The purpose of this article is to delve into the subject of sustainable communication, its implications, and its relationships with other subjects within the synergies created by new technologies and by the growing importance of sustainability as a value within modern society. Sustainable communication can be understood, in rough strokes, as corporate communication or lobbying applied to the cause of sustainability. However, it is this last detail that provides the characteristics that critically distinguish it from other branches of communication, and the interaction in an extraordinary way with the new ICT and 2.0 realities.

KEYWORDS: CIT - sustainable communication - 2.0 - sustainability - infoxication

Resumen

El propósito de este artículo es ahondar en la materia de la comunicación sostenible, sus implicaciones y sus relaciones con otras materias dentro de las sinergias creadas por las nuevas tecnologías y por la creciente importancia de la sostenibilidad como valor dentro de la sociedad moderna. La comunicación sostenible se puede entender, a burdos brochazos, como comunicación corporativa o lobbying/cabildeo aplicado a la causa de la sostenibilidad. Sin embargo, es este último detalle el que le aporta características que la distinguen críticamente de otras ramas de la comunicación, y que interactúa de forma extraordinaria con las nuevas realidades TIC y 2.0.

PALABRAS CLAVE: TIC - comunicación sostenible - 2.0 – sostenibilidad - infoxicación

1 Eva Aladro Vico: Professor of the Department of Journalism and New Media, Faculty of Information Sciences, Complutense University of Madrid. Author of the books Las Diez Leyes de la Teoría de la Información, Teoría de la Información y la Comunicación Efectiva http://orcid.org/0000-0003-1986-8312. https://www.researchgate.net/profile/Aladro_Eva
Aladro Vico, E. *Sustainable communication and 2.0 Society: oddities derived from a three-decade relationship*

**RESUMO**

O propósito deste artigo é mergulhar na matéria da comunicação sustentável, suas implicações e suas relações com outras matérias dentro das sinergias criadas pelas novas tecnologias e pela crescente importância da sustentabilidade como um valor dentro da sociedade moderna. A comunicação sustentável pode se entender, a grosso modo, como comunicação corporativa ou lobbying aplicado à causa da sustentabilidade. Porém, é este último detalhe que aporta as características que aS distinguem criticamente de outras ramificações da comunicação, e que interagem de forma extraordinária com as novas realidades TIC y 2.0.

**PALABRAS CHAVE:** TIC - Comunicação sustentável - 2.0 – Sustentabilidade - Infoxicação

**How to cite the article:**

**1. INTRODUCTION**

By "sustainable communication" we understand that whose object of existence is the promotion of sustainable human and social development, associated with the values of, of course, sustainability, dialogue, transparency, governance, and transparency due to its vocation to make the entire system sustainable. The concept is in accordance with other similar ones that appear in post-degrowth society and fits into the philosophy of the authors and analysts who ask that sustainability be the vital criterion in all aspects of human activity, crucially, therefore, also in communication.

Within this idea, the moderating agent of society is constituted by the media, in their role as researchers and denouncers of illegitimate public activity, as well as educators and potential informants on sustainability. Communication is a vortex of a triangle of sustainability that also includes the economy and the social structure.

The media constitute the magnifying glass through which society sees organizations, this perspective being crucial when determining whether the public's trust in their messages and statements is renewed. It is not only important that the activity of the company, NGO, or institution is correct: it must also appear so. And it might just as well appear so. There is no use -socially- to act in a righteous way if that
righteousness is ignored. The media thus recover the role of surveillance of the environment that in its day had in its classical theoretical model.

2. OBJECTIVES

The objective of this article is to establish an updated state of the art of sustainable communication regarding the implications that may be applied by virtue of the implementation of new technology and the phenomena that it entails: post-truth and its entire cohort of acolyte phenomena, in relation to its comparison with communication and corporate social responsibility. We intend to clearly establish the differentiation between these phenomena as well as their multiple points in common, how all of them are interrelated, to reach clear conclusions about the nomenclaturization, objectives, and characteristics of this type of communication under these premises, as a means of determining the future path to follow of this branch of communication.

3. METHODOLOGY

We propose to carry out a sufficient review of sources and literature of a wide thematic spectrum that allows us to cover with quality authors this subject, which is, on the other hand, insufficiently treated regarding its communicative aspect. We will compare the sources, discarding those that do not make related or logical statements and interweaving the information to achieve significant synergies that give rise to a simplified but complete understanding of the subject and its potentialities, without detracting from the academic rigor due. The contributions of each source will be valued and embedded in an understandable and structured text that allows a natural flow of conclusions to be reached organically.

4. DEVELOPMENT

Para que un hecho sea reconocido por el público, es preciso que algo esté presente en los medios (o en las Redes, como nos recuerda Caldevilla (2014, p. 1286):

We have already mentioned that Social Networks are one more channel, but that they facilitate citizen participation in public affairs, allowing a more direct and healthy democracy even if this was not its original objective, because “…Social Networks are born as a meeting of people, known or unknown, who will interact with each other, redefining the group and providing feedback” but given their ability to influence, we will also agree that “…thanks to the Internet and Social Networks, behavior can be modified, new movements of opinion, political parties, and protest platforms be created, promote demonstrations, create support groups for specific causes, or manage to create a fashion that generates the consumption of a certain product. The law is increasingly curtailing this traffic of information when its purpose threatens the interests of the party in the Government. The relationship between users of platforms such as Social Networks goes from being vertical to horizontal, allowing figurative equality, which encourages any Internet user to become a transmitter, producing their own content, and transmitter/receiver of information.
If something is not part of the nuclear in the media and social networks (which have only broadened the previous spectrum of the nuclear) in practice it ceases to exist. To this is added the perception of the truth that one has when faced with something published -either in the media or on the networks. The problem has now spread, as Caldevilla (2013, p. 40) also points out in his works on infoxication:

Therefore, "infoxication", or the intoxication of information by overabundance, is a formula for the intellectual intoxication produced by an excess of information, which, paradoxically, does not help but distorts. The excess of information that is produced thanks to the avalanche of data available today, generates a difficulty in the receiver (who becomes the receiver in turn) to assimilate so much volume in such a short time, without having the due rest to assess the contents or their degree of veracity, although these are generally endowed with an apparent high verisimilitude. One consequence of this is the conversion of time into a very scarce good and the search for the audience's attention as one of the priorities on the Internet. In fact, today there are companies specialized in positioning their clients' websites in the top positions of search engines such as Google, Bing, or Baidu.

"Over-information", however, is not something new. Diderot stated in his Encyclopedia in 1772 that as the centuries continued to unfold, he could predict that there would come a time when it would be almost impossible to learn anything since any fragment of the truth would be hidden in an immensity of bound volumes.

International authors also point out this very serious problem that is marking the development of the digital society 2.0: as Sinan Aral and his fellow researchers indicate (Soroush, 2018), the entire digital communication system of networks works to generate the most perfect deception -thus in the new Deep Fakes and Fake news-, in such a way that toxic communication, designed for emotional manipulation and for what Lanier (2018) calls the cognitive conditioning of individuals, conspire and become the axis of unsustainable growth of the communicative sphere, in that set of elements that favors an unsustainable development of the social system.

However, a consequence that can also be drawn is that we are living in the era of persuasive democracy not linked to the concepts of democratic participation raised by Córdova Jaimes and Ávila Hernández (2017); In other words, we live in a time in which persuasion and manipulation become the main action tools of political agents and communication on the public scene, thereby highlighting the secondary role given to intellectual honesty and truthfulness. As Niño et al. (2017, p. 91) warn:

We are, therefore, before a worrisome scenario in the best of cases: one in which the public is manipulated through the public itself, and strictly anonymous media: the users. More and more, the final selection of information is in their hands, but everything seems to indicate that we are still far from the cultural moment in which the public is capable of critically exercising this function.

For this reason, in this context, journalism and the new and old media also see their diffusing, educational, and sensitizing role in defense of the public strengthened, in
relation to the growing infoxication and how it threatens to bury authentic social problems. As Hernández Rubio (2019, p. 38) notes:

It is necessary to instill a postmodern ethic in every moment of virtual communication between two or more people. In the case of the informative profession, it is necessary to flee from those homo ludens and homo oeconomicus to promote the moral man, capable of offering his fellow man truthful content far removed from the media spectacle.

The very concept of sustainable development dates from 1987 and appears in a United Nations report, which establishes the right to a healthy environment suitable for development so that production meets the needs of present generations without compromising those of future generations. It encouraged the authorities to consider this right together with the right to information and environmental education, appealing to the media -pre-2.0- to be rigorous in their information. An appeal if possible, more important precisely in the face of the phenomenon of infoxication and hoaxes, as Mazo (2016) reminds us: rumor acts in many cases as a verbal defense mechanism for the individuals of a certain group. [...] In the environment of the media, the wishes of the evil of others will be a propitious context for the creation and dissemination of this type of messages. On the communication risks associated with social networks, Bustos-Martínez (2019, p. 28) adds:

The extension of the network of networks has made its reach and influence virtually unlimited. The hopes lie in the fact that the internet, and more specifically social networks, will be configured as powerful tools that collaborate in the creation of a more participatory society in political and social matters. Freedom, well understood, is the key concept that guides the digital world and that offers the possibility of accessing sources of information different from the traditional ones and, theoretically, further from the control of politics, economics, and finances.

The ability of the human species to manipulate the environment and adjust it to its needs is unprecedented. And the demographic increase has only increased this impact, as Barrientos et al. (2017) thinks, hand in hand with technological development, consumerism, and interconnectivity on a scale never seen before. All of this leads us to the conclusion that our impact on the earth is increasingly global. And it prompts us to seek integrated global solutions when acting on the ecological footprint. Servaes (2012, p. 18) summarizes:

While in the past we were able to increase food production after just a few growing cycles, or to establish income by creating companies in a couple of years, the 'new' problems we face can take years, and in the case of climate change, many generations, so that the world community can solve them. How can we build consensus and achieve the altruistic attempt of the current generation to consume less, defuse conflict, and submit ourselves to medical research so that future generations that survive us can inherit a habitable planet?

The tried and tested methods of extensive agriculture, social mobilization, community participation, and multilateral negotiation will hardly succeed on
their own if these systemic problems grow in severity and people fall for the innate human instinct for self-preservation. competing even more fiercely for limited natural resources, with radical violence, and will resist Hippocratic principles of sharing limited stocks of vaccines and medicines, they will accumulate energy and water, and close markets to international trade.

We do not have adequate strategies to begin to reverse these "new" and very complex challenges. Therefore, after having briefly summarized the past of this sector, and outlining some key issues for the future, we will conclude with a list of challenges for both academics and professionals in Communication for Sustainable Social Change (CSSC).

Limiting the extension and form of sustainable development policies necessarily involves measuring and shaping these to make them better fit the different sensitivities of each of the parts that make up a complex and global system, giving tools to the public power and to private initiative in the sense of sustainable development policies. The concept itself has changed and expanded since 1987, adding economic, environmental, social, and institutional dimensions. Their communicational needs have also changed, given the rise of emotional communication as a means of social persuasion, as Mendieta and Estrada (2017, p. 154) point out:

The political communication that is established from the Internet in social networks and other technological resources, constitutes a change in the way of interacting; towards informality. This new trend has built the phenomenon of politainment and infotainment as emotional resources supported by digital technology.

In this development, the media (both traditional and 2.0) are the key factor of dissemination, education, exchange, and awareness for the different social agents responsible for managing this transition to sustainable development. Remembering the aforementioned Hernández-Rubio, we aim to coincide with Soengas et al. (2019, ap. 6.5) that:

74% of students who consult various media or various social networks only consume information to find out what is happening in their environment and the world, but do not question the informational treatment of the news. They do not have a critical attitude towards the approach of the facts, nor do they show interest in knowing alternative points of view.

As we have studied elsewhere, the critical literacy of young people has in the field of digital communication an enormous field of exploration, which encompasses new languages, new ways of conceiving spaces and communication media, new cooperative forms of communication, and the creative use of political communication (Aladro et al, 2018).

Efendy Maldonado (2019, p. 22) reminds us:

The particularity of the field of communication requires, in its transdisciplinary constitution, a rigorous openness, which knows how to articulate its argumentative complexity from the multiple/theoretical, and grows in the
diversity of its particularity, from translations and consistent montages, relevant and transcendent in the existential set of sciences. Contemporary transmedia and multimedia systems are central to theoretical problematizations in the area; at the same time, they are insufficient to account for the complexity.

To properly speak of fields of communication, we must remember, even at the epidermal level, that the new vehicles for consuming information will modify the form of access to it (Caldevilla, 2010, p. 35):

The last point to be developed and that fully depends on the technological advances that the new times will offer us, is located in the greater possibilities of expression that the new telephone terminals and the theory of the unified screen (television, radio, mobile phone, Internet...) will convey.

All of the above can only come to life, not only if it is part of the core (trends, fashions...) in the Media (social networks included) but is present in the political agenda (and later in that of events) so that the Electoral programs (although much more cited than fulfilled) see them as a promise of future action in different governments, including the imitation or domino effect whereby if a party takes sustainability actions it 'forces' the others to take a stance.

The media and social networks can contribute to showing the kindest face of the candidates who represent us and who should be an example of training in values, politics, and social convictions. On the other hand, debates can be an ideal platform to provide solutions to the interests of citizens.

We consider as a possible field of research the parallel model that seems to have more and more acceptance and participation by the electorate: social networks and monitoring in televised political debates. Bidirectionality can be a relevant factor that encourages debate between citizens and political parties (Barrientos et al, 2019, p. 26).

### 4.1. Classifying sustainable communication

It is necessary to distinguish all of them from the Greenwashing practices (Miller, 2017) that have generated a cultural style of great diffusion but of null effectiveness in terms of sustainability objectives. The laundering of polluting economic and productive practices is located precisely at the opposite end of sustainable communication, and is one of its main dangers, because it can turn this objective into a simple market strategy that generates the inverse effect, supporting polluting or exterminating practices in the world of production and consumption.

To do this, we are going to discriminate different types of sustainable communication, which may be useful to better understand the concept.

On the basis of corporate communication and corporate social responsibility, sustainable communication is divided into three main types of approaches or general objectives to consider:

---

4.1.2. Communication and sustainability

Communication is of paramount importance for sustainability strategies. Where there is a lack of internal communication, it will be difficult to implement changes in terms of sustainable practices.

Additionally, external communication (with customers, partners, and the community) is a necessity for sustainable communication strategies. Otherwise, you expose yourself to losses in terms of sales and profits. The reason for all this can be explained by considering several points: first, the importance of social discourse in providing legitimacy to sustainable development (Newig et al., 2013). Second, the highly complex nature of the subject of sustainability, which requires a specific approach (Newig et al., 2008).

Typically, issues related to sustainability are recognizable by their complexity and uncertainty, increasing the importance of communication when delivering information between the various agents of the production process. Due to the importance of decisions in this regard, Funtowicz and Ravetz (1993) suggested new scientific approaches, including high involvement in communication and dialogue, the involvement of shareholders in the informational extension, as well as an emphasis on social values. Additionally, sustainability objectives appear to be ambivalent in terms of involvement in conflicts of interest or values. At this point, communication becomes essential to create a general understanding of the social values of sustainability, determining some concrete objectives that must be followed (Newig, 2013).

Last but not least, the implementation of measures for sustainable development is characteristically difficult, since the capacities to manage it are dispersed in a multitude of social actors and multiple decision-making levels. Thus, coordination based on network structures would be useful in allowing effective discussion and negotiation, as well as social learning, to contribute to the implementation of sustainable development strategies. (Newig et al., 2013).

4.1.3. Communication on sustainability

It encompasses all processes where matters related to information, interpretations, and assessments related to sustainability are discussed and exposed. Issues that are transformed and compartmentalized in an environment of horizontal communication at multiple levels: from the interpersonal of "face to face", to mass communication through the Media (Neidhardt, 1993).

Communication on sustainability covers the issues of perception of sustainability as it serves important roles of compartmentalization of matters and structuring of facts,
arguments, and statements establishing a general understanding of each specific issue, of the objectives to be achieved, and who should act. These processes are not necessarily calm or inclusive and can be considered as controversially structured fields of symbolic interaction where different agents try to promote their own interpretation of each issue, their developments of each problem, and their solutions (Brand, 2011).

The effectiveness/quality of communication on sustainability can be verified by taking into account the attention that a specific problem receives in the media (Bofandelli, 2010; Newig, 2011). Another similarly useful indicator comes from determining who has access to the information, also having an impact on the compartmentalization process, where effectiveness equals structural conditions and the overall communication design process (Rowe and Frewer, 2005). Finally, the potential for communication exchange between different communication spheres or subsystems is another angle from which to attack the verification of the effectiveness of communication on sustainability (Weingart et al., 2000). In general, an indicator of said effectiveness is expected to measure the compatibility of discourse in one of these subsystems or spheres (economic or nuclear media, for example) with discourses in other subsystems (specific professional environments, opinion forums, academic environments, etc.), and the probability that parts of the predominant discourse are transferred from one sphere to another, with a view to the implementation of sustainable development (Egner, 2007).

4.1.4. Sustainability communication

In contrast to communication on sustainability, sustainability communication is defined in a utilitarian way. It is basically mono-function: transmitter-receiver communication flow in which the transmitter pursues a specific communication objective (Newig, 2011). Researchers, NGOs, teachers, companies, and journalists seek to receive the attention of social leaders or the general public, to inform them about sustainability.

As society's demand for the undertaking of sustainable actions grows, its social actors will realize the need to communicate sustainability as a resource when it comes to defending or legitimizing their own behaviors. What we could call, for example, corporate sustainability. Among the functions of sustainability, communication is to inform and educate the public, achieving a certain level of social involvement and undertaking actions in the process (Moser, 2010). From this point of view, sustainability communication takes a position qualifying as elitist, since it makes a significant distinction between experts and the public regarding their knowledge regarding sustainability (Nerlich et al., 2010).

Sustainability communication needs to be evaluated in terms of effectiveness, given its clear projection of certain results. The issues to consider are whether the recipients have received the message if they have understood it, and/or if they have changed their thinking and actions accordingly. However, this form of communication in which experts are in charge of educating the public is being increasingly criticized. The scientist's privileged position as a truth-teller is eroding, as is the dominant pursuit of
behavioral alteration at the individual level, which has only achieved very limited success and is increasingly questioned in favor of dialogue and discourse (Nerlich et al., 2010) taking us to the field of communication on sustainability.

4.1.5. Communication for sustainability

While the distinction between sustainability communication and communication on sustainability points to the direction and initiators of information flows, the concept of communication for sustainability emphasizes the normative aspect of sustainable development. In this sense, communication does not only imply providing information regarding sustainability and increasing awareness about it. The purpose of communication for sustainability is to establish a social transformation based on legal objectives of sustainable development. It can share elements of sustainability communication and communication on sustainability, including knowledge generation or social learning (Barth, 2012), and cooperative development of solutions for sustainability, in terms of focus and issuers. Understanding the benefits of cooperative work such as those expressed by González-Gascón (2017) and more specifically in the lines explained by Herrero and Toledo (2012, p. 263):

The search for synergies for development, that is, joining forces and not dispensing them. In this sense, point out the fundamental role of communication in its creation and maintenance. Stakeholder relationships with other development actors should be fostered.

The effectiveness of communication for sustainability is measured in relation to its impact in terms of measurable action towards the ultimate goal of sustainable development. Communication for sustainability has counterparts in that all communication related to sustainability is likely to negatively affect or inhibit the cause of such development. Since no one would openly position themselves against sustainability, this usually occurs by publicly supporting it, despite following unsustainable agendas. This is easier in the environment of confusion in infoxication produced by new technologies: post-truth. As Mayoral et al. (2019, p. 396) remind us:

Note that the facts, before post-truth invaded us, were the realm of the verifiable. Disinformation strategies are imposed precisely when journalists and citizens do not have verification mechanisms for each speech or statement. Hence the importance that has been given to fact-checking as a tool to combat misinformation.

It can be very useful, as a consequence of what has been argued, to analyze the phenomenon of so-called fake news not only in connection with this more or less recent post-truth framework but also in relation to some other essential concepts for the journalistic profession: basic (and much less novel) concepts such as "manipulation" or "credibility".

5. CONCLUSIONS

Sustainable communication goes far beyond simple corporate communication oriented to the sustainable cause: it is not only communication about, of, and for
sustainability, but all of them at the same time, in ways that are intertwined with each other and with conventional and corporate communication aspects that are also present. New technologies, infoxication phenomena, fake news, and hoaxes affect this type of communication, as do the positive aspects (interconnectivity, network diffusion, increased interrelation capacity, increased visibility, etc.).

Communicationally, it is a field susceptible to losing ground due to the hostile digital environment: sustainable communication has a considerable obstacle in the disinformation of the networks, in which favorable and unfavorable hoaxes can turn against it or against those who practice it, and where the practice of dishonest agendas increases the importance of “communicating sustainability”. That is to say: to benefit communicationally and in terms of image, from the fact of carrying out sustainable practices. In this sense, said benefit is another tool for those who seek sustainability, even when it is also for those who, without having a real interest in it, practice it for image reasons.

It is necessary that the "greenwashing" of companies and image agencies does not supplant a truly sustainable communication that spreads and enforces the new paradigm of human life, in which the values of an economic decrease and a new understanding of man's position on the planet are assumed.

Only in a communication environment that integrates the same values of a new moment, which are forced into the economic and social structure, to guarantee a future, can we carry out a truly effective system change.

6. BIBLIOGRAPHY


**AUTHOR**

**Eva Aladro Vico**: Professor of the Department of Journalism and New Media, Faculty of Information Sciences, Complutense University of Madrid. Author of the books *Las Diez Leyes de la Teoría de la Información, Teoría de la Información y la Comunicación Efectiva.*
ealadro@ucm.es
http://orcid.org/0000-0003-1986-8312
https://www.researchgate.net/profile/Aladro_Eva