology of forecasting the development of the media communication industry. Nevertheless, since the period of 2020-2022 has once again become a turning point not only for the media communication industry, but also for Russian society and the economy, it is premature to make such forecasts, since there is still a lack of statistical data to determine the nature of the new mode

of functioning of the media and communications industry in the context of new socio-economic conditions. Nevertheless, as the analysis in the paragraph has shown, the dynamics and even the qualitative nature of the relationship between certain characteristics of the industry and certain macroeconomic indicators are far from homogeneous. The dynamic features of the relationship between the parameters describing different segments and aspects of the media and communications industry are often not only discordant with each other, but sometimes even contradict each other. The construction of mathematical and statistical models of their mutual influence using both simple regression and more complex econometric methods (time series analysis, factor analysis, etc.) and their application for forecasting the development of the industry is one of the main tasks solved by instrumental methods of data analysis in media research.

Conclusion

The number and heterogeneity of the constituent entities of the domestic media and telecommunications industry determine the need to collect a large amount of heterogeneous data required for a qualitative and quantitative macroeconomic study of the industry's place in the national economy. In addition to standard macroeconomic variables, it is necessary to collect and analyze indicators characterizing the level of media and telecommunications development in the country, the number of which is very large for the reasons mentioned above. These include data on media and telecommunications infrastructure, as well as media economic indicators, such as revenues from advertising, broadcasting and cable television, publishing, film and entertainment markets (and the total media revenues they generate), and indicators of media consumption activity by audiences of all existing types of media and telecommunications products.

In accordance with the authors' media monitoring methodology, the media and communications industry of the Russian Federation was selected, collected, and aggregated in a single database characterizing its indicators for the period from 2000 to 2021. Their qualitative macroeconomic analysis revealed the nonlinear nature of the relationship between industries and segments of the media and communications industry and the national economy in the context of the ongoing processes of digitalization of the economy and comprehensive mediatization of public life, as well as external shocks caused by global economic shocks. Despite the different types, nature, and mechanisms of realization of such dependencies, it

was proved that the media and communications industry is closely connected with the national economy of Russia, as well as the long-term stability of its significant contribution to economic growth during 20 years of observation.

Due to the multisubject nature of the media and communications industry and the long period of observation of its dynamics, the volume and heterogeneity of the indicators describing it make it extremely computationally difficult to analyze the processes and relationships affecting it using raw data.

On the other hand, the results emphasize the importance of economic conditions for the media industry and show that it is a sensitive sector of the economy. Crisis periods such as 2009 and 2014 had a serious impact on the industry and led to changes in its dynamics and structure. Another important result is the statistical relationship between the main macroeconomic indicators and the performance of the media industry. This confirms that changes in Russia's economic sphere affect the media communication industry and can serve as an indicator of its state. The study also found that the nature of the relationship between macroeconomic indicators and MCI indicators changed over time. This indicates not only that the industry is adapting to changing economic conditions and can respond to them, but also that there are changes in the role and place of MCI in the structure of the national economy induced by macroeconomic and technological reasons.

Overall, the results of the study point to the importance of taking Russia's economic situation into account when analyzing and forecasting the development of the media industry. This has practical implications for strategic decision-making in the industry and can help predict the impact of economic changes on the media industry. However, while the media industry is affected by economic factors, it can also have an impact on the economy. For example, the media industry may not only promote tourism and attract foreign investment but affects positively the innovative dynamics of society (Vartanov, 2024). Thus, it can be an important tool for shaping public opinion and influencing political and social processes. Since the relationship between the media industry and macroeconomic indicators can be two-way, to better analyze the impact of macroeconomic situation on the industry, further research could include more sophisticated models and statistical methods. It may also be useful to compare data on the media industry in Russia with data from other countries to identify common patterns and peculiarities. This will help to better understand the factors influencing the development of the media communication industry and to take measures for its sustainable development in the future.

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A study of modelling the antecedent factors of fake news sharing and the moderating effect of SNS dependency

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Abstract

The purpose of the present study is to examine the relationships between behavioral factors and fake news sharing and explore the moderating effect of social networking sites (SNS) dependency on those relationships. For this, the study collected data from 352 social media users in South Korea through a survey method and used hierarchical multiple regression analyses. The results show that the more self-expression, social tie strength, or parasocial interaction participants perceive online, the more favorable fake news sharing they have. Conversely, status-seeking was not significantly associated with fake news sharing in this study. A positive relationship between self-expression and fake news sharing is stronger for participants with high rather than low SNS dependency. However, SNS dependency was found to have no significance on the relationship between other behavioral factors and fake news sharing. This study is believed to be the first to model the behavior of social media users in sharing fake news and authenticating it before sharing it online.

Keywords

Affordance theory, social impact theory, SNS dependency theory, fake news sharing.

Introduction

Fake news, as defined by Mustafaraj and Metaxas (2017) and Ali et al. (2022), refers to deceptive information spread online in a manner that gives the

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impression of being genuine and credible to the audience. Despite its existence in various forms throughout history, fake news has gained unprecedented popularity in recent times, as indicated by recent studies by Dewey (2016) and Miró-Llinares & Aguerri (2023). The interest of scholars in studying it has also increased during the past few years. A large number of the existing fake news studies are conceptual and qualitative (Jin et al., 2016; Mustafaraj, & Metaxas, 2017). For example, Mustafaraj & Metaxas (2017) study the details of the use of anonymous Twitter handles to spread misinformation about an electoral candidate, Martha Coakley, to understand the spread of fake news on social networks. The study reveals that the news was spread through the infiltration of groups of users already conversing online to use them to share misinformation organically across their networks.

A lot of empirical researches about news also exist on the subject of fake news, primarily focusing on analyzing newsfeeds, tweets, and Facebook² posts to comprehend how fake news is disseminated (Jang et al., 2018; Shin et al., 2018; Peterson, 2020). Shin et al. (2018) analyze tweets representing rumors related to politics that were tweeted and shared on Twitter during the 2012 U.S. election. The study reveals that rumor tends to reverberate and resurface many times after the initial publications, whereas factual news does not come up again and again. Jang et al. (2018) analyzed a large number of tweets about both fake and real news related to the 2016 U.S. presidential election from January 1, 2016, to April 30, 2017. The study reveals that Twitter users had generated fake news root tweets, but these tweets included links to dubious news websites. The study also highlights differences between the evolution of real and fake news stories.

Most of the other prior empirical studies are based on text analysis using time series, examination of the root content, writing style analysis of people, analysis of sharing history of the identified fake story, evaluation of the information presented in the form of tweets, comments and articles, and randomized controlled trial of political mobilization messages (Allcott, & Gentzkow, 2017; Bond et al., 2012; Potthast et al., 2017). In a study based on survey data encompassing 12 US states and 8,000 high school and college students, researchers found that most respondents were unable to distinguish between fake and real information (McGrew et al., 2018). There is a gap as far as studies related to behavioral aspects of sharing fake news by social media users are concerned.

Therefore, this study developed a comprehensive model from the perspective of affordance theory, social impact theory, and social networking sites (SNS)

 $^{^{\}rm 2}$ Belongs to Meta company, banned on the territory of the Russian Federation.

dependency theory to understand the predictors of fake news shared on social media. Specifically, status-seeking and self-expression were categorized under the affordance theory. Social impact is defined as any influence on individual feelings, thoughts, or behavior that is created from the real, implied, or imagined presence or actions of others (Latane, 1981). According to Handarkho (2020), the choice to use and share information is generally influenced by one's acceptance of others' views, and this is also based on the quality of the social experience that occurred on the platform.

Especially, Evidence has shown that the emergence of COVID-19 as a global pandemic has brought with it an unprecedented amount of fake news which threatens global well-being (World Health Organization, 2020). It has been remarked that the world is fighting infodemic along with the pandemic. The abundance of imprecise, ambiguous, and inaccurate information during COVID-19 resulted in information overload and accelerated health anxiety and the sharing of incorrect information (Basch et al., 2020; Laato et al., 2020). Therefore, this study will examine social tie strength and parasocial interaction influence on sharing fake information related to COVID-19. The SNS dependency theory focuses on the degree an individual depends on SNS to carry out a daily task (Lee, & Choi, 2017). The theory assumes that the more an individual relies on the SNS platform, the easier it becomes for their conduct and beliefs to be influenced by the 'opinion' of others regarding specific issues (Baran, & Davis, 2009).

Theoretical background and hypothesis development

In 1966, psychologist James Gibson introduced the affordance theory, defining it as the potential actions available to an actor within a specific situation (Schandorf, 2019). For example, a door handle can be used to open a door as well as a clothing stand. Affordances as argued by Gibson (1977) are independent of the actor's ability to recognise them. In response to this view, Norman (1988) reconceptualized the affordance lens to focus on only the actions that an individual realizes to exist. In doing so, affordances were tied to the objectives, values, thoughts, and capabilities of individuals. This study adopted the postulation of technical affordances, which are the opportunities that social media platforms provide individual affordances, the opportunities given to the individual and contextual affordances, the opportunities provided by the context of COVID-19 pandemic.

Concerning technological affordance, it has been shown that social media allows users to read and share news as well as information (Najmul et al., 2020).

Research has also shown that via social media, people promote themselves (Thompson et al., 2019), which falls under the individual affordance. Furthermore, there is evidence to show that the COVID-19 pandemic resulted in a scenario where several news items emerged relating to the virus, policies, recommended health measures, and various others, providing contextual affordances to share, comment, and express oneself (Najmul et al., 2020). From these streams of investigations, the constructs of self-expression (Plume, & Slade, 2018) and status-seeking (Thompson et al., 2019) are likely to be salient in explaining misinformation.

The ability of social media to allow individuals to share news to achieve status within their network is referred to as "status seeking" in this study. Previous research by Thompson et al. (2019) and Drummond et al. (2020) has demonstrated that social media empowers people to share content to gain recognition. It has also been suggested that social media allow people to contribute to their society, which offers them a sense of self-importance and self-status (Ma et al., 2014). The affordance social media provides has encouraged people to use such medium to seek status (Lee et al., 2011). Thus, evidence suggests that the desire for status-seeking is the strongest predictor of news sharing on social media (Najmul et al., 2011). However, when individual reputation is at stake, users will be more mindful of what they share (Talwar et al., 2019). This indicates that status-seeking is associated with building a positive image before others and sharing fake news can damage users' image (Talwar et al., 2019; Simons, & Manoilo, 2021). Najmul et al. (2011) argued that social media users who are moved by the desire to seek status online because of the affordance provided by the medium, would be more cautious not to circulate misinformation, as that may end up ridiculing themselves in the case the news they shared was fake. Thus, this study hypothesized the following:

H1: Status seeking will be negatively associated with fake news sharing.

Research indicates that self-expression values have reached a peak, and social media platforms are increasingly becoming a popular medium for individuals to convey their thoughts and feelings (Orehek, & Human, 2017; Senanu et al., 2023). Self-expression relates to the need for expression of oneself (Plume, & Slade, 2018). In this current study, self-expression involves social media's ability to permit the expression of one's feelings, thoughts, or ideas pertaining to COVID-19. It has been shown that social media enabling self-expression leads to unintentional fake news sharing (Chen et al., 2015). This is consistent with recent research that argued that the affordance of self-expression on social

media encourages people to disseminate false information. Drawing from these pieces of literature, we argue that social media which permits people to freely express their views regarding the COVID-19 pandemic could lead many to share unverified information. This has resulted in millions of tweets and posts on the pandemic which have turned out to be false (Hou et al., 2020). This study thus proposed that:

H2: Self-expression will be positively associated with fake news.

Social impact is defined as any influence on individual feelings, thoughts, or behaviors that are created from the real, implied, or imagined presence or actions of others (Latane', 1981). The theory assists us in comprehending the circumstances where we exert more significant influence within society. Consequently, the social effect will rely on social pressures, the proximity of the event, and the quantity of sources generating that influence (Afshan et al., 2023). According to Handarkho (2020), the choice to use and share information received is generally influenced by one's acceptance of others' views, and this is also based on the quality of the social experience that occurred on the platform. Therefore, we examined social tie strength, parasocial interaction, and perceived herd influence on sharing fake information related to COVID-19.

Tie strength is the level of intensity of the social relationship, or the degree of overlap between two individuals' scope of friendship (Steffes, & Burgee, 2009). It has been proven that information obtained from a strong tie strength source is perceived as more trustworthy (Yu et al., 2018). This study thus contends that the ideas or information relating to COVID-19 shared by individuals that are familiar to the users may cause them to trust the information, without necessarily verifying such information. Consequently, we propose the following hypothesis:

H3: Social tie strength is positively associated with fake news sharing.

Parasocial interaction, as described by Tsai & Men (2017) and Brodie & Ingram (2021), pertains to the extent or likelihood of an individual forming an emotional bond with a person perceived as a mentor or role model. Handarkho (2020) remarked that emotional tie is not only formed among friends and relatives but also among individuals who are admired and respected, such as politicians, public figures, and idolized personalities. In this view, we assume that people would believe any COVID-19 information disseminated on SNS by public figures they hold in high esteem. Drawing from this, this study proposed that:

H4: Parasocial interaction is positively associated with fake news sharing.

The SNS dependency theory focuses on the degree an individual depends on SNS to carry out a daily task (Lee, & Choi, 2018). The theory assumes that the more an individual relies on the SNS platform, the easier it becomes for their conduct and beliefs to be influenced by the 'opinion' of others regarding specific issues (Baran, 2009). Those who consider social media (SNS) as their main information or news outlet believe that the information shared on these platforms is credible and dependable (Huynh, 2020; Chatterjee, & Dsilva, 2021). This study believes that dependency on social media may lead to fake news sharing.

The high level of SNS dependency is likely to cause users to lend more support to the information shared with them by sharing it further on their social networks. Consequently, the association between SNS dependency and fake news-sharing behavior can be anticipated. Therefore, it can be argued that social media users who have a high dependency on the information and news shared on SNS are likely to share fake news with others, and are less likely to authenticate the news before sharing. Furthermore, high SNS dependency can be anticipated to prevent users from authenticating news received from trusted sources since users feel comfortable sharing any news received from trusted sources, even if it seems to be fake. This study suggests that SNS dependency with these characteristics will affect fake news sharing according to the user's temperament. According to the affordance theory, social impact theory, and SNS dependency theory, this study suggests that the behavioral factors of users will increase the sharing of fake news. This relationship will be strengthened by the user's SNS dependency.

This study suggests that users' status seeking will have a positive effect on fake news sharing. Users who value such status seeking will try to gain status seeking through self-satisfaction by further spreading fake news. In this process, SNS is an important medium, and dependency on this medium will further strengthen this process. This study suggests that users' self-expression will have a positive effect on fake news sharing. Users who want such self-expression will try to gain self-expression through recognition from others by further disseminating fake news. In this process, SNS is a very effective medium, and dependency on this medium will further strengthen this process. This study suggests that users' pass-time gratification will have a positive effect on fake news sharing. Users during this social tie strength will try to increase social tie strength through time consumption by further disseminating fake news. In this process, SNS is a very efficient medium, and dependency on this medium will further strengthen this process. It was suggested that users' parasocial

interaction would have a positive effect on fake news sharing. Users who are in the process of parasocial interaction can collect other information by spreading fake news more, so parasocial interaction can be increased. In this process, SNS is a highly optimized medium, and dependency on this medium will further strengthen this process. Therefore, this study proposes:

H5-1: SNS dependency strengthens the influence of status-seeking on fake news sharing.

H5-2: SNS dependency the influence of self-expression on fake news sharing.

H5-3: SNS dependency strengthens the influence of social tie strength on fake news sharing.

H5-4: SNS dependency strengthens the influence of parasocial interaction on fake news sharing.

Methodology

Sample

Survey research is very useful in collecting data from a large number of individuals in a relatively short time and at a better cost. Hence, for the current study, the questionnaire survey was chosen for data collection. This study is based on responses from consumers using social media in South Korea.

This study used and paid a professional survey company for this survey. This survey was conducted from March 1, 2023, to April 30, 2023. A professional survey company sent a survey link through e-mail based on the information they had from the people they had surveyed. The professional survey company gave an electronic gift card to respondents to increase the response rate and reduce the non-response bias.

There can be many reasons why surveys give out electronic gift cards. Common reasons why companies or research organizations provide electronic gift cards when conducting surveys include. Electronic gift cards are one way to motivate participants to participate. Rewards can increase participation rates and ensure the reliability of survey results. Participating in a survey is an activity that requires time and effort from participants, so we encourage participation by providing rewards or incentives. Electronic gift cards make participants more likely to take surveys seriously and respond in detail. This might improve the quality of the data collected. For these reasons, companies and research organizations can provide electronic gift cards to survey participants to effectively manage the survey process and achieve desired results.

Out of 431 responses collected, 352 responses (81.6% of total responses) were usable for analysis. Among the participants, 264 (75.0%) were women and 88

(25.0%) were men. The age distribution of survey respondents is as follows: 125 (35.5%) people in their 10's, 101 (28.7%) people in their 20s, 72 (20.4%) people in their 30s, and 54 (15.3%) people in their 40s. Also, 125 (35.5%) respondents to the survey are in high school, 173 (49.1%) are university graduates, and 154 (43.7%) are graduates of graduate schools. Among respondents, 38.9% had experience of being infected with COVID-19.

Before measure validation and model testing, the responses were analyzed to identify the response set (Rennie, 1982). A response set is a tendency among subjects to respond to questions in a particular way independently of the content of the items (Kerlinger, 1973). No cases of response set were detected. Additionally, two tests of common methods variance were employed. First, Harman's one-factor test of common methods was conducted. An additional test of partial correlation was also conducted (Podsakoff, & Organ, 1986). This procedure stipulates that the first factor from the principal components analysis should be introduced into the partial least squares (PLS) model as a control variable. This is based on the assumption that the first factor is the most likely to approximate common method variance (CMV) (if any bias exists). If the factor produces changes in variance, it is assumed that CMV is present (ibid). There were no significant changes in explained variance. Thus, it appears that common methods bias is not problematic.

Measurement

This study had six constructs: four independent variables, one moderating variable, and one dependent variable, which is fake news sharing. All the items were adapted from prior studies. Status-seeking was adapted from the study of Thompson et al. (2019). For example, "I share content related to COVID-19 because it helps me feel important when sharing." Self-expression was adapted from Plume & Slade (2018). For example, "I share COVID-19 content on social media to show my personality." Social tie strength was adapted from the study of Shim & Altman (2016). For example, "I feel my friends would share true information related to COVID-19 in SNS." Parasocial interaction was adapted from Tsai & Men (2017). For example, "I have no problem using COVID-19 information shared in SNS by someone that I admire and respect." SNS dependency was adapted from recent studies (Lee & Choi, 2017). For example, "I frequently obtain COVID-19 information through SNS." Fake news sharing was adapted from recent studies (Khan & Idris, 2019). For example, "I have shared information related to COVID-19 virus that I later found out as a hoax."

All items were gauged using a 5-point Likert scale in which 1 represents Strongly Disagree, and 5 indicates Strongly Agree. To decrease the vagueness

of the items, we conducted a pilot study with (n = 30) participants before the actual data collection. This study also consulted some experts to validate our items. Based on the outcome, this study obtained from the pilot study and the recommendations from the experts; we reworded some items to increase clarity.

Results

Verification of reliability and validity

The validity of variables was verified through the principal components method and factor analysis with the varimax method. The criteria for determining the number of factors is de ned as a 1.0 eigenvalue. The researchers applied factors for analysis only if the factor loading was greater than 0.5 (factor loading represents the correlation scale between a factor and other variables). The reliability of variables was judged by internal consistency as assessed by Cronbach's alpha. The researchers used surveys and regarded each as one measure only if their Cronbach's alpha values were 0.7 or higher. Four independent variables including status-seeking, self-expression, social tie strength, and parasocial interaction yielded Cronbach's alphas of 0.85, 0.81, 0.82, and 0.89, respectively. Cronbach's alpha for SNS dependency was 0.80. Cronbach's alpha for fake news sharing was 0.84.

Common method bias

As with all self-reported data, there is the potential for the occurrence of common method variance (CMV) (MacKenzie, & Podsakoff, 2012; Podsakoff et al., 2003). To alleviate and assess the magnitude of common method bias, The researcher adopted several procedural and statistical remedies that Podsakoff et al. (2003) suggest. First, during the survey, respondents were guaranteed anonymity and confidentiality to reduce evaluation apprehension. Further, we paid careful attention to the wording of the items and developed the questionnaire carefully to reduce item ambiguity. These procedures would make them less likely to edit their responses to be more socially desirable, acquiescent, and consistent with how they think the researcher wanted them to respond when answering the questionnaire (Podsakoff et al., 2003; Tourangeau, Rips, & Rasinski, 2000). Second, this study conducted Harman's one-factor test on all of the items. A principle components factor analysis revealed that the first factor only explained 34.1 percent of the variance. Thus, no single factor emerged, nor did one factor account for most of the variance. Furthermore, the measurement model was reassessed with the addition of a latent common method variance factor (Podsakoff et al., 2003). All indicator variables in the measurement

model were loaded on this factor. The addition of the common variance factor did not improve the fit over the measurement model without that factor with all indicators remaining significant. These results do suggest that common method variance is not of great concern in this study.

Relationship between variables

Table 1 summarizes the Pearson correlation test results between variables and reports the degree of multi-collinearity between independent variables. The minimum tolerance of 0.827 and the maximum variance inflation factor of 1.209 show that the statistical significance of the data analysis was not compromised by multi-collinearity.

Table 1
Variables' correlation coefficient

	1	2	3	4	5
Status seeking	1				
Self-expression	042	1			
Social tie strength	.021	.101	1		
Parasocial interaction	.101	.021	.011	1	
SNS dependency	.022	.021	.120	.101	1
Fake news sharing	.011**	.061**	.020	.081**	.021*

Hypothesis testing

This research employed hierarchical multiple regression analyses using a three-step approach to examine the proposed hypotheses. In the initial step, demographic variables were taken into account to control for their influence. Subsequently, behavioral factors were introduced in the second step. Finally, to directly investigate the current hypothesis regarding the moderating effect, the multiplicative interaction terms between behavioral factors and SNS dependency were included in the last step. The outcomes of these analyses are presented in *Table 2*. Firstly, concerning the control variables, it was observed that sex and age exhibited a negative correlation with the propensity to share fake news. This implies that women ($\beta = -.021$, p < .01) are more likely to engage in sharing fake news compared to men (as depicted in Model 1 of *Table 2*).

Secondly, when exploring the association between behavioral factors and fake news sharing (as depicted in Model 2 of *Table 2*), all work-related support factors demonstrated statistical significance. Specifically, self-expression

 $(\beta = .048, p < .01)$, social tie strength $(\beta = .018, p < .01)$, and parasocial interaction $(\beta = .029, p < .01)$ displayed positive relationships with fake news sharing. However, the variable of status-seeking did not show any significant correlation. As a result, Hypotheses 2, 3, and 4 were found to be supported.

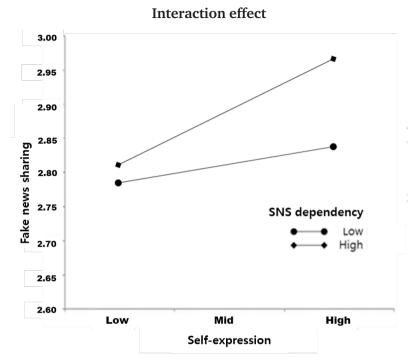
Analysis 1

Table 2

	Fake news sharing		
	Model 1	Model 2	Model 3
		,	
Gender	021*	011*	002*
Age	015*	011*	009*
Educational level	.022	.020	.012
Status seeking		.040	.030
Self-expression		.048**	.041**
Social tie strength		.018**	.012**
Parasocial interaction		.029**	.013**
SNS dependency			.012**
Status seeking * SNS dependency			.060
Self-expression* SNS dependency			.014*
Social tie strength* SNS dependency			.021
Parasocial interaction* SNS dependency			.011
Adj. R²	.108	.157	.178
F	4.805**	9.998**	12.121**

Finally, the third model, which includes moderator variables, examines the connections between behavioral factors and SNS dependency concerning the sharing of fake news. The study reveals that SNS dependency has a favorable influence on the association between self-expression and fake news sharing (β = .011, p < .01). However, no statistically significant relationship is observed between other behavioral factors and fake news sharing when considering SNS dependency. These findings indicate that when individuals exhibit higher levels of SNS dependency, their self-expression plays a more substantial role in their engagement with fake news, aligning with hypothesis H3 (refer to *Figure 1*).

Figure 1



Discussion

The purpose of the present study was to examine the relationships between behavioral factors and fake news sharing and explore the moderating effect of SNS dependency on that relationship. Concerning technological affordance, it has been shown that social media allows users to read and share news as well as information (Najmul et al., 2020). The results show that the more self-expression, social tie strength, or parasocial interaction participants perceive online, the more favorable fake news sharing they have. Conversely, status-seeking was not significantly associated with fake news sharing in this study. It should be noted that our conclusion is based on the analyzed selective constructs. There are other possible attributes of fake news spreading such as ignorance, unawareness, peer pressure, and attention-seeking. Nevertheless, based on the outcomes of this study and the increasing health risk false information proliferation is causing during the outbreak of COVID-19, this study infers there is a need for social media users to confirm the authenticity of the information they come across as well as share on social media. This can be achieved by considering the source of information, reading beyond the headlines, investigating a news article by checking the dates, examining evidence to confirm enough facts and figures, searching other sources, and asking professionals when in doubt.

The positive relationship between self-expression and fake news sharing is stronger for online participants high rather than low in SNS dependency. However, SNS dependency was found to have no significance on the relationship between other behavioral factors and fake news sharing. This study suggests that people with a high level of SNS dependency can have a high level of trust in those participating in social media. Based on this suggestion, this study anticipates that these people can show enhanced participant behavior during the fake newssharing process. Therefore, the results show that the higher the level of SNS dependency, the more favorable fake news-sharing participants have because they think that others will participate in fake news-sharing as they consider online social media as important. The analysis results of this study showed that the higher the SNS dependency, the higher the self-expression increased the fake news sharing. These results are inferred to be because the desire for selfexpression is easily realized online. Since it is non-face-to-face and anonymity is possible online, people can express their opinions freely, and easily become friendly with others. Therefore, people who trust that such exchanges are easy online can consider fake news sharing as an important means of training to increase their desire to socialize.

Research contributions and practical implications

This study sought to investigate the association between different aspects of social media use and fake news-sharing behavior. This study has significant importance since it is believed to be one of the first to model the behavior of social media users in sharing fake news and authenticating it before sharing it online. The study has brought together key constructs that have been identified by the prior studies as important factors shaping social media usage. The important implications of the study for scholars follow. First, the study findings advance the current limited understanding of online fake news-sharing behavior. The findings will enable the scientific community to understand the factors that are positively and negatively associated with fake news-sharing behavior. New knowledge of its dynamics can catalyze the formulation of effective strategies for protecting society and firms from the threat of fake news spread.

Second, the study findings have brought a newer understanding of the association between the dark side of social media use and fake news-sharing behavior. It is important to mention that no known empirical study has

examined such associations in the past. This new knowledge of the association of fake news, and social media use behavior can improve the understanding of marketers and analysts concerning consumer behavior in the era of fake news and social media. The fear of the potentially damaging role of social media in spreading fake news about society and firms is alarming; making the current study findings significant as they provide a foundational knowledge and understanding of the association between the two.

Third, the study has grounded the antecedents and the dependent variables in the existing seminal work, popular theories like affordance theory, social impact theory, and SNS dependency theory. Although prior literature on social media has used some of these theories to explain various aspects of behavior, this is the first known time that these theories are being extended in connection to sharing fake news. By doing so, the study has opened the scope for the application of the proven existing work to the research in the new area of fake news, which is raising concerns across the globe. The fact that most of the hypotheses, grounded in the existing work, are supported provides the basis for taking the exploration of these constructs further. Scholars can extend the conceptual model by exploring more complicated relationships of mediation and moderation to galvanize the research in the area further.

Finally, based on the affordance theory, this study empirically demonstrated that it is easy to spread fake news through social media. Affordance theory defines potential actions that an actor can use in a particular situation. In response, social media platforms offer technological affordances. Because users can read and share news as well as information, fake news can easily spread. In addition, according to personal affordances, users select and promote news that fits their goals and values, or take action to pursue status. In the context of the COVID-19 pandemic, contextual affordances are created, resulting in a variety of relevant news, allowing for contextual sharing, commentary, and expression. This situation influences the spread of fake news concerning self-expression and the pursuit of status. Therefore, these affordance factors can be understood as evidence that increases the possibility of fake news being more easily distributed through social media.

Limitations and future research directions

The current study has two main limitations. First, the study sample was selected from only one country, so generalizing the findings of the study to other geographies or cultural settings is difficult. Second, the study methodology was influenced by the cross-sectional design, which is prone to methodological

biases. Furthermore, in a cross-sectional design, causality is difficult to examine. Also, the low value of R² may be considered to be a limitation of the study, if interpreted in a general context where a value of 0.75 is considered substantial (Hair et al., 2013). However, this is not a limitation, as much lower values of variance explained are acceptable in consumer behavior studies (Hair et al., 2011). The low value of R2 can also be interpreted as an indication of the need to study asymmetrical relations amongst the constructs analyzed by the present study.

This study recommends that scholars should address the above limitations in future investigations. The study setup should be examined and validated by recruiting social media users from other countries. In addition, the dynamic and causal nature of the relationship among these variables should be examined through longitudinal and experimental studies. Further, future research could examine the association of fake news-sharing behavior with other social media use measures. Future research can also focus on uncovering the mediating and moderating effects of the independent variables and cultural differences, respectively, on authenticating news and sharing fake news online. Given the limitation regarding the low value of R², future researchers may study asymmetrical relations among these constructs by performing fuzzy set qualitative analysis (fsQCA) (Ragin, 2008), as applied by many recent studies (e.g., Pappas, 2018; Pappas et al., 2016). Despite its limitations, the study contributes insightful knowledge and provides a better understanding of the association between the dark side of social media use and fake news-sharing behavior.

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South African media's framing of the terrorist insurgency in Mozambique

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Abstract

This paper investigated South African media's framing of the terrorism insurgency in Mozambique. It specifically sought to understand how South Africa's flagship online publications: News24, TimesLive, and IOL, framed the insurgency. Methodologically, the study employed a qualitative content analysis with the framing theory as our theoretical lens. Our findings show that South African media's coverage of terrorist attacks in Mozambique is informed by five prominent frames: the social consequences frame, the morality frame, the economic consequences frame, war against Islam militants frame and the national interest frame. We argue that the use of these frames in the construction of the terrorism attacks in Mozambique limit the South African media's ability to provide a nuanced picture of the complex and multi-faceted nature of the terrorist insurgency in Mozambique. Our findings show that the reliance on official lines tends to influence the manner in which the terrorist attacks in Mozambique are framed by the three South African publications. We also argue that the use of these five frames in the reportage on the terrorist insurgency in Mozambique limit the South African media's ability to provide the South African public and policy makers with a balanced perspective on the insurgency in Mozambique. In conclusion we recommend that future news reportage as well as future studies consider looking at the complexity surrounding the socioeconomic status of the regions experiencing terrorists activities. Such studies and future news stories could be enhanced by looking at multiple stakeholders, including affected communities, to get a broader understanding of the causal effects and possible solutions to terrorism.

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Keywords

Mozambique, conflict, framing, Al Shabaab, terrorism, Peace Journalism

Introduction

The recent emergence of terrorism in Mozambique poses a serious threat to the stability of that country and the entire Southern African Development Community (SADC) region (Makonye, 2020). Geneologically, the terrorist insurgency in Mozambique can be traced back to 5 October 2017, when 20 armed members of the Ansar al-Sunna attacked three police stations (a police command, a natural resources and environment police patrol station, and a police post) in a pre-dawn raid in Moc mboa da Praia, a coastal district in Cabo Delgado Province (Vhumbunu, 2021). The terror group Ansar al-Sunna was formed in 2012 with its emergence appearing to be orchestrated by local social discontentment due to poverty and economic deprivation (Mutasa, & Muchemwa, 2021). The attackers, as Vhumbunu (2021) argues, spoke Portuguese, Kiswahili, and Kimwani, languages largely spoken along the coast of Cabo Delgado Province.

It is now seven years since the first terrorist attack in Mozambique was launched by Islamist militants. Militants have among others used explosives, machetes, and firearms to conduct lethal attacks, including attacks on vehicles. In June 2019, the Islamic State claimed responsibility for an attack for the first time. Most recently, there was a large-scale attack on Palma in March/April 2021, also claimed by the Islamic State, in which dozens of people were killed. This is why some organisations have claimed that the disgruntled militant group in Mozambique has ties with other terrorist groupings. Although the Government of Mozambique continues to make concerted efforts to fight and subdue the terrorist insurgency through its national defense forces, the For as Armadas de Defesa de Mo ambique (FADM), a series of battles with the terrorist militants has resulted in widespread violence, insecurity, the death of over 2 400 people and the displacement of over 500 000 civilians by the end of November 2020. It has also disrupted economic activities, especially farming, thereby worsening food insecurity.

Some of the areas affected by the terrorist insurgency in Mozambique include the districts of Mueda, Nangade, Palma, Mocimboa da Praia, Muidumbe, Meluco, Macomia, Quissanga, and Ibo in Cabo Delgado Province, including the islands off the coast (Human Rights Watch, 2023). The groups behind the terrorism are argued to have links to Islamic extremists (ibid).

South Africa is of interest considering its super power status in the continent and being the biggest economy in the SADC region. The country has consistently ranked in the top three biggest economies in the continent over the past decade (World Population Review, 2023) which comes with political leverage when it comes to mediating conflicts in the sub-region and continent (Butts, & Thomas, 2019). South Africa, a neighbor of Mozambique, plays a bigger role in conflict mediation and taming insurgences in the region and other conflicts internationally. At the time of revising this article, South Africa had deployed its military, the South African National Defense Forces (SANDF), to the Democratic Republic of Congo (DRC), to fight rebels (SABC News, 2024). Mozambique has been under incessant attacks from terrorists dating back to January 2017 (Makonye, 2020)

South African media's framing of the terrorist attacks in Mozambique has fundamentally shaped the way in which the public and policymakers perceive the causes, consequences, importance and possible solutions to the insurgency and by extension where the country's diplomatic and material resources should be committed (Evans, 2010). The frames employed by the media also determine whether the public will identify with one of the sides involved in the insurgency or feel indifferent to the events taking place in Mozambique.

In light of this background, this study expands on existing literature on media framing by examining how South Africa's biggest online publications: *News24, TimesLive*, and *IOL*, have been framing the terrorist insurgency in Mozambique. The paper specifically sought to identify the frames used by the selected South African media to report on the terrorism insurgency in Mozambique and the implications of these frames on the public and policy makers.

Literature review

The social and political context surrounding the terrorist insurgency in Mozambique

The media plays a critical role of constructing and defining political issues and conflicts for its audiences (Nelson et al., 1997; Matsilele, 2013; Chuma et al., 2020; Tshuma et al., 2022). The frames used by the media assist the public and policymakers to make sense of complex conflicts in a coherent manner. The South African media has been at the heart of attempting to construct and define the conflict in Mozambique on behalf of its publics and policy makers since 2017. Terrorism in Mozambique is complex and has taken many shapes and forms over the years (Vhumbunu, 2021). As Vhumbunu (2021) argues, the terrorist insurgency in Mozambique has both religious and inequality dimensions to

it that makes it an interesting case for media framing. With a population of approximately 28 million (INE, 2017), of which 68% live in rural areas and 60% live along the coastline, livelihoods in Mozambique depend, to a large extent, on natural resources such as rain-fed agriculture and fishing. Mozambique is on the southeastern coast of Africa, bordering South Africa, Eswatini, Zimbabwe, Zambia, Malawi, and Tanzania, with an Indian Ocean coastline of 2,700 km. The country is endowed with important natural resources, such as arable land, forestry, water, energy, and mineral resources (Swatuk, 2010).

The country's vast resources include the third-largest reserves of natural gas in the continent, recently discovered in the Royuma river basin, bordering Tanzania, in the northern province of Cabo Delgado (Brownfield, 2016). In addition, three strategic seaports in the cities of Nacala (north), Beira (centre), and Maputo (south), as well as regional transport corridors serving its neighboring landlocked countries offer many opportunities for regional trade and economic growth. Despite having one of the fastest growing economies in Sub-Saharan Africa from 2000-2015, job-creation, poverty reduction, and human capital accumulation were limited, with most of the substantial wealth generated benefiting limited sections of the economy (World Bank, 2022). Poverty remains high, with up to 46.1% of the population living below the poverty datum line. The World Bank's (2023:1) Poverty and Equity Brief noted that "the proportion of the population living below the poverty line, measured by the US\$2.15 per day poverty line (2017 PPP), surged to 74.4 percent in 2019/20, up from 64.6 percent in 2014/15". According to Statista (2022), in 2022, 60% of the population in Mozambique lived in extreme poverty, with the poverty threshold at 1.90 U.S. dollars a day. That corresponded to roughly 20 million people in absolute poverty. By 2025, the extreme poverty rate is projected to decrease to 49%. More recently, as the World Bank (2022: 1) observed "in the period 2020-2021, poverty averaged 64% and is estimated to remain at that level in 2022. This macro environment of Mozambique is a mirror of challenges faced by residents of the province of Cabo Delgado. In addition to the aspects mentioned above, which also affected wellbeing, another reason for the stagnation in poverty reduction include also macroeconomic volatility during this period".

According to the report by the Embassy of Sweden in Maputo (2019), Mozambique continues to trail regional peers and the country remains in the lowest category for the Human Development Index (HDI) ranking 180/189 in 2017 – lower than DRC and Sudan – driven by one of the lowest levels of educational attainment in the world, high communicable disease burden and

low GDP/capita. Notwithstanding the reduction in poverty incidence from previous poverty assessments, in absolute terms, the number of poor people in Mozambique has remained relatively unchanged.

Since 2016, Mozambique's economic performance has experienced a sharp reversal, with a slowdown in economic growth, a worsening of the government's fiscal position, and rising debt levels, mainly due to falling global commodity prices, the impact of the El Nino drought, and spiraling debt. More recently, in 2019, Mozambique has been heavily affected by two tropical cyclones, Idai and Kenneth, that resulted in significant loss of life and widespread damage to crops and infrastructure.

A study by the Institute of Security Studies (2022) found that some of the contributing factors to the province of Cabo Delgado's insurgency include the regional inequities, with ethnicity, being a major grievance, discovery and poor governance of natural resources such as rubies and liquefied natural gas, this has often been dubbed the 'resources curse'. Writing on the resource curse, Acemoglu and Robinson (2012) intimated that various factors contribute to this phenomenon, including weak institutions that fail to distribute resources for the benefit of all citizens. The insurgency being experienced in this region has culminated in a lack of economic opportunities, reduced access to skills development, lack of community experience and disruption in information and public services (USAID, 2022).

Conceptualising framing

Our examination of the frames used by the South African media on its reportage of the terrorist insurgency in Mozambique is guided by the concept of framing. Framing was first introduced by sociologist Erving Goffman (1974) who argued that social frameworks provide important background information that helps members of society to understand the world around them. Later research applied Goffman's frame analysis to the media and their role in agenda-setting (see e.g. Cohen, 2002; Entman, 1991, 1993). As Entman (1993) explained, to frame is to select some aspects of perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation for the item described (Entman, 1993: 52). News frames are important in how these events are reported, as they reflect a process of recurring selection and emphasis in communicating perceived reality (Entman, 1993; Gitlin, 1980; Matsilele, & Mpofu, 2022). Frames present a central part of how individuals cognitively comprehend and file events, and as such, are

an important determinant of how a news story is told, especially in times of conflicting accounts and factual uncertainty. Framing presents a meaningful, yet in Entman's (1993) words, fractured paradigm for communication scholars, as it integrates influences from various disciplines. Frames can be in four places in the communication process; within the communicator, the text, the receiver, and the culture itself.

Media framing and public opinion

According to Evans (2010) media frames are manifest in the amount of coverage directed at particular conflicts or terrorist insurgencies and the language employed to describe the actors and events in that conflict. The frames used in reporting shape the public and policymakers perceptions of the conflict or terrorist attacks (Evans, 2010). Consequently, the public and policy makers rely on the media and the frames it employs to form opinions on the causes of the terrorist insurgency or conflict, the actors involved, its significance as well as the most viable solution. Thus, the news items reported to the public and policymakers influence the public and policymakers to understand events from a particular perspective, or frame, advanced by the media. Entman (2004) contends that media framing influences government decision-making by providing certain perspectives about conflict or terrorist insurgencies to policy makers directly and indirectly through public opinion (Entman, 2004).

The media's choices, as to which stories to cover and which facts to include, demand a certain amount of discretion. This process of selection of stories and how to cover them is what is regarded as media framing. Research on framing elucidates the ways in which media reports select and highlight particular elements of an issue in the process of bringing it to the public (Entman 2000). Writing on this, Nelson et al. (1997: 221) posit that "consequently, news reporting entails 'framing', 'the process by which a communication source constructs and defines a social or political issue for its audience". In organizing an article around certain ideas or themes, particular aspects or angles are emphasized and made more 'salient' (Dimitrova et al., 2005). This process help organize concise and coherent news summaries (Nelson et al., 1997; Tshuma, 2023).

The effects of framing have been studied in communications, psychology and political science (Nelson et al., 1997; Druckman, 2001b; Esser, & D'Angelo, 2006; Nelson, & Oxley, 1999; Ruhanya, & Matsilele, 2022). For example, Druckman (2004: 671) studied how 'different, but logically equivalent, words or phrases cause individuals to alter their preferences' on policy issues. Entman's (2004) model illustrates the function of framing in defining the effects of a problem

or condition, identifying its causes, endorsing a remedy and conveying a moral judgement. This work takes a similar approach, analysing the content of media reports of these two conflicts in terms of the events that took place, the actors involved and the moral judgement conveyed.

Problematising inconsistent framing

There are various explanations for the inconsistent framing of different conflicts. As Galtung and Ruge (1965) assert, cultural proximity in the structure of foreign reporting plays an important role. These scholars add that the proximity of the home audience to either of the sides in the conflict affect the portrayal of elites and common people in narratives and quotes. The inverse is true where there is distant inculture. In such cases, Galtung and Ruge (1965: 81) intimate that "the greater the tendency to stereotype and reduce complexity, presenting events and people in 'ideal types'". The case in point regarding the the differences in the Jenin and Nahr al-Bared reporting offer interesting insights. The New York Times correspondents were Americans reporting on a clash between two cultures distant from theirs, and may have had more of a tendency to report in a simple stereotyped way - the weak versus the strong - than the Arab journalists who had much greater proximity to the sides in the fighting in Lebanon. As Galtung and Ruge (1965) and Hess (1996) observed, the American journalists visiting the region in the case of Jenin employed a caricature-like framing of the weaker side as the valiant underdog that was not seen with the Arab journalists in Lebanon. Beyond the issue of cultural proximity, news reporting is also affected by business pressures to bring more sensationalist stories that will attract larger audiences (Philo, & Berry, 2004; Seib, & Fizpatrick, 1997). Hess (1996) and the Reporters Without Borders (2007) observed that reporting is also limited by a myriad of obstacles in various countries, legal, political and physical which prevent or discourage journalists from covering events in particular places. Journalists may also be deterred from covering events in countries where physical conditions, such as lack of communications infrastructure, electricity or transportation, are prevalent (Hess, 1996). While these factors may explain the limited coverage of conflicts in more remote areas of Africa and Asia, they do not explain the difference in the framing of the two conflicts studied in this work.

Media and terrorism

Abraham Miller (1981: 1, emphasis in original) explains that "Terrorism and the media are entwined in an almost inexorable, symbiotic relationship.

Terrorism can write any drama - no matter how horrible - to compel the media's attention. Terrorism, like an ill-mannered enfant terrible, is the media's stepchild, a stepchild which the media, unfortunately, can neither completely ignore nor deny". Media are naturally "drawn to stories that suggest conflict and the potential for what is shocking and sensational" (Tuman, 2010: 196). Since terrorism, by definition, is shocking and sensational, it draws the media's attention. For example, Schaefer (2003: 103) examined local, national, and international coverage of two terrorist attacks - the U.S. embassy bombing in Kenya and Tanzania, and the 9/11 attack in the United States – and found the prevalence of the "local angle" and "domestication" of distant news by both African and American press. More recently, a comparative review of 137 international terrorism news stories covered by media in China and the United States revealed Chinese newspapers' frugal coverage and social value-oriented news framing, contrary to the more prevalent politicized framing in the United States, due to the political distance China maintains with most foreign terrorism events (Zhang et al., 2013).

Methodology

This qualitative case study relied on news articles published in South Africa's three leading online publications: IOL also known as Independent Online², TimesLive, and News244. Qualitative methods can be used to obtain the intricate details about phenomena such as feelings, thought processes, and emotions that are difficult to extract or learn about through more conventional research methods (Matsilele et al., 2021; Matsilele, 2021; Matsilele, & Mututwa, 2021). The researchers collected data from the *Media24* aligned media entity, *News24*, the Arena Holdings (formerly Times Media Group) aligned media, TimesLive, as well as the Independent News and Media 24 aligned, IOL. The three media entities were chosen because of their market dominance and being flagship online platforms for the three biggest media houses in the country: IOL for Independent Media, TimesLive for Arena Holdings, and News24 for Media24 group. These three also hold the highest unique online views. The Witwatersrand's State of the Newsroom Report (2022) observed that as of the end of 2021, News24 led with just above 12 million views, IOL being second at 5.7 million unique views and followed on third by at TimesLive at 4.9 million unique views. This paper deployed a qualitative content analysis design to identify how the selected

² www.iol.co.za

³ www.timeslive.co.za

⁴ www.news24.com

media outlets covered the ongoing terrorism and insurgency activities that have engulfed the southern African nation. We use the framing theory to make meaning of the coverage.

The articles selected for this study were featured between April and August 2021. The researchers identified 17 articles published by *TimesLive*, 18 articles from the *IOL*, and 11 from *News24*. The study purposively selected stories that focused on the terrorist attacks in Mozambique. The period selected was chosen considering that it includes a high concentration of events such as major disruptions in mining operations, killings of a number of civilians, interventions by foreign troops, Southern Africa Development Community (SADC) summits conducted to try and resolve the crisis, and finally, the recapture of regions that had fallen into the hands of insurgents.

After identifying the 46 news articles for analysis using purposive sampling, the researchers employed qualitative content analysis to search out for the frames and themes in the news stories as advised by Bryman (2004); Makwambeni (2013); Makwambeni, & Sibiya (2022). The object of qualitative content analysis in the study were the news articles. The research method assisted the researchers to interpret and put the news stories into categories or frames. The study employed a summative and inductive qualitative content analysis. First we selected the unit of analysis for the study which included the 46 news stories that focused on the terrorist attacks in Mozambique during the study period. We first read through each article, openly coding texts. This process involved writing notes and headings in the news stories while reading them. We read each story several times making as many headings as possible describing all aspects of the news stories. We then collated the headings from the news stories onto the coding sheets while freely generating categories at this stage.

The researchers then proceeded to formulate preliminary codes. The emergent codes were then revised leading to the development of categories or news frames. We created categories or news frames in order to provide a means of describing the news stories. As advised by Dey (1993), we arrived at the categories in terms of what to put in the same news frames through interpretation. Each category or news frame was named using content-characteristic words. Unltimately, the frames that emerged were then coded (see *Tables 1* and *2* below). The themes and frames identified through qualitative content analysis were further related back to the literature reviw and the theoretical framework of the study as advised by Matsilele (2013) and Makwambeni (2018).

Results and discussion

This section of the study presents and discusses the findings of the study. It begins by presenting the five frame themes that emerged from the coding process and the meanings of each frame. It proceeds to present frame themes and their occurrence in the news stories analysed before discussing in depth how the frames are employed by the three South African publications: *IOL*, *News24*, and *Times Live* to mediate the conflict in Mozambique.

Table 1

Frame themes and their meaning

Frame themes	Meaning
Social consequence frame	The frame gives prominence to the vicious nature of the Islamic militants. It provides graphic details on how the terrorist insurgency has destabilized society
The morality frame	The frame focuses on explaining the religious and moral context of the terrorist insurgency
The economic consequences frame	The frame gives salience to one aspect of the conflict. It gives prominence to the economic toll that the terrorist activities have on economic development. The frame also foregrounds the economic cost of tackling the terrorist insurgency
War against Islamic militants	The frame consists of two clusters of news articles that frame terrorists or Islamic militants as outliers who are engaged in a senseless conflict. It also focusses on describing the strategies employed to contain the terrorist insurgency
The national interest frame	The frame speaks to the media's interest in providing citizens with unbiased information in order to make rational political choices. It also speaks to how the media performs its watchdog role over the executive

Table 2 Frames and their occurances in news stories analysed

Frame themes	Number of occurance in stories		
Social consequence frame	35		
The morality frame	38		
The economic consequences frame	40		
War against Islamic militants frame	42		
The national interest frame	25		

News frames are critical in providing important background information that helps members of society to understand the world around them (Goffman, 1974). They inform how the media select some aspects of perceived reality and make them more salient than others (Entman, 1993). The findings of the study show that there are five frames that are used by the three South African publications to mediate the conflict in Mozambique. These frames consist of the social consequences frame, the economic consequences frame, the morality frame, the war against Islamic militants frame, and the domestication or national interest frame. The five frames identified in the cluster of stories analysed play a key role in how the South African media set the agenda by framing the causes of the conflict, defining the conflict, possible solutions to the conflict, as well as providing causal interpretation and moral evaluation on the conflict (Entman, 1993). The chapter contends that South African media's coverage of the conflict in Mozambique, which is underpinned by the five frames, focuses more on the theatre of war and falls short of providing a nuanced picture of the multi-faceted nature of the conflict as recommended by the peace journalism approach. Consequently, the five dominant frames limit the South African media's ability to mediate the conflict by accurately identifying what the conflict is about, and who is involved in the conflict. Other questions are related to the underlying causes of the conflict, people affected by the conflict, and more importantly how the conflict should be resolved.

The social consequences frame

Media frames should be understood as strategic uses of descriptions, sources, and alternative perspectives to convey a message to the audience (Gitlin, 1980). The data analysed in the study shows that the social consequences frame guides how the three South African media institutions mediate the conflict in Mozambique. News articles in the social consequence cluster give prominence to the mainly vicious nature of the Islamic militants operating in northern Mozambique. They provide graphic details on how the insurgency has destabilized Mozambican citizens as well as foreign nationals working in Mozambique. As argued by Bennett (1983) and Seib (2002) the media tend to use depictions of horror in testimonies and images to increase the news value and frame stories surrounding the conflict. Consonant with this observation, news articles that employ the social consequences frame to mediate the conflict in Mozambique across the three publications are replete with horrendous acts perpetrated by the Islamic militants. Stories such as "Over 40 South Africans"

affected by Mozambique attacks"⁵ and "Dozens killed in Islamist attacks on Palma – Mozambique government"⁶ which were published by IOL and News24 respectively employ the social consequences frame to show how the Islamist militants have destroyed infrastructure; killed civilians and foreign nationals; and destabilized business in Mozambique. The news articles that employ the social consequences frame depict the Islamic militants as the villains in the Mozambican crisis and are sustained through the media's use of official sources such as the government spokesperson and the military to mediate the Mozambican conflict. This framing of the conflict resonates with Gitlin's (1980) observation that the media tend to overuse officials as sources, emphasize one side of the argument and focus on events as opposed to larger issues when framing issues (conflict).

In the Mozambican conflict, the South African media employs the social consequences frame to depict Islamic militants as outliers engaged in a senseless conflict that has resulted in a humanitarian crisis in northern Mozambique. This coverage of the conflict in Mozambique falls short of meeting the key tenets of peace journalism where journalists are expected to provide varied viewpoints that will help a large section of the citizenry to make informed decisions about a conflict (Hyde-Clarke, 2011). Rather, news articles in the social consequences frame confine themselves to reflecting the deteriorating humanitarian situation in Mozambique through the lenses of officialdom. Stories across the three publications give prominence to how thousands of civilians are stranded and displaced in towns such as Palma after their towns were besieged by jihadists. News articles in this cluster further provide detailed accounts of human rights violations by the Islamic militants. By providing prominence to the transgressions of the Islamic militants, the social consequences frame limits the media from ventilating alternating views on the conflict on the role played by the Mozambican government forces and South African private military company, DAG, in fermenting the conflict and the humanitarian situation in the country. Thus, as observed by Gitlin (1980), the overuse of officials as sources in framing the Mozambican conflict has resulted in a partial representation of the conflict.

The morality frame

News frames play a very important role in understanding conflict (Goffman, 1974). The data analysed in this study shows that the morality frame is one

 $^{^5\} https://www.iol.co.za/news/africa/over-40-south-africans-affected-by-mo-zambique-attacks-sa-high-commission-57f9b183-4f9d-57f9-a583-4c867176c6df$

⁶ https://www.iol.co.za/news/africa/dozens-killed-in-islamist-attacks-on-palma-mozambique-government-e3204667-3c9b-443c-a7aa-acb027f201b7

of the major frames used by the South African media to assist their readers to make sense of the conflict in Mozambique. The morality frame consists of a cluster of stories that identify militants in the Mozambican insurgency as Islamic fundamentalists whose aim is to seek to establish a caliphate. By constantly referring to the militants as jihadists, the three publications consistently project the activities of the insurgents as expressions of the Islamic faith. The morality frame which is widely used by the global media to report on global terrorism is used by the three publications to explain the religious and moral context of the activities of the militants in the Cabo Delgado province of Mozambique. De Vreese (2005), contends that the morality frame interprets an event or issue, in this case, the conflict in Mozambique, in the context of religious or moral prescriptions. It fundamentally plays a role in the creation of us and them in a conflict situation (Shinar, 2002). By doing so, traditional journalism inadvertently perpetuates violent conflict instead of encouraging peace (Bratic, Ross, & Kang-Graham, 2008).

The morality frame consists of news articles that project the militants as people who subscribe to radical views and have contempt for 'civilized' life and values and campaign to spread extremist Islamist ideas across Mozambique through violence (Ette, 2016). Stories in this frame link the militants to radical extremist Islamic groups. The news articles, "Adrian was a hero of Mozambique attacks", and "Dozens killed in Islamist attacks on Palma" are examples of news articles that employ the morality frame by linking the militants to Al-Shabab and the Islamic State. The three publications' framing of the militant attacks in Northern Mozambique deploy the same hegemonic frames used by global media to mediate conflict in countries such as Syria, Iraq, and Afghanistan. In this light, the labeling of the militants in the Mozambican conflict is part of newspaper framing that categorizes people involved in the news into either good or bad. This practice indirectly apportions blame on one group and relatively exonerates the other (Galtung, 1998). The narrow use of the morality frame in the coverage of the conflict in Mozambique does not assist the media in explaining and capturing the magnitude of the conflict. As argued by Kothari (2010), the coverage and framing of conflicts in Africa, such as the one in Darfur, needs to engage with the underlying causes of conflict.

⁷ https://www.iol.co.za/ios/news/adrian-was-a-hero-of-mozambique-attacks-e8e39fb1-9929-4ecf-be9a-1555e2d323f1

https://www.iol.co.za/news/africa/dozens-killed-in-islamist-attacks-on-pal-ma-mozambique-government-e3204667-3c9b-443c-a7aa-acb027f201b7

The economic consequences frame

The media industry in South Africa has always been part of an elite consensus that subscribes to the principles of liberal democracy, and neoliberal economics (Wasserman, & De Beer, 2005). This nexus between the media and capital is reflected in how the IOL, TimesLive, and News24 mediate the conflict in Mozambique using the economic consequences frame. The economic consequences frame is employed by South African journalists to give salience to one aspect of the conflict. An analysis of news stories in the economic consequences frame reflects two dominant strands. One variant of stories in the economic consequences frame gives prominence to the economic toll that the activities of the Islamic militants have had on the oil and gas industry as well as economic development in Mozambique. The other variant of stories in the economic consequences frame foregrounds the colossal economic cost of tackling the insurgency in Mozambique by SADC countries and other allies assisting in curbing the conflict. However, the stories analysed in this frame show that the economic consequences frame is shaped by both the media's predilection to view reality through neo-liberal economic lenses (Wasserman, & De Beer, 2005) as well as the tendency to quote officialdom and political actors as news sources. Consequently, news articles premised on the economic consequences put emphasis on the economic damage suffered from the insurgency which has impacted the flow of investment in oil and gas production. The consequence of this economic frame is that it trivializes alternative perspectives on the multifaceted consequences of the Mozambican insurgency on the country (see Gitlin, 1980).

The story by *IOL* entitled "Adrian was a hero of Mozambique attacks" metonymically represents the cluster of stories that constitute the economic consequences frame. News articles in this cluster give prominence to the economic cost of the Mozambican conflict on big business, especially French oil giant Total 'which has invested \$20 billion (16.9 billion euros) in the Mozambican project'. News articles in this frame give salience to how the insurgency has disrupted the operations of international firms like ExxonMobil that have invested in the gas project. The framing of the articles reinforces the dominant view in the political economy approach to the study of the media that media are first and foremost businesses and therefore tend to see reality through the lenses of capital. This position is reinforced through stories such as "Total declares force majeure on

https://www.iol.co.za/ios/news/adrian-was-a-hero-of-mozambique-attacks-e8e39fb1-9929-4ecf-be9a-1555e2d323f1

Mozambique LNG project"¹⁰ which frames the economic consequences of the conflict in Mozambique in blunt economic terms that quantify the impact of the insurgency on the natural gas projects and the Mozambican economy.

Unlike other stories that employ the economic consequences frame, this story provides a graphic and dramatic picture of how the insurgency has set back the development of gas projects near the coastal Mozambique town of Palma that are worth \$60bn (about R856bn). More emphasis is put on how the suspension of the LNG and Afungi projects will hamper further economic development in Mozambique by stalling 'the construction of a two-train liquefaction plant with capacity of 13.12 million tonnes per annum'. In tandem with other frames discussed so far in the chapter, the economic consequences frame and its attendant discourses are also shaped by journalists' unquestioning endorsement of the views espoused by trusted official sources (Philo, & Berry, 2004). Studies by Boykoff and Boykoff (2007) have shown that reliance on existing official sources is a common practice in contexts such as Mozambique where foreign journalists from Anglophone countries face language and access barriers.

The economic consequences frame is also prominent in stories that focus on military interventions by South Africa and other SADC countries involved in the conflict in Mozambique. Stories in this frame focus on the cost of military intervention in the conflict and tend to take on a domestic national and public interest perspective. News articles run by the three South African publications using this frame give prominence to the expenditure associated with South Africa's intervention in the conflict in Mozambique. The stories "Ramaphosa confirms deployment of soldiers to Mozambique - at the cost of nearly R1bn"¹¹ and "McBride suspended after Ramaphosa left red-faced over botched covert operation in Mozambique"¹² are a case in point. They give prominence to the fact that the expenditure to be incurred in the deployment of the SADF in Mozambique will amount to R984 368 057. As argued by Gitlin (1980), media frames tend to trivialise alternative perspectives on issues. In this instance, by focusing on the astronomical cost of South Africa and SADC forces' intervention in Mozambique, the economic consequences frame overlooks other cascading

https://www.news24.com/fin24/companies/total-declares-force-majeure-withdraws-personnel-in-northern-mozambique-over-security-concerns-20210426

https://www.timeslive.co.za/politics/2021-07-28-ramaphosa-confirms-deployment-of-soldiers-to-mozambique-at-the-cost-of-nearly-r1bn/

 $^{^{12}\}$ https://www.news24.com/news24/southafrica/news/mcbride-suspended-after-ramaphosa-left-red-faced-over-botched-covert-operation-in-mozam-bique-20210709

non-economic benefits associated with having a peaceful Mozambique. From a peace journalism perspective, reporting on conflict should be broadened to promote news that favours dualism (Lynch, & McGoldrick, 2005). This dualism is patently absent in the cluster of stories in the economic frame that employs a narrow economic and domestic lens to mediate the conflict in Mozambique. This finding resonates with Schaefer's (2003) observation that local and national coverage of conflict tends to provide a 'local angle' to distant news.

War against Islamic militants

The study's findings further reflect the prevalence of a fourth frame that we dub 'war against Islamic militants' in the coverage of the conflict in Mozambique by the three selected South African publications. The use of this frame clearly shows how the media in South Africa selects some aspects of reality about the conflict in Mozambique and makes them more salient. Consequently, the 'war against Islamic militants' frame tends to promote a problematic problem definition, causal interpretation, moral evaluation, and solutions to the conflict in Mozambique (see Entman, 1993). The frame consists of two clusters of news articles: the first cluster of stories that frame the Islamic militants as outliers who are engaged in a senseless conflict. The second cluster of stories in the 'war against Islamic militants frame' describes the strategies employed by Mozambique and its allies to contain the 'senseless conflict'.

The 'war against Islamic militants frame' provides a narrow causal interpretation of the conflict in Mozambique. By relying on official sources to authenticate the cause of the conflict, stories in this framing project the Islamic militants as outliers with no coherent and unified reasons for engaging in the conflict. Consequently, the reporting of the conflict misses crucial information on the militants' motivations for engaging in terrorist activities. News articles that employ the 'war against Islamic militants do not provide the context on the underlying causes of the conflict. They provide stories that capture the 'senseless' acts and barbarism of the insurgents: how they mindlessly 'attack shops and banks', 'behead residents', and 'ransacking buildings' for no justifiable reasons. The militants are framed as a group of people with no 'unified aim' who are engaged in 'senseless crime' that is having a continual and horrific impact on innocent parties such as children in Cabo Delgado province.

Unlike the peace journalism approach that seeks to provide a balanced narrative informed by both sides involved in the conflict (Adebayo, & Makwambeni, 2019, 2020), the stories analysed in the study reflects ony one side of the conflict that aligns with the government's official position. An

alternative frame and narrative that views the militants as disgruntled locals who legitimately feel marginalised by the government of Mozambique is silenced. This alternative frame also contends that the militants are linked to IS and al-Shabaab as spurious and speculative. It argues that the Cabo Delgado province has been characterised for years by absolute and complete corruption, negligence, and, most recently, brutal oppression by the Mozambican government. According to Lynch and McGoldrick (2005), news stories that belong to the 'war against Islamic militants' fuel violence by overtly favoring official sources; favoring dualism in reporting conflict; trivializing actions of opposition groups; focusing on events instead of larger issues; and emphasizing one side of the argument.

Entman (1993) posits that news frames tend to promote solutions to problems. The news articles analysed under the 'war against Islamic militants frame' give prominence to strategies and solutions for containing and resolving the conflict in Mozambique. Unlike the peace journalism approach that promotes nonviolent ways of resolving conflict (Adebayo, & Makwambeni, 2019, 2020), news articles in this frame, across the three publications, are unified in advocating for military intervention as the solution to the conflict in Mozambique. Evidence of this frame is found in the following news articles: "More SADC inaction on Mozambique terror attacks disappointing" 13, "SADC postpones Troika summit on terrorism in Mozambique"14, "Ramaphosa joins SADC leaders to consider response to ongoing terrorism in Mozambique"¹⁵, "Southern African bloc to send troops to insurgency-hit Mozambique"16. The stories frame the insurgency as a regional threat that needs a concerted regional military response. Thus, stories in this cluster celebrate any developments that further violent military interventions and military success against the Islamic militants. This framing of news goes against the key tenets of peace journalism (Adebayo, & Makwambeni, 2019).

News stories that give prominence to the military intervention in Mozambique in the South African media include *Botswana sends soldiers to Mozambique to*

 $^{^{13}\,}$ https://www.timeslive.co.za/news/africa/2021-05-27-more-sadc-inaction-on-mozambique-terror-attacks-disappointing/

https://www.timeslive.co.za/politics/2021-04-28-sadc-postpones-troika-summit-on-terrorism-in-mozambique/

https://www.timeslive.co.za/politics/2021-06-23-ramaphosa-joins-sadcleaders-to-consider-response-to-ongoing-terrorism-in-mozambique/

https://www.news24.com/news24/southafrica/news/cabo-delgado-insurgency-southern-african-leaders-moot-fixed-deployment-of-troops-20220512

fight terrorism by IOL, "Rwanda deploys 1 000 troops to Mozambique" by News24 and "Rwanda says it has killed 14 insurgents in Mozambique" by News24. The news stories within the 'war against Islamic militants frame' depict the military intervention as a resounding success. They rely largely on official sources such as the Rwandan military spokesperson to validate their claims. What is notably absent from the media reportage of the conflict in Mozambique is a balanced coverage that gives voice to alternative sources that question the efficacy of a military approach in delivering a sustainable solution to the insurgency in Cabo Delgado which is arguably driven by local discontent.

The national interest frame

Running concurrently with the other frames used by the South African media to mediate the conflict in Mozambique is the national or public interest frame. Wasserman and De Beer (2005) posit that this frame speaks to the media's interest in providing citizens with unbiased information in order to make rational political choices. It also speaks to how the media performs its watchdog role over the executive. The cluster of stories in the 'national interest frame' mediates the Mozambican conflict from a South African national interest perspective. This form of reportage corresponds with Schaefer's observation that (2003) local coverage of the conflict in other countries tends to become 'domesticated'. There is a cluster of stories across the three publications that reflect 'domesticated' reporting. News articles like "Body of South African man killed in Mozambique attacks repatriated" ²⁰ and "Over 40 South Africans affected by Mozambique attacks" give prominence to developments that affect South African citizens who are caught up in the Mozambican conflict. The news articles provide coverage on local casualties of attacks, missing and distressed citizens, evacuation of South African citizens, and repatriation of South Africans who are caught in the conflict among other issues. News stories in this cluster focus on the impact of the Mozambican conflict on South African citizens. News articles in this frame also seek to keep the South

https://www.iol.co.za/news/africa/botswana-sends-soldiers-to-mozam-bique-to-fight-terrorism-73707ddc-c790-5c5a-8d08-7ce247d0e71c

https://www.news24.com/news24/africa/news/rwanda-deploys-1-000-troops-to-northern-mozambique-20210709

https://www.news24.com/news24/africa/news/rwanda-says-it-has-killed-14-insurgents-in-mozambique-20210729

https://www.iol.co.za/news/africa/body-of-south-african-man-killed-in-mozambique-attacks-repatriated-5294b8b7-dc85-56f9-aee7-2d547c8cc142

https://www.iol.co.za/news/africa/over-40-south-africans-affected-by-mozambique-attacks-sa-high-commission-57f9b183-4f9d-57f9-a583-4c867176c6df

African government accountable by ensuring that the Department of International Relations and Cooperation (DIRCO) provides assistance to South African citizens who are caught up in the conflict.

Notably, the second cluster of stories that fall under the national interest frame seeks to provide regular information on issues such as the regularization and authorization of the military intervention by parliament, updates on the number of troops deployed to the regional mission to combat the conflict, and the cost of the deployment to South African taxpayers. Consonant with the national interest frame, stories in this frame can be viewed as seeking to maintain the South African government's accountability to its citizens. Stories such as "Ramaphosa confirms deployment of soldiers to Mozambique – at the cost of nearly R bn" and "McBride suspended after Ramaphosa left red-faced over botched covert operation" in Mozambique fall into the national interest frame. The above stories provide citizens with factual information on the deployment of South African soldiers deployed to Mozambique as well as the cost of this deployment to the South Africans. They further reflect the media's watchdog role in ensuring that the South African government complies with the constitution in so far as the deployment of the military in a foreign country is concerned.

Implication of media frames on the public and policy makers

Media frames play a critical role in structuring the public and policymakers' perception of reality (see Evans, 2010). In the case of the Mozambican conflict, media reports are more often the only reference the public has to the terrorist insurgency. Thus, the five frames identified in the study arguably shape how the South African public and policymakers perceive the terrorist attacks in Mozambique. We argued in this paper that the five traditional frames used by the South African media in their reportage on the terrorist attacks in Mozambique promote a partisan and partial perspective of the complex and multi-faceted terrorist attacks in Mozambique. The frames employed engender a limited on the public and among policy makers on what the terrorist insurgency is about, and who is involved in the insurgency. Other questions are related to the underlying causes of the terrorist insurgency, people affected by the terrorist insurgency, and more importantly how the insurgency should be resolved.

https://www.timeslive.co.za/politics/2021-07-28-ramaphosa-confirms-deployment-of-soldiers-to-mozambique-at-the-cost-of-nearly-r1bn/

https://www.news24.com/news24/southafrica/news/mcbride-suspended-after-ramaphosa-left-red-faced-over-botched-covert-operation-in-mozam-bique-20210709

The use of the social consequence frame promotes the official side of the Mozambican government by foregrounding the horrendous acts perpetrated by the Islamic militants while casting a blind eye on the underlying issues informing the insurgency. As a result, the public and policy makers are not provided with varied viewpoints on the underlying causes of the terrorist insurgency (see Hyde-Clarke, 2011). Rather, news articles in the social consequences frame limit the media from airing alternating views on the conflict on the role played by the Mozambican government forces, and other role players like the South African private military company, DAG, in fermenting the conflict and the humanitarian situation in the country. Similarly, the use of the morality frame to mediate the terrorist insurgency in Mozambique shapes public opinion by influencing the South African public and policymakers to apportion blame on the terrorist insurgency on one group while exonerating the Mozambican government and other stakeholders (see Galtung, 1998). The morality frame results in the 'othering' of the Islamic militants while depriving the public and policy makers of critical information on the magnitude and complexity of the terrorist attacks in Mozambique

As argued by Gitlin (1980) the implications of the economic consequences frame on the South Africa public and policy makers is that it trivializes alternative perspectives on the multi-faceted consequences of the terrorist attacks in Mozambique by giving salience to one aspect of the conflict. The fixation with economic consequences leads the public and policy makers to perceive the conflict through a narrow economic lens. On the other hand, the war against Islamic militants frame shapes public opinion in South Africa by advancing a narrow problem definition, causal interpretation, moral evaluation, and possible solutions to the terrorist insurgency in Mozambique (see Entman, 1993). The frame presents a narrow perspective of Islamic militants as outliers with no coherent and unified reasons for engaging in the terrorist attacks. Consequently, the reporting deprives the public and policy makers with a crucial perspective on the militants' motivations for engaging in terrorist activities. As a result of this frame, the media does not provide the context on the underlying causes of the conflict. The public are not provided with a balanced narrative informed by both sides involved in the conflict (Adebayo, & Makwambeni, 2019, 2020). Alternative frames on the terrorist attacks that capture the disgruntlement of locals who legitimately feel marginalised by the government of Mozambique is silenced. Thus, the use of the frames by the South African media invariably promotes a narrow perspective on the terrorist attacks that follows the official lines. This provides the South African public and policy makers with a very limited view of the complex and multi-faceted insurgency.

Conclusion

This study investigated how the South African media covered and framed the terrorist attacks in Mozambique. Critically, the study sought to understand how the South African media frame the terror activities in Mozambique. The findings of the study show that there are five major intersecting frames that are used by the three South African publications to mediate the conflict in Mozambique. These frames consist of the social consequences frame, the economic consequences frame, the morality frame, the war against Islamic militants frame, and the domestication or national interest frame. Ultimately, the chapter contends that the South African media's coverage of the conflict in Mozambique, which is underpinned by the five frames, focuses more on the theatre of war and falls short of providing a more nuanced picture of the multi-faceted nature of the conflict as recommended by the peace journalism approach. We conclude that the five dominant frames that are used by both publications limit their ability to mediate the conflict by accurately identifying what the conflict is about, and who is involved in the conflict. Other questions are related to the underlying causes of conflict, people affected by the conflict, and the ways to resolve conflict.

For future studies, we recommend further research that can triangualate content analysis with in-depth interviews to get more nuanced views informing the kind of frames the media take when covering terrorism. Interviews can also shed more light on the nature of coverage the media adopts and the kind of resources they commit when covering terrorism in neighboring countries. We also recommend that future news reportage and future studies consider looking at the complexity surrounding the socio-economic status of the regions experiencing terrorists activities. Such studies and news stories could be enhanced by looking at multiple stakeholders, including affected communities, to get a broader understanding of the causal effects of terrorism.

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Unhealthy communication on health: Discursive and ecosystemic features of opinion cumulation in the anti-vaccination discourse on Russian Telegram¹

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Abstract

With the advent of social networking sites, the so-called health dissidents have received unprecedented possibilities for online community building and spreading their views. In particular, the combination of social uncertainty and the platform affordances that bordered antivaxxer communities from outer communication led to formation of (allegedly) closed-up online milieus where vaccination denialists' ('antivaxxers') irrational views resided and grew.

The deliberative counter-productivity of such communities needs to be investigated. In this respect, Russia is a special case, characterized by low trust in the public sphere as a ground for the spread of conspiracy theories, and by 'mixed' trust to the healthcare system, thanks to highly-reputable Soviet-time medical services but negative attitudes to the current ones. We look at @anti_covid21, the largest Russian pandemic antivaxxer community on Telegram, to explore by what means destructive opinions accumulate in this community. We investigate the combination of three discursive elements usually studied separately in research on COVID-19 denialism: 1) distrust, including its addressees, and interconnectedness of the destructive features of the antivaxxer discourse, namely distrust, aggression, and conspiracy thinking; 2) the patterns of micro-opinion cumulation that lead to general growth of distrust; 3) content

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sourcing that supports 'the discourse of distrust.' We follow the conceptual framework of cumulative deliberation; it implies that micro-acts of opinionated participation matter both *en masse* and in deliberative micro-patterns. Our sample includes all posts and comments from @anti_covid21 of six months of 2021, with 1,185 posts and 282,000+ comments altogether.

Out of this sample, three datasets were formed. In particular, Dataset 1 was received by semi-automatedly reducing from 282,000+ to 12,188+ texts and then coded by 28 coders. Dataset 2 comprised comment threads of three most active days in terms of commenting, of 411 comments altogether, that were coded as continuous samples by 6 additional coders. Dataset 3 consisted of the 1,185 posts in which the available attracted content (text, photo, or video) was coded by 4 coders on its formal belonging to certain media types and countries of origin.

Our results show that @anti_covid21 was a reactive community centered around one-sided anti-vaccination content that left no room for multi-view discussing. Content sourcing united user-generated evidence, criticized mainstream media pieces, and publications of blurred origin of many countries, making the community open to world experience but of highly biased nature. The 'discourse of distrust' that emerged in response was politicized, distrust to national and global actors potentially being a mediator to vaccine distrust. We identified two stable micro-patterns of accumulation of distrust triggered by both the published content and user behavior. Altogether, our conclusions differ from other countries' experiences and call for pre-emptive resolution of the multi-faceted issue of social distrust before new health crises erupt.

Keywords

COVID-19, anti-vaccination, distrust, conspiracy theory, information sourcing, cumulative deliberation, Russia, Telegram.

Introduction

With the advent of social networking sites, health dissidents have received unprecedented possibilities for online community building, creation of echochamber-like communication milieus, and spreading their views beyond those communities and milieus. Dissident and often highly dangerous views of disease denialists and adepts of alternative treatment of deadly diseases have found additional chances for cumulation online (Jamison et al., 2020; Mari et al., 2021). In particular, vaccination denialists (often called 'antivaxxers'; Benoit, & Mauldin, 2021) have found multiple opportunities for aggregation and

cumulation of their opinions during the COVID-19 pandemic when the socially suspicious and politically conspiracist views were on the rise. The pandemic has brought along an unprecedented amount of social fear and uncertainty, which spurred the spread of distrust to elites and their rationality (Bodrunova, & Nepiyushchikh, 2022), as well as an outburst of conspiracy theories around the world much beyond the health denialist communities.

The combination of social fear and uncertainty, on one hand, and of the platform affordances that could border fearful and conspiracist communities from more rational communication creating echo chambers of distrust, on the other, has led to formation of closed-up online communities/milieus where non-rational views, including conspiracy theories and denialist argumentation, reside, accumulate, grow, and spread from there to the outer Internet. This was especially true for technically arranged communities on Telegram where user groups of thousands of users could be platformically delineated from the outer, more pluralist and rational discourse.

Several studies have explored the content in COVID-19 denialist and antivaxxer communities in order to see how distrustful discourse works. However, major multi-platform research papers are dedicated to 'openspace' platforms where polar views have all chances to meet (as an example, see Puri et al., 2020, on eight platforms, all 'openspace'-like). Some other studies have tried to reconstruct the ecosystems of information sources that such communities deploy to support their views, both for the pandemic and beyond it, including the radical political communities in Europe. However, it is rare enough that research focuses on interlinkages between the most dysfunctional elements of dissident discourses (distrust, incivility, and conspiratorial mindset) *and* the ecosystemic features of platforms and external content. In both cases, though, distrust is what critically mediates suspicion to vaccination and, finally, non-use of vaccines. Our main goal, ergo, is to explore how distrust accumulates and works in multiple forms within a COVID-denialist community.

This is why we unite these two research goals, linking the connections between aggression, distrust, and conspiracy thinking in content of a COVID-denialist community within the patterns of distrust to exploring the information sourcing that supports the distrust. By it, we aim at reconstructing the major discursive elements of the unhealthy communication on health issues, as we see exploring them individually as insufficient for the overarching understanding of how the anti-vaccination discourse constructs alternative visions of the present and the future of a particular health issue. As for now, though, practically no research is dedicated to analyzing the addressees of social distrust during the

pandemic; we add this element to the analysis of patterns of distrustful discourse.

We also focus on patterns of distrust accumulation in time that we see as crucial for formation of stable distrust within a conspiracist community. So far, this has not been a focus of attention in research on conspiracy theoriesrelated communication online. We are guided by the conceptual framework of cumulative deliberation that sees cumulative patterns as primary for opinion formation but largely under-researched. We focus on two levels of opinion formation – namely, on the levels of the dataset and of a single post, in order to trace how distrust relates to other discursive features that, according to earlier research, spur the intensity of discussions and the speed of opinion formation. We also try to explore how the micro-patterns of the rise of distrust work within the comments of one post, thus maintaining stably high levels of distrust from post to post. In such maintenance, external content is also used, so we explore the provenance of the content dragged into the community from external sources and qualitatively assess its interpretation by the @anti_covid21 community members, thus expanding previous research on ecosystems of conspiracist sources of content.

Another major gap is that, today, antivaxxer communities are rarely studied beyond the English-language countries/datasets; some French-, Spanish-, Chinese-language cases that exist have been studied in a very similar way, pointing out to the discursive peculiarities of international conspiracies in the local contexts. We would like to expand our study to Russia, a special case in terms of acceptance of vaccination by the society and the societal trust patterns. Thus, the country's public sphere is characterized by low trust in general, and the low trust to political institutions and media in particular (Deloitte, 2020; Edelman, 2021). Moreover, we have earlier discovered a 'triangle of mistrust' between political powers, media, and citizens that was characteristic of the Russian society before 2022 (Bodrunova, 2021) and intensified during the pandemic. This created favorable conditions for the rocketing rise of public distrust to vaccines, as they were endorsed by the authorities, both local and national, mostly via state-affiliated media and governmental portals. At the same time, Russian healthcare services have experienced mixed attitudes from the population. The reputation of the Soviet medical services, mostly favorable in the older populational strata, has much changed in the post-Soviet times, with the rise of private healthcare that has brought social inequality into healthcare, shortages of financing of public medical service, and perceived lowering of quality of public medicine. One more factor of the Russian context is that, surprisingly, international conspiracy theories seemed to be less popular in Russia, and international actors' roles in the development of the pandemic were mostly discussed within the framework of the 'vaccine wars' and mutual prohibition of vaccines developed in Russia and Europe/the USA. This distinguishes the situation in Russia from other European countries and poses a question on what actors or industries were most responsible for the distrust to vaccination; this is why we, first of all, pose the research question on the direction of distrust. Then, we add to this the research questions on the patterns of distrust, and then the one on the information sourcing.

Thus, taking Russia as a case both peculiar (in configuration of social distrust) and typical (in terms of the spread of anti-vaccination dissent and formation of antivaxxer communities), we assess the 282,000+ comments in the largest antivaxxer community on Russian Telegram (and, very likely, on the Russian-speaking Internet), namely @anti covid21. The dataset comprised all the posts, comments, and their metadata (authorship, day and time of publication, belonging to a discussion thread) in January to July 2021. After pre-reading, formation of the 'distrust vocabulary', and manual randomized quantitative-qualitative content analysis (coding as suggested by Krippendorff, 2018), the main dataset of coded comments (Dataset 1) was reduced to 12,188+ comments. Two more datasets were formed in order to answer the research questions posed, namely Dataset 2 with the comment threads from the three most active days coded continuously (411 comments) and Dataset 3 of the posts coded for the 'ecosystemic' belonging of the attracted external content found in them (1,185 posts). For further data analysis, we employed both qualitative and quantitative methods, including correlational analysis, structural and discursive analysis of threads, and qualitative interpretation in classifying information sources and their perception by the antivaxxer community.

Literature review: Cumulative opinions in unhealthy communities

Cumulative deliberation and its implications for unhealthy communication Since 2015, several scholars have posed a conceptual question on how opinions form online (Porten-Cheé, & Eilders, 2015; Pfetsch, 2018; Bodrunova, Blekanov, & Maksimov, 2021; Bodrunova, 2023), in particular – what happens in the reality of online discussions instead of the ideal deliberative communication pre-seen by classic deliberative theory (Habermas, 1992/1996, 2006). As one of the potential responses to this question, we have suggested the conceptual framework of cumulative deliberation. It, i.a., implies that communication online does not follow the patterns of deliberative discussion, and opinion

formation there is primarily cumulative. In its turn, the cumulative nature of online deliberation implies that cumulative patterns of opinion formation need to be thoroughly studied, as they are largely responsible for the current structure of opinions, including polarization and echo chambering (Bodrunova et al., 2019).

As it is known from influential previous works, cumulative patterns of opinion formation may also be 'enriched' when participants of communication spend some time within a certain configuration of people interested in the same issue (Fishkin, & Luskin, 2005). Such enrichment, in theory, leads to more multisided and considerate opinion formation. However, the well-known works by Fishkin and Laskin focus on communication in conditions of technically open user interaction and do not check whether enrichment by data from incoming sources within closed-up milieus leads to formation of pluralist views – or, rather, as one may presuppose, it is more likely to reinforce the views with selective information supply if the community in question is a closed-up milieu with already echo-chambered attitudes.

This poses a question on how cumulative patterns of opinion formation work in closed-up milieus constantly 'enriched' by the moderators who may supply one-sided, rather than polar or variable, information for discussion. This is exactly how Telegram communities work (Urman, & Katz, 2022), including those of antivaxxers (Schlette et al., 2022).

Additionally, opinion cumulation can exist on various levels – that is, opinions may accumulate or dissipate in time throughout the discussion; they may have daily cycles; they may also grow within micro-patterns (e.g., microspirals of silence; see Bodrunova, Blekanov, & Maksimov, 2021) under individual posts. Taken together, this complex opinion dynamics is additionally shaped by endogenous (discursive) and exogenous (affordance-related and contextual) factors. Of them, what lies at the heart of anti-vaccination opinion cumulation is, undoubtedly, distrust.

Distrust as both an exogenous and an endogenous factor in unhealthy opinion cumulation

The COVID-19 has been called 'an epidemic of uncertainty' (Pertwee, Simas, & Larson, 2022). At least partly, prejudice against vaccination may have rational explanations. First, there is perfectly rational weighting of personal risks against personal and populational benefits, both often non-evident and dependent upon belief into the mechanisms of preventive medicine. Rationally, hesitancy may naturally rocket when the vaccines are created in emergency circumstances.

Assessment of personal risks, however, may get significantly distorted via mediatization of the public discourse around vaccination. Media privileges negative content due to structural biases in content selection, professional understanding of journalistic mission, and commercial benefits that negativity brings (McQuail, 2005). Additionally, people themselves tend to consume content selectively, in consistence with both the 'confirmation bias' hypothesis (Oswald, & Grosjean, 2004) and the social judgment theory (Nyhan, & Reifler, 2010), which state that people tend to choose information that corresponds to the beliefs-based core of their identity, rejecting opposite views.

However, it is much less the short vaccine approval notice or other rational reasons that foster vaccine hesitancy and make social network users gather in discussion groups of conspiratorial nature. In many more cases, it is the general levels of situational uncertainty (Heiss et al., 2021), eternal insecurity, and deep lack of trust in key institutions involved in the production, supply, and distribution of vaccines (Pertwee, Simas, & Larson, 2022) - among them, in the authorities, wider ruling elites, national healthcare systems, World Health Organization (WHO), pharmaceutical giants, and international businesses and business leaders. Even before the pandemic, studies had found connections between distrust to political parties (Kennedy, 2019) and individual politicians (Baumgaertner, Carlisle, & Justwan, 2018), on one hand, and distrust to vaccination, on the other. A recent scoping review (Lun et al., 2022) on barriers and facilitators of vaccine acceptance divides them all into interpersonal, institutional, and community- and policy-related, showing that, on the institutional level, distrust to authorities and healthcare systems is called key in a large number of works on COVID-denialism. In one work, mistrust to fellow citizens is also mentioned. However, in this review, most of the reviewed papers were based on surveys, and none on social media analysis. Online discursive practices of COVID-19 antivaxxers have been so far studied less than one would expect; also, available studies focus on national cases in European, English-speaking, and Spanish-speaking countries, and only a small number attempted to map the addressees of distrust. In case studies of online discourse, several addressees of distrust have shown up, only partly mirroring the picture drawn by surveys. Thus, just recently, Paraskeva (2022) has assessed anti-vaccination discourse in Cyprus for most frequent topics and mentioned actors, discovering that governmental actors much outperformed all other actors, but did not actually map all the addressees of user distrust. In Turkey, a link between distrust to doctors and the anti-vaccination ideas in general was discovered (Eslen-Ziya, & Pehlivanli, 2022), which complements the knowledge on overall trust in healthcare being in direct proportional relations to vaccine confidence, moderated by the level of social consensus / polarization (Sturgis, Brunton-Smith, & Jackson, 2021). Other addressees of distrust are hybrid and online-only media, often seen as actors of structural oppression along with governmental institutions (Smith, & Graham, 2019; Filkuková et al., 2021). Besides that, in seven European countries, strong antisemitic-colored distrust was expressed within conspiracist posting on social media (Karakoulaki, & Dess, 2021). No systemic mapping, though, has been done so far.

While wider social distrust is an exogenous factor external to the antivaxxer talk, the distrust expressed by users may also be seen as a discursive feature important for other users and overall opinion cumulation. Elsewhere, distrustful user talk showed up as subversive – it 'both mirrored authoritative discourses and subverted official advice, by appealing to scientific language and "alternative" evidence' (Bergman et al., 2019: 1161). Subversive COVID-denialist discourses are, again, often accompanied by aggression: Inability of rationally proving a position and subconscious realization of flawed logic makes people stray into packs and defend their positions via incivility rather than rational argumentation (Wu, Lyu, & Luo, 2021). As our previous study shows (Bodrunova et al., 2021), aggression may perform both constructive and destructive functions in online deliberation. Thus, aggression may be politicized and politically polarized; it serves for demarcating 'us/them' and discrediting the opposing camp, negatively contextualizing it, and linking it to social problems. But it may also fuel discussions and involve new commenters.

Another infamous discursive feature of the COVID-denialist and antivaxxer discourse, and an extreme priming manifestation of contextual distrust, is the presence of conspiracy theories (Butter, 2020). During the pandemic, 'the sudden lack of control and increased uncertainty may have made people particularly vulnerable to conspiracy theories' as 'explanations for events that posit powerful actors are working together in secret to achieve self serving or malicious goals' (Dow et al., 2021: 2). In the pandemic, conspiracy thinking united suspicions towards the 'secret cliques that rule the world' with misinformation on the origin and treatment of disease, and deep fears of personal and social-group nature. Under the pressure of uncertainty, as no close escape is foreseen, in contradiction to the appraisal theory that expects people to get engaged in problem-focused coping (including active and rational information seeking), users adopt dysfunctional practices engaging with irrational explanations (Heiss et al., 2021).

Conspiracy theories are narratives of a specific sort. The narrative frameworks fueling conspiracy stories interpret complicated realities in a simplistic way that

fills in seemingly missing links in logical chains, such as, e.g., hidden powers that secretly rule social and political processes. 'You can't just factcheck, label, or remove a [conspiracy] narrative' (Wardle, & Singerman, 2021). As Bertin and colleagues (2020) show, none of the COVID-related conspiracy theories discovered by them discussed exact dangers caused by vaccines but rather addressed political or general medical issues. This may mean that conspiratorial mind has been shaped by factors external to the virus and disease. Moreover, conspiracy theories, despite their global character, are contextual, as fears and insecurities that provoke them are context-bound.

The relations between the three features of the antivaxxer discourse – open distrust, aggression, and conspiracy thinking - have been significantly understudied; though it is these three discursive features that are capable of forming the patterns of anti-vaxxer discourse, including how they shape each other. Thus, surveys show that conspiracy theories may foster anti-vaccination inclinations mostly based on distrust (Bertin et al., 2020). Conspiracies also tend to affect perception of governmental anti-COVID measures as too strict, thus adding to institutional distrust (Rieger, & Wang, 2022). Growth of conspiracy thinking has also been linked to perceptions of high threat in general (Heiss et al., 2021), as well as to refusal to trust science in general or biomedicine in particular (Imhoff, & Lamberty, 2020). However, in social media talk, distrust and conspiracism demonstrate mixed evidence in terms of their inter-relatedness. As shown above, a rare cross-country study (Karakoulaki, & Dessì, 2021) has found antisemitic conspiracies in the European COVID-19 dissident discourse, showing interconnections between anti-vaccination conspiracy theories and antisemitism as distrust to an ethnic group. We could identify one paper on Cyprus where distrust to institutions was a strong predictor for conspiratorial thinking in social media data (Bantimaroudis, 2021). On the contrary, though, a small-sample study of vaccine denialism on Facebook³ showed that distrust and conspiracy tended to belong to different users (Hoffman et al., 2019), which is counterintuitive and needs further investigation. An earlier Facebook⁴ study on polio (Orr, Baram-Tsabari, Landsman, 2016) also divided the vaccineskeptical comments into divergent distrust-based and conspiracist groups. Another type of inter-relations may emerge when both conspiracies and distrust are mediated by a third factor: Thus, Jiang and colleagues (2021) have shown that the number of followers and ideology combined are mediating factors for both conspiratorial thinking and distrust to medical professionals. Fuchs (2021)

³ Belongs to Meta company, banned on the territory of the Russian Federation.

⁴ Ibit.

states that, on 'openspace' social media like Facebook⁵ or Twitter, conspiracy theories may themselves be countered by a range of discursive means, from satire and humor to friend/foe talk, verbal attacks, or violent threats; this is also supported by empirical research (Enders et al., 2021). However, it is yet unclear how conspiracy thinking relates to aggressive behavior in antivaxxer discussions. It is logical to suggest that aggression must be linked to spreading conspiracy theories, as both aggression and conspiracy thinking are types of defensive behavior. Both aggression and distrust may have heavy linkage to conspiracy thinking, but this remains underexplored.

The role of information ecosystems in fostering dysfunctional and anti-political discourses

One more structural feature of a strong dissident public is the information ecosystem that supports it, providing curated information flows aimed at proving dysfunctional views via certain types of evidence. Thus, Herasimenka and colleagues (2023: 134) note that 'digital infrastructures are at least as important as the message, especially for issue-oriented campaigning that goes against scientific consensus and public health guidelines.'

The 'spatial turn' in public sphere studies (Waldherr, Klinger, & Pfetsch, 2021) has underlined connectedness of online publics to wider information ecologies. 'Geographies' of networked support have already been shown to play important roles in the growth of dissident communities and their communication, e.g., in electoral communication of far-right and radical parties in Europe. In particular, Heft, Reinhardt, and Pfetsch (2022: 2) have shown that the level of openness of communicative ecologies of right parties depended on their systemic status: The parties in power tended to open up their communication to the national media systems and national discursive competition, while those in opposition composed self-referential campaign ecologies. For an antivaxxer community, radical enough in its anti-vaccination and COVID-denialist views and oppositional to rational and state-promoted attitudes to the disease and vaccination, we would expect a self-referential ecosystem of conspiracist and denialist sources, similarly closed-up and supportive for one-sided views. We find a description of a similar self-referential ecosystem in Kim & Kim (2023): On Facebook⁶, they claim, QAnon pages and groups increasingly relied on internal information sources within the platform, becoming less and less dependent

⁵ Belongs to Meta company, banned on the territory of the Russian Federation.

⁶ Ibid.

on content beyond Facebook⁷. The reason for this might be that the posts with Facebook⁸ links attracted significantly more shares and comments than other posts by the movement – a sign of formation of an autarchic community with a self-supportive cumulative opinion.

Conventional wisdom would say that such dissident ecosystems contain misinformation, radical opinions, unverified witness, and other types of information critically different from legacy media content. Participants of irrational discussions are expected to use noncredible sources or avoid providing sources whatsoever. However, antivaxxer communities are far from being that simplistic. On the English language Facebook⁹, 'anti-vaccine groups had increasingly more relied on relatively credible sources while their posts using low credibility sources were less than 2% and recently decreasing' (Kim, & Kim, 2021: 1). However, credible sources combined with the antivaxxers' 'exclusive sources' (ibid); they also used sources representing more conservative or far-right political views than those of the pro-vaccine groups. This echoes research on the Querdenken movement, a social movement behind most of the German pandemic protests. Thus, Zehring and Domahidi (2023: 1) showed that Telegram-based Querdenken communities 'preferentially forwarded content from far-right and QAnon communities, while far-right and conspiracy theorist alternative media channels act[ed] as content distributors for the movement.'

Research questions

Thus, uniting the discursive and ecosystemic features of the antivaxxer opinion cumulation in one research design, we pose the following research questions:

- **RQ1.** How can distrust expressed in @anti_covid21 be mapped? Which actors of the pandemic are the most distrusted?
- **RQ2.** Are there any patterns of distrust attachment and/or co-occurrence of destructive speech features in the user comments?
- **RQ3.** Are there any patterns of distrust accumulation in time? On which level do they work?
- **RQ4.** How is the ecosystem of information sources constructed in @anti_covid21?
- **RQ4.1.** How can the sources of reposted information be mapped in terms of geography?

⁷ Belongs to Meta company, banned on the territory of the Russian Federation.

⁸ Ibid.

⁹ Ibid.

- **RQ4.2.** How can they the mapped in terms of typology, format, and belonging to the conventional media systems? How are sources of various origins interpreted by the moderators and commenters in @anti_covid21?
- **RQ5.** How do the elements of the ecosystem of distrust, namely the discursive patterns and the information sourcing, work together in @anti_covid21? What is their combined effect?

Methods

The research design

In accordance with the research questions, the design of our study implies step-by-step assessment of:

- (1) the addressees of distrust which allowed for mapping of the most distrusted perceived actors of the pandemic;
- (2) the discursive patterns of inter-relation between discursive features (active distrust, aggression, and conspiracy thinking) in terms of their co-occurrence and spurring each other;
- (3) the patterns of opinion cumulation in time, including accumulation of destructive content features and their co-accumulation;
- (4) the ecosystem of information sources in the attracted external content in media-systemic and geographical terms;
- (5) the combined effect of the discursive and 'ecosystemic' features of the destructive discourse in the community.

Data collection and the datasets

With the help of our web crawler (Bodrunova, Litvinenko, & Blekanov, 2017) reconfigured for Telegram, we collected all the posts and comments from @anti_covid as of 2021. However, as much of the data did not suit our purposes (posts contained less than five comments each), we have selected a time span of six months, January to June 2021, which brought 282,000+ user comments with 1,185 their respective posts and metadata (dates of posting/commenting, authors' nicknames, types of external content in the posts, and links to them).

Data pre-processing

To form the datasets, we have first applied a dimensionality reduction procedure and then coded the data according to variables set for RQ1 to RQ4. To reduce the volume of the data, we have read 20,000+ comments, created a vocabulary on distrust, verbal incivility, and conspiracy theories that included 620 tokens (stems and stem bigrams), and applied it to the initial dataset of

comments. As a result, the dataset has been reduced to 82,000+ comments (and their respective posts) that contained at least one word from the vocabulary. This made 29% of the initial data.

Data coding

To answer RQ1, RQ2, RQ3, and RQ5, on the level of a comment, each sixth comment was coded via randomized coding as suggested in Krippendorff (2018), resulting in more than 13,200 coded comments. The coding was performed for four variables (presence of distrust, addressee of distrust, presence of aggression, and presence of conspiracy theories). A team of 28 coders have been tested for inter-coder reliability, reaching the minimum average Randolph kappa reliability of 0.6 (of -1 to 1) in groups of four coders each. After post-coding cleaning, 12,188 comments remained (Dataset 1).

To tackle RQ4 and RQ5, on the level of a single post, we have also coded solid daily samples for the three most active days (411 comments altogether; Dataset 2), as they contained many long threads of comments.

To answer RQ5, we have taken posts as units of analysis (Dataset 3). We have detected the type of content shared in a given post and whether a hyperlink was available; due to Telegram's specific affordances, this was done in an automated way but demanded a lot of doublechecking, as many links were automatically substituted by Telegram to those leading to Telegram itself. We have employed 6 more coders (Randolph Kappa 0.7 the lowest) to code three 'ecosystemic' variables as suggested by Krippendorff (2018), namely the country of origin of shared content, belonging to legacy media / web 1.0 media (noting the media outlet), and belonging to user-generated content (noting the platform / social networking site).

Data analysis

For RQ1, based on the coding of the Dataset 1, we have simply designated the overall volume of distrust that various addressees gained in the user comments; we have also grouped the results in four domains that we have seen as dominant bearers of distrust.

For RQ2, we have used descriptive statistics (Spearman's rho correlations) detection of connection between the discursive features and the addressees of distrust.

For RQ3, we have employed structural analysis of coded threads from Dataset 2; our judgment was also informed by the incomplete but still long threads of Dataset 1. We have qualitatively assessed when exactly distrust, aggression,

and conspiracy thinking popped up in comment threads and whether the configurations of the three destructive features tended to repeat from thread to thread. We had to rely on qualitative judgment, as the data threads were not sufficiently long for Granger testing or any other statistical assessment; however, by juxtaposing dozens of coded threads, we have managed to detect repeated patterns that may, in future, be subjected to automated or semi-automated detection after machine learning if researchers collect and code enough trained data.

For RQ4, we have employed descriptive statistics based on coding of the Dataset 1 and interpretive reading of posts in accordance with coding of the information sources. Interpretive reading included assessment of semantics of the attracted external content and juxtaposition of the semantics to that of the surrounding text added by the community moderators. This allowed for detection of functions of the attracted content, as described in the Results.

For RQ5, we have summarized the results of RQ1 to RQ4, in order to underline the combined effect created by content attraction plus moderation and the users' reaction to this moderated content, especially via the destructive discourse features such as distrust, aggression, and conspiracist thinking.

Results

RQ1. The discourse of distrust in our dataset was present in 45.4% of the coded comments of the Dataset 1 – that is, in nearly each second coded comment. As stated above, our data, was a vocabulary-based selection; however, the filtered-out comments were largely phatic; thus, the meaningful comments aggregated in Dataset 1 may be called 'a discourse of distrust' where each second utterance contains open distrust. 45.4% is somewhat lower than in our pilot study of the Dataset 1 (Bodrunova, & Nepiyushchikh, 2022), as the 2022 study was conducted on the most intense fragment of the discussion; but the figure is anyway high and tells, beside the rest, that our vocabulary-based search for destructive content was successful.

We have mapped the addressees of distrust (see *Figure 1*). We have also grouped the results into four domains – 'healthcare' (the virus/pandemic, vaccine, healthcare system, and WHO), 'elites' (the national powers and businesses, international actors, and police), 'people' (ordinary people and Jews), and 'culture' (media, celebrities, religion, scientists/experts, and others) – see *Figure 2*. We see that, expectedly, the vaccine itself is the most distrusted 'actor'; however, the national authorities follow closely, mentioned in over 20% of the comments with distrust. The national authorities outperform

the healthcare system, international actors, and fellow citizens as objects of distrust and bear the main responsibility for the crisis in the antivaxxers' eyes. Among the distrusted actors, we find media (labeled 'fake' and 'bots', mostly unproven), celebrities who support vaccination, and traditional (and victimized in the recent Russian history) addressees of distrust, like Orthodox priests and Jews. However, national businesses are nearly absent in the data. Together with the absence of political parties among 'national power', this draws a picture of a distorted public sphere where national parties and businesses are so insignificant in decision-making that they evoke no criticism even from the antivaxxer communities; moreover, they are depicted in the user comments neither as protectors of people from executive authorities' arbitrary actions nor as articulators of popular hopes or fears.

Figure 1
Mapping the addressees of distrust

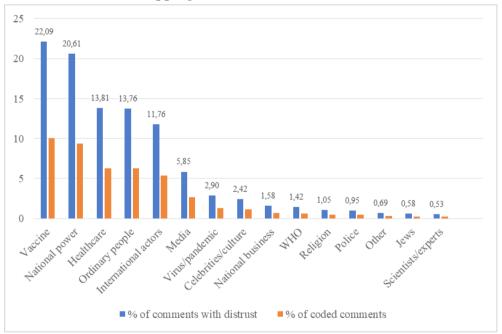
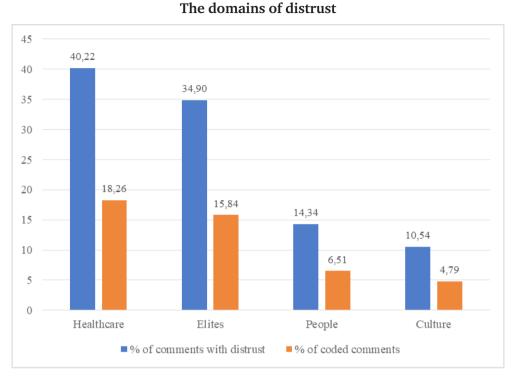


Figure 2



Interestingly, the political standing of the community does not correspond to the conventional view on polarization in the Russian society. Before the pandemic, the regime critics were described as well-educated, cosmopolitan, and liberal, while its supporters as more post-Soviet by values, less educated, and more involved in manual labor (Bodrunova, & Litvinenko, 2015; Berezuev, & Zvonaryova, 2019). However, in @anti_covid21, we have run into a reverse picture: The antivaxxer community is politically similar to what we described as 'angry citizens'/'angry patriots' in the 2010s (Bodrunova, Litvinenko, & Blekanov, 2017; Bodrunova et al., 2019) who mistrust nearly all the public actors, as well as fellow citizens, media, and social groups who irritate them, like immigrants or liberals:

[I] don't trust social networks. Don't trust media. Don't trust the government. But I know I am not alone and the majority is like me.

The picture of combined distrust to political, media, and healthcare actors not counterbalanced by trust to possible alternatives public actors (e.g., left

or right parties, public or private healthcare), corresponds to what we have earlier called 'the triangle of mistrust' (Bodrunova, 2021a). In the post-Soviet context of detachment between the powerful (from governments to police) and the ordinary citizens, the latter's underlying distrust becomes highly multi-directional, spreading from fellow discussion participants to world powers, but is mainly directed to the national public sphere. International actors take lesser attention than expected, given the international reach of conspiracy theories. Transnational conspiracy narratives, like chemical trails, 5G networks, chipping, or spread of Morgellons disease via vaccination and wearing face masks, as well as Rockefellers and Bill Gates were mentioned; but the discontent directed to the national authorities and national healthcare was three times more intense. Thus, it was not (only) the conspiracy theories that guided distrust to vaccination; it was the 'extended distrust' to the main protagonists of the public sphere and healthcare.

RQ2. More complicated patterns of distrust show in: (1) how the addressees co-occur in users' criticism; (2) how the destructive discursive features co-occur in it; and (3) how addressees are linked to the discursive features. To uncover it, we have conducted Spearman's rho correlation analysis (see *Table 1*). When data is grouped by domain, the patterns show up clearly.

Table 1 Patterns of 'co-distrust', discursive, and domain/discourse inter-relations

	Addressee	Aggression	Conspiracy	Healthcare	Elites	People	Culture
Distrust	.783**	.144**	.207**	.418**	.421**	.260**	.217**
Adrressee	1.000	.150**	.163**	.541**	.551**	.420**	.392**
Aggression		1.000	.025	.125**	.129**	.054**	.025
Conspiracy			1.000	.149**	.156**	.043**	043**
Healthcare				1.000	.886**	071**	080**
Elites					1.000	031*	015
People						1.000	.003
Culture							1.000

Note. *: p < 0.05; **: p < 0.005.

Here, the intriguing findings are several. For (1), healthcare in general is criticized together with the elites (0.886**), even if our previous study shows that, taken separately, vaccines do not relate to international actors (Bodrunova, & Nepiyushchikh, 2022). The strength of 'co-distrust' ties between the national healthcare and authorities, including the local ones, is enough to

make this linkage the strongest in our data. In contrast, healthcare and elites are provenly *non*-linked to cultural and social actors; we can explain it by noting that healthcare actors are criticized for the 'core' issues of the pandemic (wrong motivation for vaccine deployment, dangers associated with vaccines etc.), while nonpolitical actors are mostly criticized for support of vaccination. Thus, divergence of patterns depends on the issue; different actors are associated with differing vaccination-related issues.

- (2) Unexpectedly enough, distrust is very weakly linked to both aggression and conspiracy theories. This definitely needs further research; qualitative analysis, however, provides for hints on the reasons of this weak link. Thus, distrust, aggression, and conspiracy talk belong to three varying modes of opinion expression: Distrust exists in the form of statements on attitudes and rhetorical questions, aggression is met in shorter appeals to fellow commenters and polarizing criticism, while conspiracy talk implies a kind of reasoning where (pseudo-)logic is conveyed in an explanatory mode which eliminates aggressive speech. Conspiracy theories work as a form of flawed coping via alternative explanation and, thus, needs explanatory frames, rather than rapid rebuttal ones. They also are relatively rare in our data; this is why their link to distrust is weak.
- (3) Patterns of use of aggression and conspiracist thinking are also actor-independent, even if weakly enough $(0.150^{**} \text{ and } 0.163^{**}, \text{ respectively})$, which indirectly confirms their rootedness in speech situations, rather than in actor nature; this is also confirmed on the domain level. Moreover, and expectedly, conspiracy theories are actively non-linked to the cultural/celeb domain. In contrast, distrust varies noticeably with regard to addressees, both directly (0.783^{**}) and by domain healthcare and elites vs. people and culture.
- RQ3. In addition to RQ2 and our previous quantitative study (Bodrunova, & Nepiyushchikh, 2022), we have assessed the patterns of opinion cumulation within individual posts as seen from our coding, using the Dataset 2 and being additionally informed by the coded incomplete threads of the Dataset 1. What we have discovered were two patterns that stood out in the data, being true for nearly one fourth of both datasets. These patterns could be revealed in a qualitative way only; the threads were too short and non-consistent (that is, they contained phatic or irrelevant comments that could not be coded consistently) for Granger or other statistical tests, as stated above. We have called the first patterns 'the distrust outburst': It is characterized by growth of distrust to multiple actors within one discussion thread, after an aggressive comment appears; a conspiracy theory starts to be discussed sooner or later (see *Appendix A*). The second pattern is of a 'rapid rebuttal' type where all the commenters unite

in sarcasm and negation of the value of vaccination (see *Appendix B*); we have called this pattern the 'solidarity in negation' one.

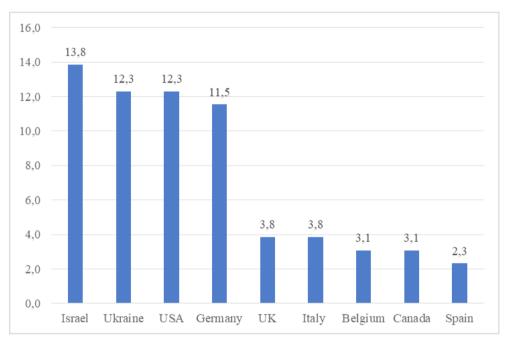
Presence of these two patterns brings on two conclusions. Thus, there are (at least) two types of opinion cumulation: An 'outburst' one and a 'deepening' one. The first type needs an aggressive micro-trigger which works as a bifurcation point and shows the way to other distrustful expressions. The other one aggregates distrust from the very beginning. Both patterns start to direct distrust to multiple actors, and both employ conspiracy theories as supporting/explanatory frameworks in the middle of the pattern. The second pattern cross-validates our earlier conclusion on 'solidarity in condemnation' and 'aggressive support' (Bodrunova et al., 2021: 189) as functions of aggression in polarized speech; here, as we see, we can judge more precisely on the nature of aggressive solidarity, as we see it being rooted in distrust, supported by conspiracy theories, and developing in time in comment threads.

RQ4.1. Distrustful and aggressive commenting in @anti_covid21 is, to a large extent, provoked by the content that the users react to. In our sample, the community moderators use textual links, photo, or video content in 95.3% of posts, and this content is highly selective and one-sided, making the (unknown) moderators the major gatekeeper of anti-vaccination content, perhaps in the whole Runet. Moreover, it makes the @anti_covid21 community a reactive, not a proactive one – a type of a community or public not yet described in the academic research on publics, to our best knowledge. And the attracted external content is global enough to create an impression that authorities around the world are similarly hypocritic and repressive: 51.6% (content from Russia) vs. 43.7% (content from abroad) vs. 4.7% (content of undefined origin).

The biggest number of supportive foreign content naturally comes from the Russian-speaking users who reside outside Russia. The main diasporas that provided the moderators with content were those in Israel, Germany, and the USA (see *Figure 3*). Interestingly, of all the post-Soviet states, only Ukraine before 2022 stands in line with these three diasporas. This needs further investigation; thus, we need to know whether the diasporas in Euroatlantics were, indeed, less tolerant to anti-COVID-19 measures, or the moderators looked at these countries just because the content from them got viral with higher probability due to the bigger size of Russian-speaking populaces in these four countries. However, Kazakhstan (15%+ of Russian speakers) or Latvia (23%+ of Russian speakers), that each provide for less than 0.5% of the links, rather support the former conclusion on lower tolerance of the diasporas beyond the post-Soviet region to the anti-pandemic measures introduced by the national authorities. Moreover, if we looked outside the anti-

COVID-19 discourse, we would see that, e.g., in Germany, Russian-speaking diasporas supported far-right parties more than the general population did (Golova, 2020) and, in the USA, the less educated Russian-speaking communities were critical of the 'Black Lives Matter' movement. Thus, there is some slight but general tendency in the major Russian-speaking diasporas beyond ex-USSR towards illiberal radicalism, which may provide for more wary treatment of the state measures against COVID-19, which deserves thorough studying.

Figure 3
Major providers of anti-vaccination content in Dataset 1,
in % of the content from abroad

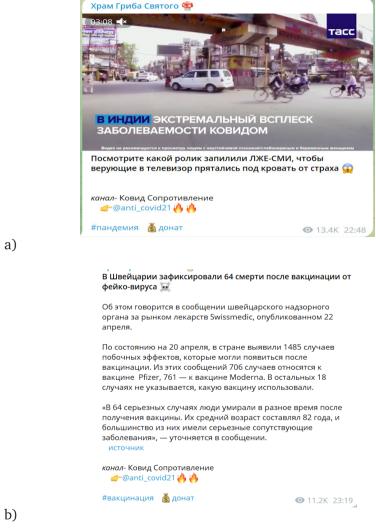


RQ4.2. In terms of content source type, we have found that it could be divided into three major groups: (1) content of Russian and European mainstream media; (2) user-generated evidence on social media; (3) content of blurred origin not accompanied by links to sources.

The mainstream media content was mostly textual, divided in two types: Fact-based highly criticized one (see *Figure 4a*) and almost-non-framed one on shortcomings of vaccination and anti-COVID-19 measures (see *Figure 4b*). This content served to either build distrust to mainstream media or support the narrative on vaccine inefficiency. Thus, the content of mainstream media had

no chance of pushing the vaccination agenda in the community: It either got sarcastically reframed or supported the general antivaxxer position.

Figure 4 Legacy media content: a) framed critically; b) critical and slightly framed



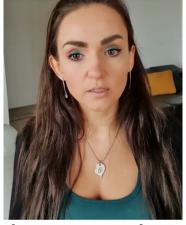
Note. a) The title of the video reads: 'In India, there is an extreme outburst of COVID morbidity', while the moderators' text reads: 'Look what clip have the lying media jerry-rigged, for the TV believers to hide under their beds of fear'; b) the title of the text (added by the moderators) reads: 'In Switzerland, there are 64 fixed deaths after vaccination against the fake virus'; the text of the news follows as in the source.

Social media content was mostly visual and came mostly from YouTube and TikTok, less from Instagram¹⁰ and Telegram; interestingly, the major Russian network VK.com (ex-VKontakte) was presented very little. The main aims of social media content were to provide the evidence on:

- a) absurdity of measures and allegedly illegitimate attacks by police, mostly by personal witness;
 - b) COVID-19-related protest marches in Europe, Israel, and beyond;
- c) alternative experts' opinions in interviews and discussion shows on YouTube channels and local online videocasts;
- d) satirical content mostly mocking or childishly demonizing the major individual politicians and businessmen, from Bill Gates to notorious Russian politicians like Vladimir Zhirinovsky;
 - e) 'video proofs' for conspiracy theories (see *Figure 5*, *a* to *e*, respectively).

The functions of these content pieces were several. First, they provided evidence from the popular side, as opposed to the authorities' claims. Second, they showed the solidarity of COVID-19 protesters around the world (or its part relevant for the Russian residents and re-settlers). Third, it allowed for vaporing out of accumulating fear by mocking and ridiculing of both COVID-19 itself and the measures suggested by the authorities and supported by COVID-rationalists.

 ${\it Figure~5}$ User-generated content attributed to social media and its roles



Девушка рассказывает о ситуации в Германии.



a)

 $^{^{\}rm 10}$ Belongs to Meta company, banned on the territory of the Russian Federation.



b)



Ученые со всего мира бьют тревогу; Врачи судятся с Правительством

Интервью с Алиной Лушавиной о прошедшей 9 и 10 апреля Международной научно-практическая конференцией «Сохранение здоровья населения как глобальная проблема современности».

Так же, об исключении ковида из перечня особо опасных заболеваний, о заседании в Верховном суде РФ.

источник



канал- Ковид Сопротивление
@anti_covid21 (A)

c)



Жириновский предложил принимать в вузы только привитых от коронавируса

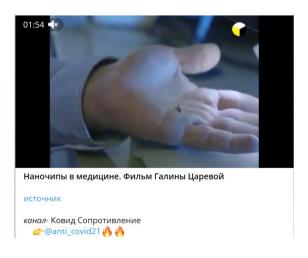
«В вузы принимать всех, кто с прививкой. А то в Европе очередь на прививку, а у нас пустые кабинеты», — сказал Жириновский. Он отметил, что накануне выступил в аудитории на 150 человек. По его словам, ни один из студентов не сделал прививку.

Политик считает, что привиться нужно всем, поскольку пандемию будет трудно остановить. «Миллионы уже заболели, миллионы уже умерли», — заключил лидер ЛДПР. источник

** Придурок

канал- Ковид Сопротивление

d)

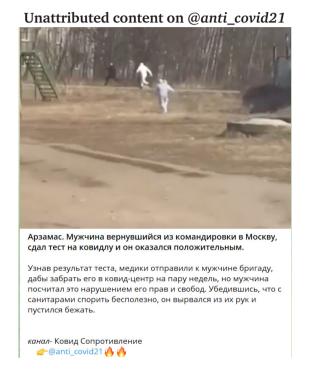


e)

Note. The legends read: a) 'A girl telling on the situation in Germany'; b) 'Switzerland. Saturday. Protests against COVID-19 restrictions'; c) 'Scientists from the whole world alarm. Doctors sue the Government'; d) 'Zhirinovsky [a Russian politician] proposes to admit to universities only those vaccinated against the coronavirus'; e) 'Morgellons in the blood' and 'Nanochips in healthcare. A film by Galina Tsaryova.'

The content of blurred origin partly corresponded to the aims of the (2) source category. Clicking on such content did not lead to any source; such content had interpretations that could be doubted (as an example, see *Figure 7*).

Figure 7



Note. The explanation tells of a COVID-19-infected man who had to be violently isolated by the ambulance workers but escaped from them. Though, it is not clear from the video whether this is definitely true.

Thus, content sourcing, despite the variety of information sources referenced to, was clearly one-sided, virtually preventing a many-sided discussion around it, both by content selection and by framing it. Altogether, it performed the roles of discussion triggering and shaping, as well as supporting of the dominant views in the community.

RQ5. After tackling RQ1 to RQ4, we may state that antivaxxer opinion cumulation within @anti_covid21 happened on several levels. First, the community moderators supported a stable anti-vaccination discourse via selecting biased content from various Russian regions and/or major diasporas and criticizing fact-oriented information sources, thus creating a 'worldwide'

picture of inadequacy of anti-COVID-19 measures, protest against them, and conspiracies behind them.

Second, the users responded by attempts to discuss this content, forming repeated patterns based on distrust to multiple actors, disappointment, fear, and anger, as well as on distorted explanation frames. In many cases, though, the discussion was not aggressive or full of conspiracies; however, distrust was the dominant discursive feature in @anti_covid21, a major echo chamber with self-referential content-supported talk. On the level of one post, two frequent patterns of accumulation of distrustful opinion were discovered, namely the 'distrust outburst' and 'solidarity in negation' ones. Both led to distrust to multiple actors and evoked conspiracist thinking, but demonstrated that triggers of distrust might lie both in the provided content and in the commenters' speech.

Third, the interplay between the biased content and the micro-spirals of negative solidarity that emerged in commenting formed the fabric of a destructive reactive community which, by 2021, turned into a sound public (not in political but in social terms) and a source of support for anti-vaccination views that spread around Runet, including diasporas and Russian-speaking population in the post-Soviet countries. Soon it caused action from the authorities, and the community was forbidden by Roskomnadzor (state agency engaged in online communication filtering) – however, it changed the title and, till today, continues to exist and collect fakes on current issues, though being less popular than in the pandemic times. Thus, such communities where a biased content ecology meets perpetuating micro-spirals of negative solidarity, demonstrate stability and a proteus nature; they can switch from issue to issue, continuing with their destructive discourse and cumulation of one-sided irrational opinions.

Discussion and conclusion

In our research on anti-vaccination discourse on Russian Telegram, we have found that the self-referential echo chamber of @anti_covid21 was not based upon closed-up discussion and content supply, but rather upon sources from a variety of Russian and international, legacy-media and user-generated media, as well as upon a seemingly wide and open discussion. However, while sources were media and platforms from a wide variety of countries, content selection was highly biased and, ergo, evoked the only possible discursive response of rebuttal and distrust, accompanied with fear and disappointment. Together, the sources formed a discourse that principally questioned the mainstream media opinions and created a conspiracist view on governmental management of the pandemic in many countries. In addition, the Telegram affordances have played

a crucial role in how the community separated itself from alternative positions. Non-aiming at 'opinion crossroads', the community was deliberately created as a semi-closed resistant one, which Telegram allows for. In it, allowance for anonymity of content (not only unattributed but also with the links transformed for the users into t.me/[title]) lowered the responsibility for dissemination of fakes and criticism towards official statements, verified sources, and objective data.

We have also found that 'the discourse of distrust' was notably politicized, where distrust to national and global actors may be a mediator to vaccine distrust, while conspiracy theories may be a mechanism of secondary coping not only for a person but also within shared opinions, working as mini-narratives of proof. We have identified two stable patterns of accumulation of distrust, both leading to distrust reinforcement. This adds to our previous findings on the 'spiral of distrust' on the level of daily cycle (Bodrunova, & Nepiyushchikh, 2022) and allows for setting the three levels of dysfunctional opinion cumulation: Within the dataset, the daily cycle, and one post.

The strategy of content selection and framing and the patterns of user reaction that combined with the help of the platform affordances have produced a reactive community of distrust to multiple actors of the pandemic. This community quickly grew into an important public, even if it was cut from access to conventional politics and lacked political influence. Such publics and their ways of policy denial and counter-influencing the wider society deserve close studying.

Our research is, of course, still a pilot study, and it does not employ any quantitative (e.g., regression or factor) models that would allow for better discovery of the mediator roles of distrust to non-healthcare actors in the amounted distrust to vaccines and medical services around them. However, our analysis focused more on communication patterns and discourse than on the social-communicative category of distrust per se; we believe that our research design has allowed for unveiling the two-side nature of the @anti_covid21 echo chamber where biased content met irrational commenting, remaining completely unquestioned. We add to the existing knowledge on how networked discourses in Russia and worldwide affected social perception of vaccines during the COVID-19 pandemic (see, i.a., Aslanov, & Kotov, 2022; Smirnova et al., 2022; Escudero, 2023) and insists on taking online communities into account in further studies of impact of networked communication upon e-health practices.

Our findings differ from previous studies on antivaxxer discourses, e.g., in Turkey where dissemination of anti-vaccination views was more strategized but focused on bodily freedom and personal choice, devaluing and shifting of scientific evidence, and deepening polarisation between the supporters and deniers of the COVID-19 restrictions (Eslen-Ziya & Pehlivanli, 2022). There was much less personal harmful evidence than in other cases, and anonymity played a role in content selection (see Nguyen, & Catalan-Matamoros, 2022, for the opposite conclusions). Also, we cannot directly suggest 'expansive and targeted [state] interventions... to curb the circulation of online narratives against vaccination' (Kim, & Kim, 2021: 1), as such interventions would be immediately dismissed by the commenters and could build even more distrust. Moreover, transnational networks do not always favor state-based interventions.

What we would state instead is that the mechanisms of social trust undermined both before and during the pandemic are of deep enough nature, and they demand systemic reconstruction, to diminish irrationality and lust for conspiracy theories as mechanisms of priming fear. Bajwa (2021) has suggested to combine critical media literacy skills, citizen participation, and counter-offensive capabilities towards state-backed information operations; we would, though, tell that countering antivaxxer views would, in many cases, benefit from bigger trust to and rational collaboration with institutions responsible for management of social crises. We agree that rebuilding trust is a multistakeholder problem requiring a coordinated strategy (Yaqub et al., 2014), long-term and needed to be implemented before a health crisis erupts, as, during such a crisis, distrust may only deepen, which critically affects the nationwide efforts of both protection and recovery from a pandemic.

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