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Polarization around the SDGs public university in central Mexico

By

Cruz García Lirios

Universidad Nacional de la Plata

Abstract

Polarization in the media is a phenomenon classified as ambivalent and volatile because radical positions change to moderate and these to neutral. The objective of the study was to demonstrate this process in press releases and expert evaluations regarding the Sustainable Dvelopment Goals (SDG). A documentary, cross-sectional, exploratory and retrospective work was carried out with a sample of press releases with national circulation and published from 2020 to 2023 headed with SDGs. The results verify the null hypothesis of significant differences between the theoretical structure with respect to the empirical observations. In relation to the literature consulted, the scope and limits of the study are discussed, as well as a local risk communication policy.

Keywords: Agenda, COVID, Press Releases, SDGs, Polarization

INTRODUCTION

The literature concerning polarization neural networks is divided into two blocks. The first refers to the relationship between minorities and majorities; it covers the types of influence in different non-media contexts (Azagra& Ortega, 2018). The second aspect suggests that the media, mainly socio-digital networks such as Twitter, generate and reflect an ephemeral polarization, since the groups that present themselves as radicals the next day establish a moderate position (Recuero, Zago & Bastos, 2014). In this way, traditional or classical polarization consists of the influence of the majority over minorities, but if this minority group maintains its position, it can reverse the influence (Ho, Tran & Huang, 2022). This is the case of pro-government propaganda versus opposition counterpropaganda (Satriah et al., 2020). In this sense, the new polarization lies in the emergence of radical groups that the next day becomes moderates. The theory says that the volatility of polarization is since social digital networks do not maintain a permanent theme or position.

Regarding the Sustainable Development Goals, each of the 17 SDGs refers to radical or moderate positions with respect to education, health and employment, although the Internet user polarization is closer to point four related to quality education, since the theory indicates that it can be achieved if the parties involved establish projects in the short, medium or long term that allow them to collaborate and be critical (Gómez & García Torres, 2010). In this sense, Internet user polarization contributes to quality education because it reveals that the parties involved are conditioned by the medium in which they disseminate their positions.

Point five of the SDGs alluding to gender equality is a central axis of the Internet user polarization agenda, since the asymmetries between the parties involved are often fostered by patriarchy, a polarization theme that Twitter amplifies to establish positions. That allows dialogue between the parties (Guerrero-Solé, Mas-Manchón& Aira, 2022).

However, SDG number eight, which refers to decent work and economic growth, is the central nucleus of Internet user polarization, since those who maintain a radical position point out that a political system can define the strategies to achieve the SDG in question, but moderates they indicate that rather a balance between the market and political power will make it possible to achieve the SDG (Guallar& Traver, 2020).

SDG twelve, alluding to responsible production and consumption, is the quid pro quo of the matter, since the radicals argue that capitalism in its different forms is responsible for ecological deterioration, but the moderates argue that it is the conflict between social classes that it inhibits sustained development or any other alternative because the parties involved have always been in conflict without agreements or joint responsibilities (Márquez Martínez, 2017).

SDG thirteen regarding climate action is another central axis in the polarization agenda (Montero Corrales, 2018). The radical positions suggest that ecological deterioration is irreversible if the increase in temperature is considered as an indicator of global warming, but the moderate wing suggests that it is possible to achieve co-responsibility if conflicts are overcome, and agreements are reached considering common goods.

However, the polarization with respect to the SDGs has not been related to daily indicators such as droughts, floods, landslides, fires, hurricanes, or frosts (Pallarés Navarro & García Ortega, 2017). In this sense, disaster risks are a preponderant factor in the local and public agenda that would modify radical or moderate positions with respect to the SDGs, since their intensification would increase some of the opinions or attitudes that are held with respect to climate change, global warming, the greenhouse effect, or sustainability.

Therefore, the objective of this paper is to review the dimensions of Internet user polarization with

respect to the SDGs in disaster risk situations to be able to contrast the media agenda with the evaluations of experts in the field during the period from 2020 to 2023.

Method

A documentary, cross-sectional, exploratory and retrospective study was carried out with a selection of press releases, considering the national circulation of the source, as well as the period from 2020 to 2023 regarding the search for keywords: "SDG" and "polarization". The PRISMA sampling technique was used, which consists of structuring the information and balancing the search for it from different dimensions and indicators of a theme (Soriano et al., 2022).

To standardize the concepts, a focus group was held with a sample of 10 experts (Munblit et l., 2022). They were contacted through their institutional email and informed about the objectives of the study and those responsible for the project. They were told that their participation would be voluntary without remuneration and that the confidentiality and anonymity of their answers was guaranteed in writing, as well as that their academic status would not be affected.

In order to evaluate the press releases, the Delphi technique was used (Bhandari et al., 2020). In the first phase, the judges assigned a score of zero if they strongly disagreed, but a score of five if they strongly agreed. In a second phase, the initial scores and the averages were included so that the judges could reflect on their criteria and reconsider or reiterate their position. In the third phase, the judges assigned a final grade.

The data was captured in Excel and processed in JASP version 16. The coefficients of centrality were estimated: intermediation, gradation and influence, as well as grouping and structuring to reveal the learning of the press regarding the diffusion of Internet user polarization relative to the SDGs (Lazarus et al., 2022).

Values close to unity were assumed as evidence of neural processing and therefore did not reject the null hypothesis regarding the significant differences between the structures reported in the literature with respect to the observations made in the present work (Nurek et al., 2021).

Results

The parameters that establish the centrality of nodes relative to polarization measure betweenness, closeness, gradation, and influence (see Table 1). For SDG 2, alluding to zero hunger, there is a greater positive bias in three of the four parameters with respect to the ratings of the other SDGs reported in the press from 2020 to 2023. In this sense, it is assumed that the SDGs revolve around to this node 2 and it is considered that the evaluations of the judges assume this SDG as a priority.

Table 1. Centrality measures per variable

	Network			
Variable	Betweenness	Closeness	Strength	Expectedinfluence
SDG1	-1.006	-1.285	-1.514	-0.420
SDG2	-1.006	-1.820	-1.757	-1.581
SDG3	-1.006	-1.445	-1.597	0.214
SDG4	-0.069	0.889	0.805	0.574
SDG5	0.165	0.244	0.358	-1.047
SDG6	1.571	0.426	0.338	-1.042
SDG7	0.634	0.454	0.614	-1.168
SDG8	-0.303	-0.428	-0.111	-1.006
SDG9	-0.303	-1.139	-0.899	0.288

Table 1. Centrality measures per variable

	Network			
Variable	Betweenness	Closeness	Strength	Expectedinfluence
SDG10	0.165	1.199	0.866	0.985
SDG11	1.571	0.349	0.305	1.568
SDG12	-0.537	0.024	-0.340	-0.968
SDG13	-1.006	0.314	0.594	1.114
SDG14	0.165	0.749	0.563	0.363
SDG15	-0.772	-0.901	-0.870	-0.114
SDG16	2.274	1.625	1.551	1.275
SDG17	-0.537	0.744	1.093	0.964

The next set of parameters that measure the learning of the press evaluated by the judges is the clustering of the ODS nodes (see Figure 2). It is observed that only two of the four parameters identify SDGs 9 and 3 related to industrialization and innovation, health and well-being as those with the greatest agglomeration. In other words, the qualifications of the judges are configured around the prevention of health risks and industrial progress.

Table 2. Clustering measures per variable

	Network			
Variable	Barrat[a]	Onnela	WS[a]	Zhang
SDG1	0.000	-1.565	0.000	-0.009
SDG10	0.000	0.855	0.000	0.550
SDG11	0.000	0.426	0.000	-0.290
SDG12	0.000	-0.550	0.000	0.162
SDG13	0.000	0.628	0.000	1.501
SDG14	0.000	0.410	0.000	1.877
SDG15	0.000	-0.589	0.000	-1.038
SDG16	0.000	1.676	0.000	0.240
SDG17	0.000	0.944	0.000	0.722
SDG2	0.000	-1.702	0.000	-1.190
SDG3	0.000	-1.652	0.000	-1.155
SDG4	0.000	0.671	0.000	1.375
SDG5	0.000	0.261	0.000	0.159
SDG6	0.000	0.339	0.000	-0.081
SDG7	0.000	0.761	0.000	-0.628
SDG8	0.000	0.029	0.000	-0.518
SDG9	0.000	-0.942	0.000	-1.678

[a] Coefficient could not be standardized because the variance is too small.

The structure of the qualifications of judges with respect to the dissemination of the SDGs suggests; a) the most radical notes refer to SDGs 4, 11, 12 and 16, b) the notes rated as moderate refer to SDGs 1, 2, 3, 6, 7, 13, 14 and 15, c) the SDG 8, alluding to work and economic development, was qualified as neutral, d) SDGs 5, 9, 10 and 17 were assumed to be confusing. In addition, negative relationships can be seen between the evaluations of the SDGs (red lines) with respect to the positive relationships (blue lines). It is also observed that the neural network begins with a radical evaluation of SDG 12 and culminates with a moderate evaluation of SDG 15. In other words, it is a complex, controversial, ambivalent, heterogeneous and diverse structure, all of which indicates that the SDGs disseminated in

the press and qualified by judges through press releases are general, ambiguous and unstructured objectives (see Table 3). It means then that this diversified representation of the SDGs is prone to polarization rather than governance.

Table 3. Weightsmatrix

	Network																
Variable	SDG1	SDG2	SDG3	SDG4	SDG5	SDG6	SDG7	SDG8	SDG9	SDG10	SDG11	SDG12	SDG13	SDG14	SDG15	SDG16	SDG17
SDG1	0.000	0.183	0.062	-0.136	-0.215	0.364	0.197	0.366	-0.016	0.260	0.105	0.001	0.028	0.010	-0.240	0.425	-0.209
SDG2	0.183	0.000	-0.301	0.222	-0.008	0.450	-0.262	0.061	-0.211	-0.076	-0.202	0.016	-0.150	0.061	0.019	0.116	-0.203
SDG3	0.062	-0.301	0.000	0.013	0.023	-0.058	0.222	0.169	0.328	0.262	0.562	0.096	0.062	-0.008	0.207	0.195	0.158
SDG4	-0.136	0.222	0.013	0.000	-0.056	0.113	-0.287	-0.526	-0.121	0.441	0.451	-0.333	0.662	0.650	-0.057	0.630	0.782
SDG5	-0.215	-0.008	0.023	-0.056	0.000	-0.708	0.737	0.120	0.212	-0.553	0.174	0.367	0.314	-0.402	0.549	-0.345	0.183
SDG6	0.364	0.450	-0.058	0.113	-0.708	0.000	-0.638	0.128	-0.124	0.637	-0.130	-0.078	-0.153	0.528	-0.291	0.452	-0.094
SDG7	0.197	-0.262	0.222	-0.287	0.737	-0.638	0.000	0.414	0.326	-0.458	0.076	0.540	0.075	-0.430	0.163	-0.326	-0.111
SDG8	0.366	0.061	0.169	-0.526	0.120	0.128	0.414	0.000	0.354	-0.020	-0.219	0.652	-0.328	-0.151	0.173	-0.251	-0.498
SDG9	-0.016	-0.211	0.328	-0.121	0.212	-0.124	0.326	0.354	0.000	0.220	0.330	0.558	-0.088	-0.085	0.469	-0.075	0.007
SDG10	0.260	-0.076	0.262	0.441	-0.553	0.637	-0.458	-0.020	0.220	0.000	0.416	-0.046	0.250	0.705	-0.139	0.636	0.431
SDG11	0.105	-0.202	0.562	0.451	0.174	-0.130	0.076	-0.219	0.330	0.416	0.000	-0.050	0.564	0.095	0.361	0.575	0.597
SDG12	0.001	0.016	0.096	-0.333	0.367	-0.078	0.540	0.652	0.558	-0.046	-0.050	0.000	-0.336	-0.251	0.100	-0.423	-0.321
SDG13	0.028	-0.150	0.062	0.662	0.314	-0.153	0.075	-0.328	-0.088	0.250	0.564	-0.336	0.000	0.469	0.262	0.620	0.877
SDG14	0.010	0.061	-0.008	0.650	-0.402	0.528	-0.430	-0.151	-0.085	0.705	0.095	-0.251	0.469	0.000	-0.184	0.642	0.531
SDG15	-0.240	0.019	0.207	-0.057	0.549	-0.291	0.163	0.173	0.469	-0.139	0.361	0.100	0.262	-0.184	0.000	-0.081	0.265
SDG16	0.425	0.116	0.195	0.630	-0.345	0.452	-0.326	-0.251	-0.075	0.636	0.575	-0.423	0.620	0.642	-0.081	0.000	0.544
SDG17	-0.209	-0.203	0.158	0.782	0.183	-0.094	-0.111	-0.498	0.007	0.431	0.597	-0.321	0.877	0.531	0.265	0.544	0.000

Discussion

The contribution of this work to the state of the art lies in the establishment of a neural network that revealed the learning of the print media in the dissemination of the SDGs. This process began with the dissemination of responsible production and consumption, which was qualified by the judges as a radical position and culminated with the promotion of ecosystems qualified as a moderate note. In addition, the parameters of centrality, grouping and structuring suggest that the null hypothesis regarding the significant differences between the dissemination structure of the SDGs with respect to the evaluations of the judges is not rejected, mainly with regard to SDGs 2, 3, 9, 12 and 15. Such findings indicate that the SDGs are a structure close to polarization rather than governance due to their heterogeneous dimensions and negative relationships (Perez et al., 2012). The results of the study can be used to build communication policies of the SDGs to be able to homogenize the positions towards them and anticipate polarization scenarios that inhibit their reach (Raimondo Anselmino & Bertone, 2013). It is recommended to build a communication policy for the SDGs evaluated as moderate so that the press emphasizes the advantages over local problems.

Conclusion

The objective of the present work was to establish the learning network of the press through evaluations of judges regarding the dissemination of the SDGs. The results show that the moderate position prevails in most of the SDGs, but when relating these nodes with others referring to radical, neutral, or confused positions, it is concluded that the SDGs are disseminated in an asymmetric and polarizing manner. Therefore, it is recommended to extend the study to a regional dimension to compare the findings. In addition, the relevance of reversing the confusion of the SDGs by emphasizing those that are related to moderate positions is discussed. Polarization is more prone in news scenarios where radical positions prevail, or else nodes maintain negative relationships, but the dissemination of news related to moderate positions increases governance. In other words, discussion, agreement, and co-responsibility can be achieved from SDGs identified with moderate positions.

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