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## Editorial

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After overcoming many difficulties and thanks to the extraordinary and committed effort of a series of people who love communication, this first issue of MLS Communication Journal is finally a reality.

These are good times for communication and no one questions the increasingly preponderant place of this discipline within the business, economic, political, social and cultural world, to mention just a few areas of human action.

It is not enough to do things correctly, but it is essential to communicate them in a truthful, systematized and effective way, since only in this way do they reach their true potential. For this reason, the vertiginous rise of communication experts within the organizational charts of organizations is palpable, which not only speaks of their recognized importance but also of the complexity of the phenomenon.

Sometimes it seems that communication is something consubstantial to the human being and therefore it is naturally incorporated into the essence of the actions of men and women in the world; but this is only the case at very basic levels, which are very far from satisfying the changing needs generated by a 21st century subjected to the daily vertigo of the massive dissemination of information.

That is why we modestly but proudly present our MLS Communication Journal, through which we intend to offer another tool for the exchange of knowledge among those of us who have the phenomenon of communication at the center of our academic or professional activity, with the aim of sharing knowledge and the advances of many colleagues who are also passionate about this phenomenon.

In this first issue we include some hot topics such as fake news in Ecuadorian digital media, models of public understanding of science and cyberjournalism around flat earthing, the threats of investigative journalism in Honduras or the perception of students communication university students on online platforms and the use of transmedia language.

It is a selection of works that are varied but that represent our international vocation and our ambition to cover as many aspects as help us to advance in the understanding of the communicative phenomenon from as many angles as possible. We hope that they arouse your interest as readers and we invite the community to contribute to our project by submitting your work and articles in accordance with this ideal of growth and continuous improvement.

**Alejandro Sanz Láziz**

Co-editor Jefe de MLS Communication

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**FAKE NEWS: DESCRIPTION AND IMPACT OF DISINFORMATION IN ECUADORIAN DIGITAL MEDIA**

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**Abstract.** The false news that is published in Ecuadorian digital media occupies a leading role, generating concern, both in professionals and in the public. Therefore, the purpose of this study is to reflect on the motivation, components and lines of distribution; of the misinformation that audiences collect and the benefit that certain agendas of the political, economic and social sphere receive. On the other hand, it shows approaches that explain certain informative factors, some of greater relevance than others. 196 individuals participate in this investigative process, with significant criteria but limited capacity to identify and differentiate what is true from what is false. The results show the feasibility of marking itineraries that seal the way in the correct dissemination of highly accepted content in online communication systems, preferably in social networks. It comes to the conclusion that, although journalism can be carried out in a responsible and professional way, what is done is limited compared to the verification and contrast of the facts. It is necessary to apply the norms and constitutive laws that allow validating the right of individuals to receive reliable information, in accordance with the principle of freedom of expression, without forgetting the deontological elements that prevail in communication, in order from this context to assent the informative validity.

**Keywords:** Fake News; Digital media; Disinformation, digital journalist.

**Introduction**

Digital media have come to change everything that so far involves consuming information and journalism. Society prefers to update its contents through social platforms such as: Facebook, because there are distributed data that allow to consolidate trends, as they serve as distraction systems to avoid events of reality, since the publication of news lacking veracity is not something new.

The main objective of this article will be to observe how the existing digital media in southern Ecuador have managed this dichotomy related to the veracity of falsehood. Internet access has intensified this issue induced, to a large extent, by the imperceptible diffusion in non-conventional media among users who spread information

through different channels. This increase is not only a source of concern and interest for professionals, but also for audiences who observe how news stories are no longer the exclusive domain of a few, but involve society as a whole, so that in broader terms the aim is to reduce disinformation and the impact of fake news,

In this context, a documentary analysis of scientific publications related to the subject is made, to determine what actions have been incorporated by digital media and communication professionals to curb the flood of disinformation in digital environments. It should be considered that the Internet is not a demarcation world between traditional and digital journalism, but constitutes the entrance to a cosmos of new opportunities to practice the profession (Palomo, 2004).

Nowadays there is a great number of media and supports to know the "last minute" of a fact, always exposed to a constant excess of information where false contents circulate with total freedom, adding to this the immediacy, which journalists must also face.

The concepts that allowed to deepen in this study are related to political communication, journalistic world and education, being the latter the one that should be given more attention, whose procedure lies in selecting information content that allows to differentiate the true from the false, to show reflective positions against what is presented as apparent objective information.

Ecuador recently experienced an electoral period to renew state dignities: president and vice president of the Republic; in addition to national and provincial assembly members, where the role played by digital media was notorio, where the real and the apparent were mixed in favor of political interests, mobilizing the emotions of the electorate, with the sole intention of influencing their behavior, for which the digital media, such as Primer Reporte, Lo del Momento Loja, Masharos News and El Oro Digital, showed their sympathy for one candidate or another.

From the methodological perspective and to understand the problem in greater depth, the opinions of those who work in digital media and citizens followers of these platforms are compared, in addition to the statistical analysis of published information, in order to determine their views on the importance and influence of fake news within the communication landscape and the usefulness of ethical resources in the construction of objective journalistic content. This will allow delving into research processes that compare professional cultures and audience opinions.

### ***Fake News***

To refer to the phenomenon under investigation, the Anglo-Saxon term of fake news will be used, which describes journalistic contents that lack truth, which are published through different media: portals, print, radio, which make them appear as true events, to manipulate the public mind.

From the contextualization perspective, disinformation has always existed, from the moment awareness was gained, regarding the media and the community, specifying what Gaber, (2017) says "it would be worrying, in the sense that disinformation flows with speed and amplitude through digital platforms such as Google or Facebook" (p. 9).

Allcott, H., & Gentzkow, M., (2017, p.p. 211-36) in relation to fake news and social media, together with (Silverman, C., 2016) narrate for example that the most popular story qualified as fake news was widely more shared on Facebook, than truthful events with higher acceptance.

However, this should be understood as a turnaround in journalism, as they pose challenges to the extent of how difficult it is to differentiate the false from the truthful, that generation of non-objective information are a constant, in digital media.



The above is comparable with the expressions of (Rochlin, 2017) proposes to relate its position to an information war, being far from assuming the responsibility to fight against false events and rather, claim the role of information professionals as generals in this battle: to train critical users.

### ***Post-truth***

The purpose of fake news in the 2016 U.S. election campaign was to attract visits to their web portals and their frequent dissemination on social networks. Just like serious and quality news, pages dedicated to the fabrication of false content offered readers greater possibilities to share falsehoods on different platforms. Today, the Internet assists journalistic information in its dissemination, on digital platforms and social networks, long before being promoted in other spaces.

The progressive growth of the digitalization of the information market, motivates the use of an infinite number of resources to make certain events appear as real, by thinking, for example, that a website can be similar to that of a reputable media where they misrepresent or even propagate content networks, which can rely on themselves to generate credibility.

In 2016, opinions regarding Trump's victory in the U.S., of Brexit in Great Britain and the "No" in the referendum for peace in Colombia, the revenge of the herd in Australia, the crucified child in Ukraine, the girl in Kuwait and the invasion of Iraq, referred to very concentrated campaigns, which led to determine that the actions of the media and digital platforms, influenced the outcome, something unexpected, without doubt became important events that diminished the quality and rigor of the contents (Ramirez, 2007).

"Spreading disinformation is probably the greatest harm the media can do" and highlights that "using the media for this instead of educating the public counts as a sin" Francisco (2016).

### ***Falsehood of information***

False events, strictly speaking, can have economic, political and other motivations, which undoubtedly becomes a challenge for the media, but not an alternative to the problem, the importance is not only technical but also social, because people are the ones who share the content. And although the news can become less visible, the criterion of Internet users also counts. Chackabarti, (2018) argues that "At best, Facebook enables us to express ourselves and take action. At worst, it makes it possible for people to spread misinformation and eat away at democracy."

It is also added that the pages that share fake news pursue objectives such as: gaining followers, selling advertising, discrediting something, someone, generating distraction from other issues, stealing personal information or getting money in exchange, for example, inviting to enter credit or debit cards for some charitable cause or fictitious purchase, so the urgency of knowing how to identify hoaxes and fake news by their own characteristics is born.

Characters of high world representation such as former President Trump (2016-2020) made credible certain claims such as that Barack Obama was born in Kenya, a rumor that also the former president had held since 2011, or that the former president founded ISIS (Kopan, 2016). These are information resources that have a truthful appearance.

Analyzing the content of the Secure Ethical Network published in 2017, Facebook was the stage where the battle of 'engagement' was fought during the last presidential elections in the United States. An analysis carried out with the Buzzsumo tool showed

that as the voting date approached, fake news was more shared than real news. For his part, Colombian Hernán Darío Restrepo (2017), clarifies that:

the problem of this epidemic has begun to be attacked on two fronts: business and distribution. Statements made by Paul Horner, a prolific creator of fake news on Facebook, to The Washington Post made it clear that publishing fake news on a web page to attract millions of clicks is extremely profitable. According to his confession, he had managed to earn more than \$5,000 a month thanks to the advertising served on the website where he was hosting these far-fetched stories.

Advertising elements are decisive in the publication of advertisements that are usually accompanied by contents that, being headed by yellow headlines, capture the attention, and concentrate hundreds of people constituted as audiences.

### ***Ecuadorian context***

Worldwide, the media, such as the written press, are struggling to find, create and locate new multimedia dimensions to integrate into their platforms. It is not known in which world it is entering, as Serrano (2013) points out:

We do not know what exactly the new technologies are or what they are engendering again. We don't know if the Internet is a technique like writing, a tool like the printing press, a new continent like America or an organ like our right kidney. It is probably all of these at the same time. What we can say is that it introduces us - is already introducing us - in a post-literate condition; in a condition in which what is decisive, as a new frame of perception, is no longer the public letter nor, as it is often believed, the hidden "digit" but "the screen" turned on.

In Ecuador, the media have been part of the Internet since 1995. Newspapers, Hoy delivered the first news bulletin through ClariNet (Ayala and Cruz, 2017), with a global reach. El Comercio in 1999 had a digital edition and six years later incorporated new multimedia formats to its platform. El Universo entered the web in 1997 until 2008, including social networks as a digital weapon to obtain greater reach on the web (Rivera, 2014). La Hora appears in 1998 and improves web design, forcing other media to update. Diario Expreso and El Extra in 2007 join the digital platform.

Genres do not present themselves in a static way, but undergo constant evolutions and, for that reason, a theory on genres cannot be considered as a series of fixed laws, but as a system for organizing a context permanently open to debates, discussions, and diverse critical interpretations, (Obitel, 2017).

Paradigm shifts are now an absolute reality in terms of journalism, there are now media outlets that choose to have journalists all over the world and provide information on a large scale, although it is difficult for people to stop trusting internationally recognized media outlets, based on their high credibility indexes.

Ecuador has in place, many sites that function as media and are managed by recognized journalists, despite being independent spaces, audiences trust those who write there, despite this it is complex to point out the triumph of trust, because disinformation and false news circulate instantly.

The digital media, with their appearance have motivated new opportunities for communicators, many watch over the deontological application, working independently.

### ***The journalist's role***

Communication professionals have at their disposal reliable sources of information, to which they can resort to meet the needs of their audiences. A reliable source, a reference source, follows controls and validations that guarantee the quality of

information. The presence of the Internet, the blog, the web, the monopoly of informing is broken, and it is no longer only the editors of newspapers, magazines, books or the media who have the capacity to issue messages. (Casero-Ripollés, 2015) Censorship should not be forgotten as an impediment to professional practice, but legal, moral, and religious obstacles were called "online civic reasoning". (Wineburg, 2016)

Many have forgotten that the journalist is the person who lives, applies, and shares the principles of journalism, which, as Kovach and Rosenstiel (2003) agreed that the first obligation the truth, must loyalty first and foremost to the citizenry, maintain independence from their sources, exercise control independent of power and in their work apply the method of verification. The rest is simply not journalism.

Every journalist must always tell the truth, has the obligation to inform the public, his job is to verify what is published, must maintain independence from power, must act as a public forum, publish relevant content, and show responsibility with his conscience, that is a high professional responsibility.

Each professional should apply the principles and creed of journalism as an effective code (Williams, 1908), which must be applicable to journalism today and coincide with those proposed by Kovach and Rosentiel. Understood in such a way, the journalist contributes to satisfy citizens' information requirements, although the truth is the maxim that every journalist should set as a purpose.

The benefit of low-cost communication has been reduced to describing the activity of audiences on Twitter, Facebook, Instagram, or Snapchat. However, today's journalism is affected by an over-stimulated society, constantly open to new experiences.

### ***Refuting Fake News***

The phenomenon of reliability is given when there is a lack of references, as is the case with current news. On several occasions, there is no way to know the truth immediately, unless the information is quarantined, until evidence is found to prove or demonstrate the facts mentioned by a news item.

Curation of information is opposed to the primary impulses of users in social networks and of society, which claims immediacy as a higher value than truth and prudence. However, even considering a piece of news as legitimate or transmitting the truth, it may happen that the official source that transmits it has been contaminated or, deliberately, slightly changes a message or facts that have occurred. This case of false news would be difficult to identify, since the source and transmitter of the information is the only one who knows the truth. How then is the lie unmasked? In all probability, it is accepted and is a false truth, until a mistake is made, or another source of equal rank is found, which demonstrates with evidence, the truth. (Desantes, 1976)

The technique of "data representation" consists in the creation of pockets or groups of significant words by their frequency in the false news. Thus, if the identified words appear in a news item with a certain frequency of occurrence, this news item increases its probability of being false. This theory makes sense, as there are words commonly used in superficial discourses, which can reveal a hoax (Markowitz and Hancock, 2014).

The "rhetorical structure analysis", involves the identification of linguistic schemas and assumptions that are prevalent in fake news. To measure the likelihood of fake news, similarity calculation is performed, through the vector space model (Rubin, & Lukoianova, 2015). However, this method has not yet been tested and its effectiveness is unknown.

The application of the "network behavior" technique allows detecting trolls, and even profiles that misinform. These patterns can be compared with those of the rest of

users, obtaining a truthful result, so explain Tacchini et al (2017). Of course specifying in science news that are false. This is an approach where the methods to detect this type of news, depends on a knowledge base with false and truthful news to be able to segregate or archive the information more effectively.

In this sense, Wang's (2017) work stands out with the LIAR dataset, which is specifically designed for the political context of several countries, subdividing more than 10,000 fake news, collected over 10 years, into different subcategories of the information, such as elections, television, budgets, taxes or education. Despite this classification of news, there are nuances, for example, information considered as "rumors", "conspiracy theories" and "disinformation". This is the theory held by Shu,

In the same current is the study of Horne (2017), delves into the qualitative study of the words used in fake news and their frequencies. They establish differentiated features, in analytical, insightful, causal, discrepancy, tentative, certainty, differentiation, affiliation, power, reward, risk, personal interest, emotional tone, angry, sad, positive feeling, negative feeling, verb, pronoun, article, noun, adjective, adverb, term of comparison, exclamation, negation, slang word, interrogative term, punctuation, compound Word.

### ***New journalistic paradigm***

A change is occurring within journalistic routines, not to the very essence of journalism. Journalism is journalism, in any medium, on any platform and anywhere in the world. Therefore, it is still in the perspective of: collecting, selecting, hierarchizing, constructing the news and disseminating it, with different discursive modalities called journalistic genres, these are developed from the news, only the informative note is exhausted in the news. This remains until now.

In this sense, we must consider that the media have changed, especially with the appearance of the Internet, it has been like turning over a new leaf on journalism; therefore, this rethinking does not refer to what journalism is, but now how it is done. How this function is executed. It is a new semiotic discourse because it is not only the word; it is the image, the audio, the movement, the color and its structure, particularly.

For Mexican professor Susana González, 21st century journalism is facing new challenges as a result of technological advances and, especially, the emergence of the Internet and social networks.

It is no longer required only an excellent written writing to be read or spoken; but it includes drawing, symbology with which I can convey a message; many capabilities; skills now assumed in transit by a single person who writes for paper, digital and audio support. However, this will increasingly have to diversify, not only specialize, because it is impossible that a single individual can do everything.

In this context and according to what González Reyna points out, it is necessary for the journalist to become a specialist in the handling of language, according to the foundation of the message. Knowing how to build that message, what languages to use, in addition to words, images and sound. It also requires a series of skills both for the dissemination and the search for information, which has been minimized in everyday news journalism.

### **Method**

The disinformation that circulates through certain digital media is a worrying problem in the direction of public opinion in the world. The analysis is developed within

the Ecuadorian territorial margin, also supported by previously developed studies, the choice is framed within the quantitative and qualitative method. The main objective is the establishment of guidelines that contribute to combat disinformation in digital media, identify which ones generate it, study the information content of other media, know what levels of disinformation caused by digital media, using the analysis of the Communication Law and various journalistic publications.

The information was collected from the testing of surveys to a group of followers of digital media in southern Ecuador to check if the questions are understandable and if the answer options cover all possible alternatives. This methodological approach allows to collect the speeches, criteria, opinions, suggestions, and interpretations of individuals in an age range of 18 to 65 years, which allowed to verify the levels of misinformation in the audiences. Previous studies also contributed to the structure and depth of this work. The criteria received from digital media managers, through interviews, generate the contrast of positions regarding the dissemination, contrasting and verification of content; accuracy of journalistic sources and know what kind of instruments or filters are used to control falsehoods.

### ***Content analysis***

Through its application, objective information is collected, delving into the descriptive forms and the relationship with other elements such as: psychological, sociological and history, units that contribute to the selection and categorization, according to their importance, reasoning obtained with the field work, thus synthesizing and analyzing the veracity of the contents and the indexes of misinformation that is provoked in the audiences.

### ***Deduction***

The use of this reasoning which, due to its transcendence, motivates the search for truth, contributed to the analysis of general premises to derive a particular issue through the approach of a series of variables, linked to the logic of knowing how fake news has generated disinformation when published in Ecuadorian digital media, particularly in the southern region, having thus analyzed and systematized the contents published in these digital platforms.

### ***Induction***

The induction helped to analyze the relationship between the individual phenomena, that is, to know if the fake news published in digital media in the southern region have influence in the Ecuadorian national context, where misleading content is also disseminated, with the sole ingredient of persuading, misinforming and confusing audiences.

### ***Quantitative***

The quantitative perspective made it possible to assemble, collect and compare the results obtained by classifying each of the criteria expressed by the participants in the study. The reasons and motivations about the disinformation caused by fake news were verified through the data ordering process according to the values and percentages found after the direct analysis. Once the surveys were conducted, the numerical sample was structured in order to establish the difference of degree given by the researched with each answer, for the subsequent planning or statistical survey.

### ***Qualitative***

It contributed to the selection of the events or facts published in the digital media of the southern Ecuadorian region, from the empirical perspective, since they are non-quantitative aspects. The criteria or reasoning of those investigated, contributed to the description of reality, i.e. to know the ways in which disinformation caused by false news generates uncertainty, although many media bet on the publication of scoops, regardless of whether they are true or false.

The comparisons and analysis of publications made by the digital media provided clarity regarding the behavior and interaction promoted by the participants in the representative sample.

### ***Sample***

This research identifies the levels of disinformation caused by the publication of false news in existing digital media in the southern region of Ecuador. The representative sample of 196 units was obtained, once the formula for finite audiences was cleared and after having selected a universe of 20 thousand followers between 18 and 65 years of age, to whom a questionnaire incorporating 10 questions was applied, answered according to their level of knowledge and familiarity with the topic to be investigated.

### ***Instruments***

They enabled the collection of sufficient information, based on abstract concepts provided by the researched and compared, through the analysis of the contents published in the digital media, their classification and quantification, determined the validity, reliability and objectivity of the results obtained.

## **Techniques**

### ***Survey***

It consisted of 10 questions that allowed obtaining sufficient information related to fake news, publications, verification, and contrast of content before its dissemination in digital media and incorporation of other questions that helped to clarify the present study. The data collected were ordered according to each answer, obtaining more clarity about the phenomenon.

### ***Interview***

Conversations were held with professionals linked to the area of communication, directors of digital media in the southern region: Tv Digital, Primer Reporte and Lo del Momento Loja. The analysis was planned according to the answers obtained from the 8 questions applied, through their use it was known why the facts are not verified and contrasted or if the publication is based on immediacy, being feasible the design of a structured format, which facilitated the qualitative analysis and its corresponding comparisons.

### ***Procedures***

Quantitative and qualitative information was obtained with the support of survey and interview techniques. The empirical material was collected through the application of 10 questions; open, closed, and multiple choice. The measurement instrument for the collection was the questionnaire, applied to followers of digital media in the southern region of Ecuador.

Likewise, the interview facilitated the collection of information, in order to know what is the treatment given to information in the digital media of the region, using 8 open, logical and sequential questions.

These techniques made it possible to collect an orderly record of data ranging from socioeconomic factors to knowledge about the levels of disinformation caused by fake news, and thus verify the ability of audiences to differentiate the contents of the media.

### Results

The designations expressed in each descriptive element accumulate separately to the categories shown in the quantitative and qualitative derivations.

Table 1  
*Gender*

<i>Category</i>	<i>Frequency</i>	<i>Percentage</i>
Femal	96	48.98
Male	100	51.02
<b>TOTAL</b>	<b>196</b>	<b>100</b>

*Source:* Author's own creation

The combined results of the sample show that 51.02% are male and 48.98% are female. The evaluations show that their gender condition does not exclude them from reality, regardless of their socioeconomic status.

Table 2  
*Age*

<i>Category</i> <i>Age</i>	<i>Frequency</i>				
	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>	
18-35	50	48	50	48	98
35-65	50	48	50	48	98
<b>TOTAL</b>			50		196
	25.51	24.49	25.51	24.49	100

*Note:* survey of followers of digital media in southern Ecuador, according to age

The male gender occupies 25.51% with a range of 18 to 35 years of age and with similar statistics from 35 to 65. Women have equal proportions (24.49%) in relation to the same category. These data determine a strictly deducible difference in correspondence to the fact that some are younger than others.

Table 3  
*Instruction*

<i>Category</i>	<i>Frequency</i>				<i>Percentage</i>
<i>Gender</i>	<i>Men</i>	<i>Women</i>	<i>Men</i>	<i>Women</i>	

Elementary	40	35	20.40	17.86
Middle	35	38	17.86	19.39
High	25	23	12.76	11.73
<b>Total</b>	<b>100</b>	<b>96</b>		<b>100</b>

Note: educational level of digital media followers in the southern region of Ecuador.

According to the sample, 20.40% of those consulted are men with primary education, 17.86% with secondary education and 12.76% with higher education. Women 17.86% have primary education, 19.39% have secondary education and 11.73% have tertiary education. The high ranks show that women have middle school education and men have primary education. In university education the categories are low in both cases.

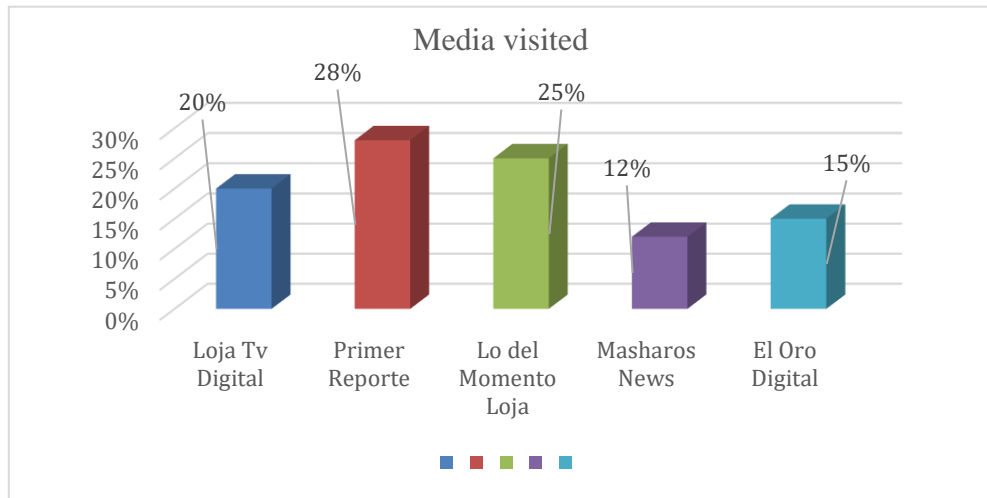


Figure 1. Digital media accounts in southern Ecuador with the largest number of followers.

Among the news accounts with the highest number of followers are: Primer Reporte with 28%, Lo del Momento Loja with 25%, Loja Tv. Digital with 20%, Masharos News, 12% and El Oro Digital, 15%. Consequently, citizens are informed through online platforms. In preference are Primer Reporte and Lo del Momento Loja, because it is due to the better management of the network, innovative content and the popularity of the media, by opening advantages for their followers, providing them with desired information, according to their time line.



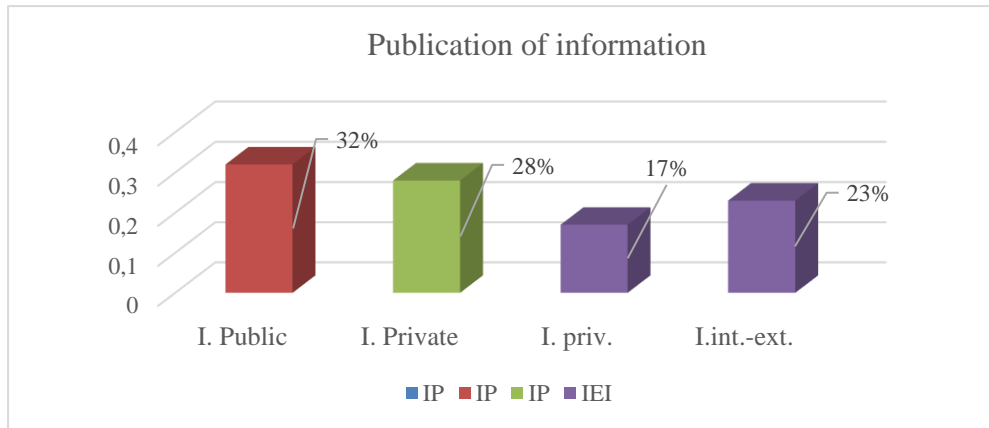


Figure 2. Information published by digital media in the southern region of Ecuador.

Public information disseminated in digital media in southern Ecuador reaches a percentage of 32%, compared to private (28%), privileged (17%), internal and external 23%. The volumes of journalistic content circulating on online platforms are linked to the interest, timeliness and novelty, to its context, with public events being the most accepted, compared to the other variables.

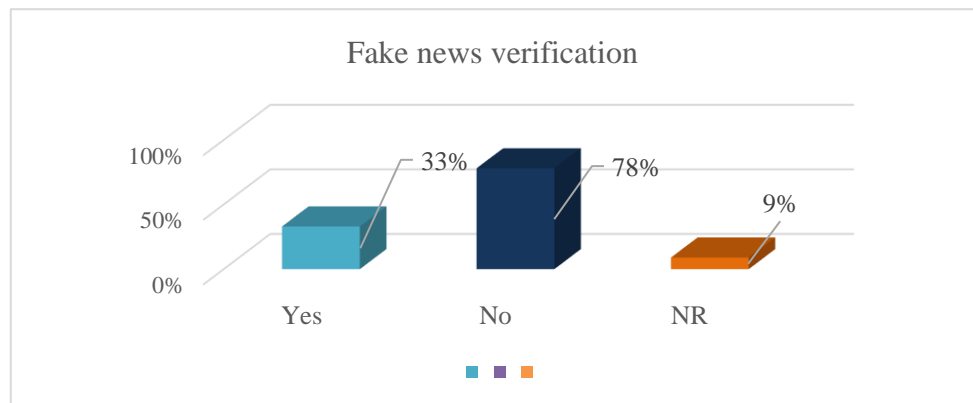


Figure 3. Identification and differentiation of untrue facts from true facts.

There is a high degree of difficulty in differentiating the true from the false (78%), compared to 23% who diversify. Comparatively, the lack of knowledge to identify and verify information is evident among followers, due to the levels of lack of knowledge and the low capacity to establish contrasts.

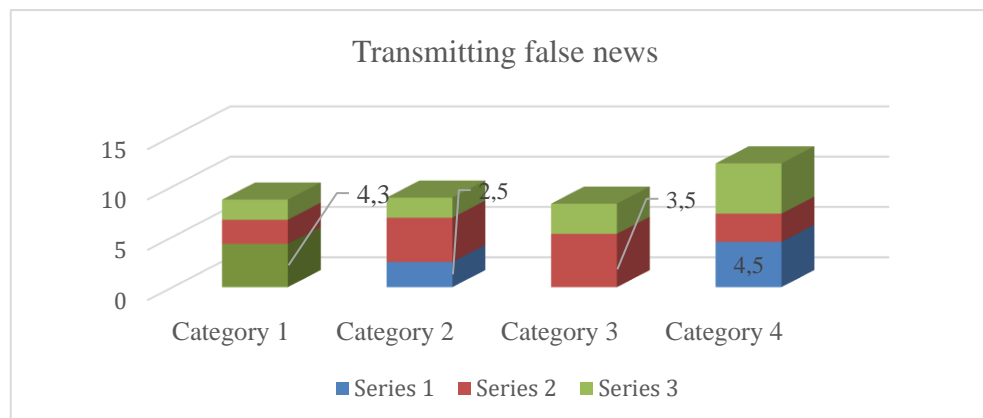


Figure 4. Unknowingly transferring fake content.

The transfer of false news stands at 76%. Seven percent have not shared information and 17% do not remember. The preponderance in relation to this phenomenon is sufficiently striking to be taken into account, since a high rate of content has been shared despite its low credibility, regardless of the damage it may cause to audiences.

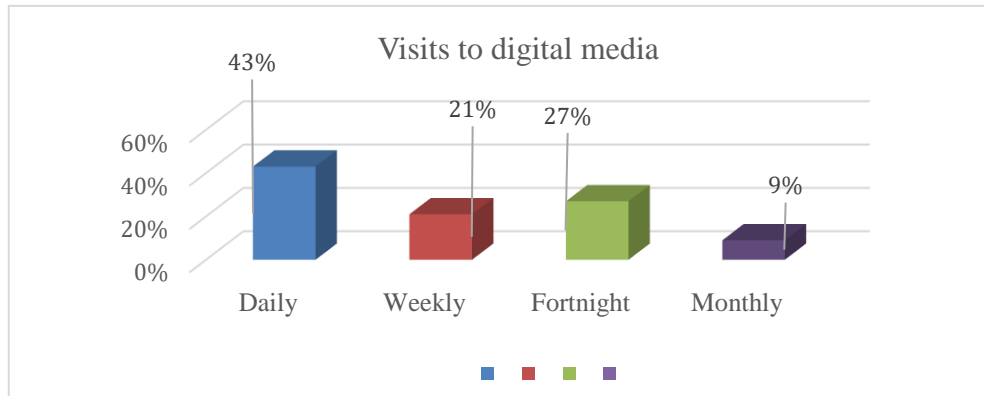


Figure 5. Visits to digital media in the southern region of Ecuador.

The highest number of visits is daily (43%), fortnightly (27%), weekly (21%) and monthly (9%). The online mobilization of users or followers is daily, in comparison with the rest of the categories, which ratifies the interest in the exposed contents. The lower statistics are in line with preferences and tastes, by virtue of the time available.

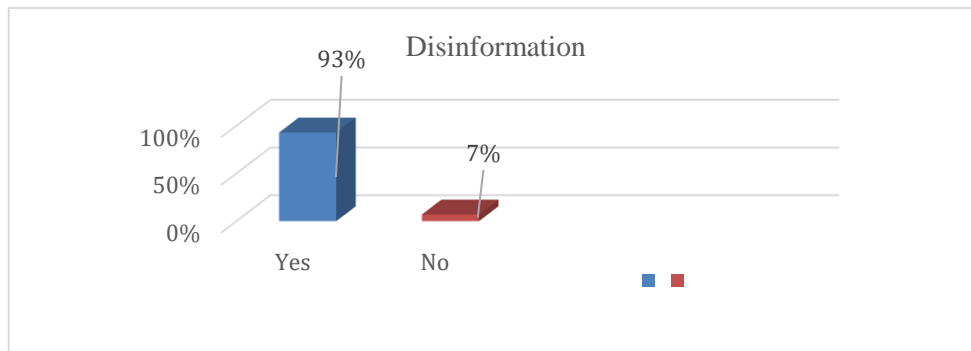


Figure 6. News content misinforms audiences

The consumption of online news information that causes disinformation is high (93%), a smaller number (7%) considers that it does not. The systematization by categories determines a worrying degree of disinformation for audiences, with a high load of manipulation in journalistic content, thus shaping public opinion, despite the prohibition established in constitutional regulations.

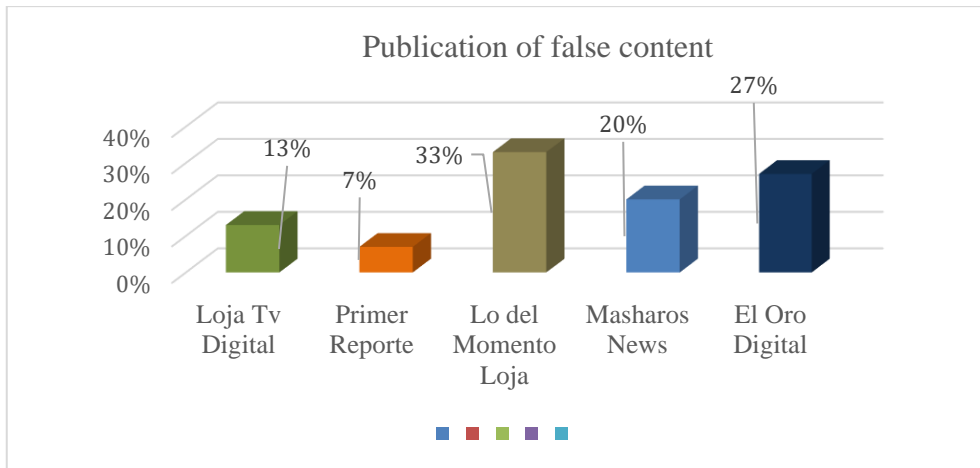


Figure 7. Dissemination of false content in digital media in the southern region of Ecuador.

The false content that digital media such as Lo del Momento Loja has disseminated is 33%, while 13% say no, taking into consideration these results, it is argued that the levels of misinformation are high, because those who publish content in these media do not investigate, but simply take advantage of the moment or the novelty of the event, ie lack of responsibility and seriousness to the audience, because, in addition, their ethical procedures are not complemented by the real training of a professional in digital journalism.

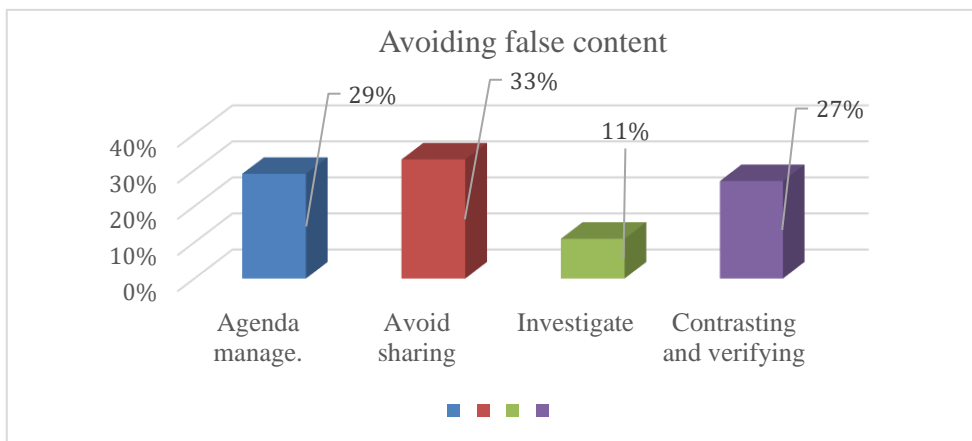


Figure 8. Avoiding false content in digital media in the southern region of Ecuador.

The analysis corpus projects 29% in keeping an agenda to avoid disseminating false information. 33% suggest avoiding sharing. 27% suggest contrasting and verifying and 11% investigate. Inquiry, professionalism, verification, and contrasting are instruments to counteract false news, but this non-transfer does not result in the adequate management of news fields, since audiences claim the veracity of the content, its validity and authenticity.

### Interviews

The processes of information transmission through different digital communication systems and social networks, allow transmitting and sharing messages faster than a traditional method. It is not a very costly and, thanks to the wide range of resources and tools available, digital communication is within everyone's reach.

It is of vital importance to manage a media agenda, a daily planning, where the sources to which journalists resort for their corresponding approach are described. The informative treatment is designed by the journalist according to his style and professionalism is a route of perseverance, to avoid misinformation.

It is complex to identify the most suitable procedures in terms of content contrast, such responsibility is assumed by journalists, because the law determines it, in addition to complying with the codes of ethics by the professional as well as the digital media.

To check the veracity of a text requires expertise and knowledge, otherwise, the vector of false news will melt. The alternatives are at hand and should be investigated, so that the veracity of the events will have a high objective load. The lack of professional training in digital journalism is another limitation, they do not have enough preparation to assume the correct treatment of the informative contents.

### **Discussion and conclusions**

The concern expressed by the United Nations, world governments and collegiate bodies in their fight against fake news is corroborated. The use of social networks should be framed within the value of truth, contrast, prudence, and reasoning.

The results are deduced from the credibility of digital media, associated with the lack of journalistic research that causes high levels of misinformation (93%), according to the criteria of the sample studied. The exposure of unverified and unverified events or publications, engenders the main cause for violating the opinion of the audiences, due to their deficient capacity to differentiate falsehoods from realities.

In these times, Ecuador has faced a series of events that have generated community alarm, because disinformation has been the main food for manipulation and disorientation of citizens. The objective of the digital media in the southern zone is to take possession of the so-called scoops, no matter how accurate the event is. In this investigation process it is confirmed that the contents disseminated in a high rate are false, increasing the distrust in both the media and the professionals, being evident the lack of responsibility.

The enormous power of influence on the opinion of citizens is determined by the consumption of fake news and by the exercise consummated from digital platforms with clear effects on the psycho-social thinking of the population, consequently, 76% of the sample assumes to have disseminated false content out of ignorance. The online spaces through which the greatest amount of dubious content has traveled are accounted for between 33 and 27%, other variables such as age are incorporated, where 51.02% assume technological knowledge competences, despite differing in time.

In Ecuador there is a Communication Law that regulates and sanctions the behavior of the media and journalists; however, at the level of digital resources, there is no norm that sanctions, Facebook, and Google have intensified their control plans on fake news, despite this it is difficult to establish a 100% intervention, so it contravenes the truth.

Responsibility and professional level play a preponderant role for verification and contrasting (27%), otherwise false arguments will continue to exist and will live between the technological revolution and citizenship. Audiences claim authenticity and informative veracity.

With the arrival of new technological processes and the incorporation of the media to the digital system, other forms of communication and journalistic consumption emerge,

since the volumes of content circulating on the platforms are linked to interest, topicality and novelty, these circumstances force the audiences to be attentive to the impact of the informative content.

In this same line, the study has allowed to verify that the set of contents disseminated by online spaces is not authentic and they create an outbreak due to the low capacity and the limited level of knowledge of those who consume them, being this the angle to establish certain differences in relation to fake news.

The large volumes of daily information disseminated in the online media in the southern part of the country, cause a huge mobilization of followers, without knowing how objective or fraudulent they may be, the purpose is to remain active and browse the digital platforms of interest and post what they consider relevant, without assuming responsibilities.

Most users do not verify or contrast the information, so they systematically share and disseminate certain articles according to their perceptions or by simple impulse, this determines the high levels of disinformation, a high load of manipulation to shape public opinion, despite the prohibition established in the Ecuadorian constitutional regulations.

The digital media established in the southern zone of Ecuador, do not assume the responsibility and ethical commitment at the time of information immediacy, that opens a gap for the exercise of a new journalism, quality, based on research and especially incorporate into their production routines systems to stop fake news or what is known as fact-checking. A topic that could be addressed in future research.

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**MODELS OF PUBLIC UNDERSTANDING OF SCIENCE AND  
CYBERJOURNALISM ON THE FLAT EARTH**

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**Abstract.** The aim of this article is to describe the models of public understanding of science involved in the communication between disciplinary matrices of experts and lay scientific prosumers in digital social networks to develop a *Technique of Critical Documentary Analysis* (TCDA) that allows scientific cyberjournalists to carry out critical-qualitative research practices. The theoretical model that orders the interpretation of the data is the epistemology of testimony, so it is assumed that the development of communities of lay scientific prosumers in social networks is a consequence of the distrust in the normal epistemic authority, while cyber-journalistic interventions are still sustained in the *deficit model*. For the development of the TCDA, a non-experimental descriptive-ethnographic methodological design was used, with a qualitative, retrospective-longitudinal approach, with which were selected, in a period of 6 months (2019-2020), segments of comments from experts, interface agents and laymen, related to terraplanning communities. The results obtained suggest that the development of a TCDA requires situating the activity of interface agents in the interstice between the communities of experts and lay scientific prosumers, as well as traditional or social media, appealing to the meta function of communication, that is, to the possibility of understanding a theoretical position beyond the normal science paradigm, protected by unidirectional/verticalist literacy strategies, as well as the transmedia presumption of evidence and arguments developed by laymen.

**Keywords:** cyberjournalism; scientific communication; epistemology of testimony; cognitive deficit model.

**Introduction**

The conceptualization schemes on public communication of science in the 20th century have assumed the acceptance or rejection of cognitive asymmetry, that is, of a prescriptive logical-theoretical construct regarding the difference between expert knowledge and the popular knowledge of laymen, and from which four hegemonic models of public understanding of science are inferred. The question that structures this article is, then, the following: *¿Which critical documentary analysis technique is relevant*

*to interpret the models of public understanding of science involved in the communication between expert disciplinary matrices and lay scientific presumption communities in digital social networks?*

The assumptions underlying the interpretation of the data collected are as follows:

- a. The formation of lay matrices in digital social networks is a consequence of distrust in the credibility of scientific evidence and, indeed, of epistemic authority.
- b. The normal science matrix communicates with lay communities according to the criteria of the classical-empiricist model, that is, by literate compensation of the hypothetical cognitive deficit of the public.
- c. The interface mediating agent (educommunicator, science journalist, science popularizer, etc.) protects the ideological interest of the normal science community, to the detriment of the lay science prosumers.

The disciplinary relevance of the presented study is given by the fact that it occupies a space of theoretical vacancy in the face of the persistent use of scientific demarcation criteria typical of the *standard conception of science* by interface agents who carry out public communication and apply unidirectional communicative models, based on the extension of scientific literacy/propaganda and *cognitive asymmetry* to relate to laymen or experts. Thus, the general objective of the study is interpreted, consisting in the development of a TCDA based on a historicist-pragmatist epistemological understanding, which allows different interface agents to generate a critical description of the communication between experts and laymen in digital social networks.

### ***Hegemonic models of public understanding of science***

*Cognitive asymmetry* has given rise to four models of public understanding of science, namely:

a) *Cognitive Deficit Model (CDM)*: The *Information Deficit Model (IDM)*, which focuses on understanding the interests, attitudes and knowledge of the public, has led to a significant controversy regarding the role of science communication in explaining the relationship between disciplinary matrices of experts and the mass public; it originated around 1980 in the United States and the United Kingdom, in the context of the debates linked to the linear hypothesis that establishes *the prevalence of greater social skepticism towards science due to a generalized lack of knowledge about the processes and products it develops*. In this model, the task of public communication of science consists of the disciplinary development of science journalism, educommunication, social and scientific communication, as well as the formation of a system of scientific propaganda that fulfills the primary objective of literacy to compensate for the cognitive deficit registered by the lay public.

Scientific literacy, also assumed in the objectives of the *Vienna Circle*, is

conceived from the deficient understanding that the scientific education of the citizenry is concurrent with the need for civil society participation in public debates on science and, ultimately, is seen as a predictor of democratic quality: social unrest, put in consideration of significant problems such as nuclear energy, cloning, vaccines, agricultural or food technologies, etc., would require scientific literacy strategies so that overt hostility does not prevent the implementation of developments that could eventually constitute a future social benefit, would require scientific literacy strategies so that overt hostility does not prevent the implementation of developments that could eventually constitute a future social benefit. This perspective assumes the articulation between the scientific community, together with governmental sectors and industry, to *recognize that a hostile public and media are likely to seriously limit or even veto a controversial research program* (Miller, Pardo, Niwa, 1997), and this assumption has been substantial in the understanding of the cognitive deficit of the public as a condition for acquiring a skeptical attitude towards science.

The *deficit model* assumes that both public optimism and skepticism about the benefits of scientific progress are due to a *cognitive asymmetry* between the disciplinary matrix of experts and the lay community, a community that thus resorts to mystical beliefs or irrational fears as primary arguments against the practices of science. If this hypothesis is accepted, the immediate implication for science policy is the development of public information campaigns that compensate, in banking terms (and in accordance with the metaphor of the *hypodermic needle*) for the manifest deficit. However, since the publication of the Bodmer report (1985) by the Royal Society, the field of public communication of science has successively questioned the deficit model, as a consequence of the practical ineffectiveness of science literacy as an introjective mechanism of compensation. In this sense, the public understanding of science was crossed by the underlying governmental and corporate interest aimed at "selling science" (Nelkin, 1995), using the traditional media as a propaganda system (see d.).

b) *Ethnographic-Contextual Model (ECM)*: it was constituted according to a substantive critical perspective with respect to the deficit model and, especially, to the *cognitive asymmetry* that distinguishes between the expert knowledge of scientific discourse and the knowledge of laymen. Jasanoff (2000) interprets that public understanding of science is not given by the mastery of scientific knowledge structured in conceptual terms, but by the appreciation of the mutual claims required in the relationship between science, technology, and society. For her part, Wynne (1992) criticizes the dependence of the deficit model on quantitative surveys designed with knowledge extracted from textbooks to evaluate the formal contents of scientific knowledge. Thus, the articulation of the contextualist perspective has argued that the exclusive quantitative approach is not likely to offer reliability in the data obtained, since they delocalize the respondent from his or her own social environment and are, therefore, intrinsically incapable of examining or controlling the potentially variable and socially internalized meanings that the terms have for the public (Wynne, 1995).

This model has made use of an ideographic-qualitative approach based on case studies for the construction of the empirical base, and quantitative/survey-based research to maximize reliability and validity, as far as the conditions of generalization of the data are concerned. For, while the critical position of the contextualist model is extensive, and thus inscribes itself in a defined epistemic-normative framework, the paradigmatic opposition to the deficit model is ambiguous with regard to the use of qualitative-quantitative tools. However, the ethnographic-contextual model differs substantially by recognizing that subjects do not constitute themselves as a *tabula rasa* passively receiving information, but that social and economic organization schemes molded by previous experiences pre-exist in subjectivity, which determine the modality of social relationship with scientific practices. If the deficit model reproduces a pyramidal, verticalist and unidirectional scheme of information transmission, based on the behaviorism of *Mass Communication Research*, the SCM uses a down-top scheme that inverts the mechanism of scientific literacy, to explore in qualitative terms the specific contexts of reception, appropriation and production of knowledge that cross the audience. Thus, the model rejects the uniformity assumed by the linear hypothesis of the CDM, to admit heterogeneous degrees and typologies of social perception of science (Donghong et. al., 2008), according to socio-cultural contexts that determine the way in which people process and respond to this information: "The public is not only conceived as a competent agent but also as an agent capable of reflecting on what it knows. Based on that popular epistemology it can be explained why sometimes they prefer certain sources of knowledge to others -for example, their own experience rather than scientific statements or procedures-" (Cortassa, 2012, p.33)

c) *Epistemology of testimony*: the formal enunciation of the general principle of testimony establishes that "If A [the public] has good reasons to believe that T [the scientist] has good reasons to believe p [a factual fact] then A has good reasons to believe p" (Hardwig, 1991, p.697). Thus, the *epistemology of testimony* is circumscribed as an alternative that inquires into the mode of justification of knowledge from a deferential scheme in systems of epistemic authorities: it sustains the *cognitive asymmetry* proper to the MDC, since: "recognizing that positions are asymmetrical does not necessarily imply reducing the public's options to blind trust. In this sense, the question to be asked is, rather, *in what way the adoption of a belief formed from the word of another agent to whom epistemic authority is conferred is reasonably sustained*" (Cortassa, 2012, p. 68).

The epistemology of testimony is significant, in the historicist-pragmatist framework of understanding the context of justification and discovery in which the disciplinary matrices of experts operate, because it incorporates in the *transmitting* process of teaching-learning among the members of the scientific community, a dynamic of inter-peer relationship based on trust, a condition by which the cognitive activity of the community is constituted: "The dependence that each of its members maintains with respect to the knowledge acquired in the past, which permeates their intellectual ontogeny (...) when the scientist is

incorporated into the community and adheres to criteria, values and ways of doing established by authoritative voices" (Cortassa, 2012, p.60). ...) when the scientist is incorporated into the community and adheres to criteria, values and ways of doing established by authoritative voices" (Cortassa, 2012, p.60 ). Thus, if the process of theoretical-experimental production proper to the disciplinary matrices of experts intercommunicates in conformity with a scheme of deference to inter-peer epistemic authority, the epistemology of testimony is shown as an exemplary model to be transferred in its practical application to the public understanding of science, to point out the way in which the public places its trust in certain discourses to which it ascribes credibility

The action of the public is not passive, since it plays a decisive role in the evaluation of the credibility of epistemic authority for reasons that exceed mere *cognitive asymmetry* and in which external factors (psycho-socio-historical) that the SCM has already explored intervene, so that the reasons that support the examination of T may even exempt the direct contact between the expert and the layman. However: "in the process of social reception of science the reality is more complex as the public is often confronted not by one but by two or several scientists whose claims on the same subject may be divergent, and between which they must decide" (Cortassa, 2012, p.72). The justification of A's beliefs, in cases where a scientific controversy occurs, assumes that the public's judgment regarding the reliability of T1 or T2 must appeal to a higher order of sources or to an external arbitration that clarifies the information to improve the conditions for critical reflection in the face of the eventual crisis: *Is the earth flat or geoid?* Cortassa (2012) suggests that it is the interface agents (journalists, educommunicators, disseminators) who must intervene between the public and the experts: "The interface is the initial repository of the scientist's testimony, who must first assess the quality of the epistemic authority on the basis of certain criteria, since the credibility of his own role in the process is at stake" (Cortassa, 2012, p.76). Thus, the interface agent must ascertain the reliability of the experts to reconstruct and communicate the scientific discourse to the lay community, unfolding the deferential activity of the public that must now judge on the reliability of the disciplinary matrices, as well as of the interface agents that mediate/translate the paradigm and, even, the state of the controversy.

d) *Socio-critical model*: in 1947 Max Horkheimer and Theodor Adorno published *Dialektik der Aufklärung: Philosophische Fragmente*, a work in which the concept of "cultural industry" is exposed, referring to the historical process by which the hegemonization of mass communication technology becomes a condition of possibility to maximize the productive capacity of basic consumer goods, while establishing a system of domination by which the excluding end of economic productivity attributes greater superiority to those who hold power over the possession and management of the technical apparatus. If Lasswell understood, with *Mass Communication Research*, the behaviorist mechanism of mass determination by means of the introjective monopolization of the propagandistic message, the *Frankfurt School* will describe the way in which the consumption of cultural products (cinema, television, magazines, radio, etc.) is carried out in an uncritical manner by the public, which receives them as mere

entertainment. Thus, socio-critical theory is constituted in opposition to the organizational scheme of *Mass Communication Research*. The culture industry as a device for the production of mass entertainment does not coincide with the socio-political or economic interests of an alienated public and prevents the development of its critical judgment; it is also constituted as an apparatus that reproduces the conceptual schemes, that is, the ideology of power itself that structures the system of domination of Fordist capitalism. In this way, the consumption of cultural products takes place in planned times of entertainment that suppress freedom to preserve the structure of domination.

In *Selling Science: How the Press Covers Science and Technology*, Dorothy Nelkin (1987) describes the way in which interface agents, in essence, specialized journalists or cyberjournalists, report scientific activity by making use of a sacralizing assessment of the truth it produces. Thus, scientific propaganda obeys the logic of *selling science* as a pure cultural product that, from a socio-critical perspective, *entertains* the public, keeping it in a state of passive alienation that dismisses any possibility of critical judgment. The sacralization of the image of science corresponds to the inscription of *instrumental rationality*, under whose administration "public communication is one of the agents of social control. The culture industry is the equivalent of what American researchers call *mass culture* or *popular culture*" (Marafioti, 2010, p.186). Thus, the cult of scientific activity, thanks to the intervention of the media, circumscribes *scientific literacy* as a control device that fetishizes techno-scientific knowledge, turning it into mere merchandise to be consumed as propaganda subservient to the interests of capitalist ideology, that is, the public communication of science becomes an *entertainment industry*.

## Method

*Study design:* the development of a cyberjournalistic TCDA was carried out from a non-experimental, descriptive-ethnographic study with a qualitative, retrospective-longitudinal approach. The use of digital ethnography techniques allowed us to practice documentary analysis and participant observation, that is, direct interaction with the active members of the communities of terraplaners, experts and interface agents in digital social networks.

*Population and sample:* the population consisted of the terraplanist prosumo communities, in which interactions between experts, interface agents and laypeople were recorded. The non-probabilistic, purposive sample selected 160 segments of comments made over a period of 6 months (2019/2020) on:

1. 2 Facebook Grpuo/Pages: a) "Flat Earth Creationist" and b) "Terraplanistas Latin America".
2. Hashtags "terraplanist" and "terraplanism" on Twitter.

3. Comments to 5 YouTube videos: a) "I invite you to check it out": This was the interesting face to face between a geologist and a terraplanist"; "Why terraplanism is dangerous"; c) "The truth of a Terraplanist" d) "Six hours with 300 terraplanists"; e) "Oliver Ibáñez: ridiculed and humiliated on TV"; f) "A Terraplanist's truth"; g) "A Terraplanist's truth".

*Data collection and processing technique:* data were collected through documentary analysis, coding of message segments and processing through *Atlas.ti*. Message segments were included only in Spanish, with the exception of scientific nomenclatures or specific linguistic uses.

*Data analysis:* code saturation was the criterion applied to the selection of data segments, fulfilling the non-probabilistic and intentional character of the sampling technique, thanks to which the retrospective-temporal length of the sample had a flexible character, to the extent that -if the saturation of the categories had not occurred within 6 months, then this would have been extended to a period of 1 year-.

Access to the sample involved requesting membership in the case of closed Facebook groups, while it did not require authorization in the case of public Twitter posts or pages, or videos on YouTube channels, as they are public domain information, although the anonymity of the authors of the message segments used as examples is preserved in the published documents.

## Results

The "flat Earth" hypothesis formulated through the *International Flat Earth Society* and the *International Flat Earth Research Society* -founded in 1956- considers that the planet lacks curvature and remains immobile, being at its limits a great wall of ice and above it, a protective dome or firmament: "DOMO Dome, irrefutable proof". In what follows, the segments of comments from experts, interface agents and laymen in digital social networks related to the terraplanet hypothesis will be articulated, based on a classificatory system from which the TCDA will be inferred (see Discussion and comments).

*1. Rejection of the epistemic authority of experts:* the assumption of this study postulates that "The formation of a community of scientific prosumers of laymen in digital social networks is a consequence of public distrust in the credibility of scientific evidence and, indeed, of epistemic authority". The emergence of the terraplanist community does not come to solve an anomalous conceptualization scheme of the normal science paradigm, since there is expert consensus that accepts as satisfactory the heliocentric model of Earth with oblate spheroid format; instead, terraplanism questions the agents involved in the production of scientific evidence itself and *the distrust in the credibility of the scientific community leads to a form of presumption that recovers and/or updates the theoretical development of already consummated paradigms*, for example: "The ball Earth (...) is based on theories that are based on theories that have already

been developed in the past. ...) is based on theories that have never been proven and on fraudulent images created by computer".

2. *Deference to the epistemic authority of laymen*: we will call here *oblique deference* to the case in which, after rejecting the evidence and arguments offered by the epistemic authority, lay scientific prosumers *cross* their deposit of trust to agents (laymen or experts) rejected by the normal science paradigm. In the case of terraplanism, this is Samuel Birley Rowbotham, who wrote the foundational book of terraplanist theory, namely, *Zetetic Astronomy: Earth Not a Globe*, published as a pamphlet in 1849. Likewise, *oblique deference* operates in digital social networks through the hypertextual embedding of references to active community members who present evidence in favor of the paradigm. If Plantinga (1993) and Audi (2006) considered that the testimonial source must sometimes support  $p$  with other sources such as perception or induction, identical is the procedure by which laypeople give support to evidence about the flat Earth, appealing to the observations of other members of the community to confirm the truth of their own observations (a practice that exercises the community *confirmatory bias*).

3. *Linguistic-epistemological resemantization and inter-paradigmatic incommensurability*: the differentiation/assimilation between communities of science that attribute different/similar meanings to the statements is given, in meta-scientific terms, by previous learning experiences that introduce a theoretical load in the observation such as to produce difficulties in the inter-communicability of what is perceived. Thus, the rejection of the epistemic authority of the experts exposes situations of linguistic, epistemic and mixed deference in which laymen dismiss the meaning/meaning of the conceptual system of the normal paradigm and object to the scientific substantiation to build a theorization scheme with neologisms: "ball Earth", "terraglobist", "Big Bang religion", "Flat Earth Department", etc., which are exposed as a vocabulary designed in the context of presumption, while concepts such as "gravity", "heliocentrism" or "science" are resignified in such a way that incommensurability increases, introducing problems of inter-translatability with experts or interface agents.

4. *Propositional entanglement in the communication between experts, interface agents and laymen*: taking into account the formal enunciation of the general principle of testimony, when transferring to the public good reasons to believe in  $p$ , the expert puts at stake his credibility as a testimonial agent of the truth of  $p$ , so he needs to give reasons to support  $p$  by means of other sources that justify the validity of the manifest knowledge. The dissatisfaction of the terraplanist public with respect to the reasons of the normal science community for postulating the sphericity of the Earth, presupposes the suspicion of the existence of an elucidated



intentionality concurrent with the will to preserve a system of techno-social domination (a dimension that involves the ideation of *conspiracy*).

The questioning of the credibility of expert agents institutes a *propositional interdict* in the communication between experts and interface agents; the latter assume a *cognitive asymmetry* for-mor-of the preeminence of the DCM, appealing to improve scientific literacy strategies that maximize the reasons to support *p* and compensate for the perceived deficit, when in truth the laymen do not ask for good reasons to believe in *p*, but rather for evidence to trust the credibility of scientific practice itself. The *propositional interdict* blinds scientific literacy strategies whose objectives appeal to improve the didactic-pedagogical transposition of contents produced by expert agents and interfaces (or to transform them into objects of *entertainment*), because the public does not have good reasons to believe in the normal science community, associating any proof offered and any literacy program with the preliminary discrediting of the issuers.

5. *Communicative interventions*: the substantive characteristics of the communicative interventions practiced by members of the expert community are a necessary consequence of the *rejection of authority*, *oblique deference*, *resemanticization* and *propositional interrogation* of the formation of scientific presumption communities.

5.1. *Retentive-defensive literacy*: due to the effect of the *propositional interdict*, paternalistic and unidirectional scientific literacy in social networks does not try to convince a dissatisfied public but, instead, to retain laymen who still trust the expert disciplinary matrix: the normal science paradigm is protected, offering good reasons for the public to believe in *p*, and in the interrogation of *incommensurability*, an exclusionary discursive device is instituted that removes critical laymen from the disciplinary matrix and retains the loyalty of the laymen themselves.

5.2. *Redemptive-hostile literacy*: the objective is to demonstrate the cognitive deficit of the laymen in order to bring them back into the ranks of the expert paradigm; it is the usual way in which the cognitive deficiencies of the adversary are shown in order to convert them to the normal paradigm.

5.3. *Hostile-hostile literacy*: it excludes from the enunciation any refutation of evidence from the rival paradigm: "Stop stealing! Separation of Pseudoscience from the State NOW!" or "Terraplanists, checkmate! On the other hand, and despite the fact that dialogue or debate is the academic condition of origin of digital networks, it is functionalized according to the challenge that implies the discursive incorporation of non-formal fallacies, ironies or insults directed to all the participants of the communicative plot: experts, interface agents and laymen.

5.4. *Literacy orphanhood*: in *The Distribution of Knowledge*, the paradigmatic work of Philippe Roqueplo (1983), the author makes explicit a situation of inferiority and radical dependence of the laymen with respect to

the symbolic and factual deprivation of the context of production of scientific evidence. Thus, the literacy tasks surrounding the *deficient model* would fulfill a partial transfer of the results obtained, a fact that is all the more significant when laymen question the credibility of the epistemic authority because of the sources used.

Scientific literacy in digital social networks offers good reasons to believe in the sphericity of the Earth, but does not provide confidence-building arguments in the context of evidence production; if terraplanists claim that the *historical articulation between NASA, the global elite, governments and media oppresses/controls the masses through the production of a false scientific paradigm - heliocentrism/terraglobism* - the literate response (retentive, redemptive or hostile) of experts is presumably satisfactory in favor of the heliocentric-terraglobist model, without elucidating reasons to maximize belief in the source-system that produces the scientific evidence. It is this situation that leads the rival lay community to remain in a state of *orphanhood*, due to failed strategies in public communication of science that address good reasons about *p* to an already loyal science community, without offering good reasons about their own credibility and the evidence used to a hostile public.

6. *Critical individualization and socialization of lay knowledge*: the lay community builds its own evidence production system, with rules for validation of results and theorization schemes that are, in themselves, correlative to the generation of a literacy and popularization program that, far from imitating the unidirectional-monological character of the MDC, is instituted as a permanent transmedia dialogue by means of which participants share - in accordance with an *oblique deference* - new reasons to believe in *p*. Thus, the evidence obtained by laymen in their own context of production becomes more valuable than that offered by experts in an incomplete form: the implementation of a scheme of presumption of evidence - regulated by *oblique deference* as a re-ordering of the system of epistemic authorities - is given as an inevitable response to the *orphanhood* to which the laymen are submerged, internalizing along with the process of *resemantization* a critical perspective towards the paradigm of normal science and a systematic exercise of confirmatory bias, fed back by conspiratorial approaches.

7. *Criterion of scientific demarcation*: experts and laymen systematically adopt the interpretation criteria of the classical conception of science, by instituting interpretation schemes based on the disjunctive exclusion between science and pseudosciences (or metaphysics) and by tracing a necessary correspondence between the formal section of the theory and the empirical basis that sacralizes the materialistic dimension of the *facts* (materialistic monism) as a source of truth, without problematizing its nature. The laymen's understanding of science is heterogeneous, because, although they agree in considering observational perception as the exclusive source of validity of the formal system of theorization

about the flat Earth, they judge that the context of production of expert evidence is mediated by instruments intentionally manipulated by agencies such as NASA.

8. *Scientific propaganda*: Anton Toursinov (2012) suggests that propaganda is necessarily linked to manipulation and, in this sense, he quotes Teun van Dijk to describe the constituent elements of it:

8.1. *Victimization*: terraplanists appeal to the sense of collective construction of a research community bent on revealing the *historical articulation between NASA, the global elite, governments and the media that oppresses/controls the masses through the production of a false scientific paradigm, heliocentrism/terraglobism*; thus, a sense of *us* is presented, in expressions such as: "Good job terraplanists, every day there are more of us awake! Such a sense of nostrality proposes that: *We: Victims of a global deception designed to control us.*

8.2. *Public enemy*: terraplanists insist on evidence manipulation carried out by NASA: "In the #NasaLies everything is illusion, fantasy, speculation and mathematics", although the number of dangerous enemies is even indeterminate: "Everybody lies! Even your parents lie to you!". Ergo: *They: control/oppress us through deception and evidence manipulation.*

8.3. *Exaggeration*: along with the non-formal fallacies employed, terraplanists use the metaphor of light and darkness (dichotomous exclusionary thinking), to distinguish between the awakened, to whom the truth is revealed, and the oppressed, still dominated by the rival paradigm: "Mental slavery gives you the illusion of freedom, makes you trust, love and defend your oppressor and see as enemies those who are trying to open your eyes and free your mind": *Us: the truth. Them: the lie.*

8.4. So, does the public communication of experts employ a propagandistic communication scheme in social networks? In cases where a controversy arises, experts or interface agents often use the same mechanisms as their rivals: *victimization, construction of a public enemy, and exaggeration*. In this case, the normal science community victimizes itself by attributing psychological or comprehension difficulties to the rival: "It makes no sense to debate rationally with deniers of reality": *Us: We are victims of paranoia/denial/ignorance.*

The public enemy is explicitly the rival paradigm, whose capacity for harm is exaggerated by means of fallacies: "Collective delusions are always dangerous and potentially violent": *They: Terraplanism is a cancer/violent delusion that spreads in society.*

Also, the language of experts in social networks incorporates scientific demarcation criteria of the inherited conception in the form of hashtags to attack their rivals, especially through the use of the hashtag *#pseudoscience* in each post generated.

On the other hand, both communities critically interpret the role of interface agents as promoters of *disinformation*; firstly, terraplanists, who accuse the media of defending the normal science community by "propagating" the heliocentric hoax; secondly, experts, who accuse interface agents of *viralizing* the irrationality of the rival lay community.

### Discussion and comments

The conceptual elucidation carried out on the basis of the four models of public understanding of science allows structuring a formalized reasoning scheme according to the presence of 2 hypotheses (H1, H2), 8 initial conditions (4 c/hypotheses) and two expected observational consequences (CO1H1, CO2H1). In this way, it is assumed that, in the *traditional* scheme of public communication of science:

*H1*. The propaganda system of the normal disciplinary paradigm-matrix practices *gatekeeping* and unidirectional/verticalist scientific literacy/dissemination strategies, which assume a "cognitive asymmetry" between experts, interface agents and laypeople.:

*C1H1*. The disciplinary paradigm-matrix operates according to a "double operational density: theoretical practice and experimental practice" (Cortassa, 2012, p.51), or in Reichembach's terms, in a *context of justification* and *context of discovery*.

*C2H1*. The normal science community splits the *double operational density* with respect to the *communication context*.

*C3H1*. In the *communication context*, the normal paradigm differentiates between internal science communication and external communication; the former institutes a system of evaluation, control, and peer-to-peer editing (scientific *gatekeeping*) to maximize the scientific credibility of the results; the latter assumes the *cognitive deficit* to establish literacy/dissemination strategies to maximize the social credibility of science.

*C4H1*. "The interface is the initial repository of the scientist's testimony, who must first evaluate the quality of the epistemic authority on the basis of certain criteria, since this is where the credibility of his own role in the process is at stake; as we have already pointed out, among his functions and responsibilities is that of verifying the reliability of the experts, in order to prevent the knowledge shared from being erroneous or fallacious. And, at the same time, it is the one who reconstructs that account in front of the wider community of receivers. This means that the public receives not one but two informants: the original source and the mediator." (Cortassa, 2012, p.76)

*CO1H1*. *Gatekeeping* (of internal science communication) and science literacy strategies maximize credibility in science.

*CO2H1*. The interface agent mediates between the source (experts) and the laymen (addressees) by assessing the credibility of the epistemic authority in order to transmit *contrasted knowledge*.

However, it happens that:

- a. The formation of a lay scientific presumption community in digital social networks is a consequence of distrust in the credibility of scientific evidence and, indeed, of epistemic authority.
- b. The normal science community communicates with the lay community according to the criteria of the classical-empiricist model, that is, by means of literate compensation of the hypothetical *cognitive deficit* of the public.
- c. The interface mediating agent protects the ideological interest of the normal science community to the detriment of the lay disciplinary matrix.

Because of assumptions a., b., and c., the communicative practices of expert and interface agents in social media *call into question* the expected *CO1 and CO2 of H1*, due to the modification of the initial conditions (C1...4). Strictly speaking, the scientific propaganda of the normal paradigm that applies unidirectional/verticalist literacy/dissemination strategies in social networks (Facebook, Twitter and/or YouTube) aimed at lay-users who reject, due to the effect of a testimonial relationship of distrust, the epistemic authority of expert agents, fails to maximize the social credibility of science, because of the fact that:

*C1H2*. The expert paradigm and the *lay scientific presumption community* operates according to a “double operational density: theoretical practice and experimental practice” (Cortassa, 2012, p.51), or in Reichenbach’s terms, in a “justification context” and “discovery context” (Cortassa, 2012, p.51), or in Reichenbach's terms, in a “context of justification” and “context of discovery”.

*C2H2*. The *exclusion of laypeople from the context of justification/discovery and internal communication of science*, that is, from the construction of the formal-theoretical apparatus, data collection and validation of the credibility of sources - by peer and interface expert agents - *reduces confidence in the epistemic authority of experts*.

Consequently, laypeople *unify the context of justification/discovery and the context of communication*, so that the 2.0 platforms (*medium*) constitute the *context of production/communication* (process = presumption) of sources and evidence, that is, of

proofs and arguments (product), as well as the medium for carrying out transmedia literacy strategies:

*C3H2*. The laymen lack internal communication and then practice *open community/participatory gatekeeping* of the sources and evidence they consider credible; in this way, they *unify* scientific and social credibility criteria around a *public transmedia communication of evidence and arguments*.

*C4H2*. In social media, disintermediation leads to a direct relationship between experts and the layman, and the *gatekeeping* practiced by the interface that evaluates the credibility of the source, as well as the reconstruction of the account that ascertains the reliability of the sources and evidence, *protects the ideological interest* of the normal science community.

This means that:

*If COIH1*, however, in social media *scientific gatekeeping* and unidirectional/verticalist literacy strategies performed by interface agents do not maximize credibility in science

Meanwhile, if *CO2H1*, in social media the interface agent is not a mediator between the source (experts) and the laymen (recipients), because, despite evaluating the credibility of the epistemic authority to avoid transmitting "non-contrasted knowledge", it uses demarcation criteria of the *Standard Conception of Science*, based on materialistic/methodological monism.

Thus, if the initial conditions *C1...4* of H1 are modified, -in essence, if digital social networks intervene as the substrate in which public communication of science occurs-, then:

H2. "The rejection of the epistemic authority of experts" (A) is a condition for "the emergence of lay scientific presumption" (B) that unify, on 2.0 platforms, a "context of justification, discovery and communication of evidence and arguments" (C) by means of "transmedia strategies of communication/literacy" (D) and "*open community/participatory gatekeeping* of sources and evidence" (E) mediated by an "oblique deferential system" (F).

The following is a partial version of the TCDA designed in the framework of the developed study, which allows the interface agents to generate a *critical-qualitative* description regarding the public communication models between experts and lay presumption communities in digital social networks, according to H1 and H2 (see Table 1).

Table 1.

*Dimensions of analysis for the development of a TCDA*

<i>Dimensions</i>	<i>Guiding questions</i>
<i>Differential system</i>	1. What is/are the epistemic authority(ies) in whom the expert/legal community places its trust?
<i>Gatekeeping</i>	2. Do laypeople participate in the production and evaluation of the results obtained by the normal science paradigm? 3. Do laypeople use 2.0 platforms to share and/or produce their own evidence and arguments?
<i>Resemantization</i>	4. Do laymen employ the scientific vocabulary of the standard paradigm, or do they resemanticize and construct neologisms of their own?
<i>Literacy strategies</i>	5. Is the literacy practiced by interface agents/experts/leaders unidirectional/vertical or transmedia?
<i>Metascientific demarcation criteria</i>	6. Kit de Shermer (2010, pp.34-41)
<i>(Disinter)mediation of interface agents</i>	7. Do experts themselves communicate the results obtained in digital social networks?
<i>Scientific propaganda</i>	8. Do interface agents passively receive and relay to the public information provided according to communicative criteria pre-formulated by expert agents? 9. Does the normal disciplinary matrix/community of lay presumption victimize, blame and/or exaggerate the qualities of rival laymen?

Note: Author's own creation (2021).

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**THREATS, OBSTACLES AND THE STATE OF INVESTIGATIVE JOURNALISM IN HONDURAS IN 2018 AND 2019**

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**Abstract.** A content analysis was carried out of the articles labeled as investigative journalism in the only written media of Honduras, with a sample of 2,190 editions of the most important newspapers in the country (El Heraldito, La Prensa and La Tribuna) from the years 2018 and 2019. In addition, 23 journalism professionals were interviewed who, from their experience, speak of the risks and obstacles they have to carry out journalistic investigations. The results indicate that investigative journalism is scarce in the content of Honduran newspapers, which mainly publish filter journalism. Doing investigative journalism is dangerous in the country and represents facing a series of obstacles that range from laws that prevent access to information, such as the *Secrecy Laws* or the new *Penal Code*, as well as the political and economic interests of the media. Experts advise promoting and strengthening investigative journalism by training journalists, reforming study plans at universities and ensuring that the media have financial resources to do investigative journalism, as this will allow them to have their own agenda and not be subject to the interests of power or advertisers.

**Keywords.** Investigation journalism; filtering journalism; newspapers; risks; obstacles.

**Introduction**

Investigative journalism reached its pinnacle when The Washington Post's American reporters, Bob Woodward, and Carl Bernstein, began investigating the apparent break-in at the Watergate Hotel in 1972. On May 7, 1973, this report won the

Pulitzer Prize and, in 1974, caused the resignation of President Richard Nixon, a unique case in the history of the United States.

Díaz Güell (2004) summarizes the significance of the Watergate case for journalism in the following way:

This simple event would give rise to the most impressive exercise in investigative journalism that has taken place in the developed world during the last quarter of the twentieth century. To such an extent that the Watergate case has been the great attraction of multiple promotions of young journalists who, at the beginning of their careers in their respective countries, have only had the objective of discovering in each report that they were starting a new Watergate. A whole generation of journalists in the Western world had Watergate on the brain and thought they could be the next Carl Bernstein or Bob Woodward if only they had the courage to reveal a confidence, violate anyone's privacy or gain access to any document considered top secret. (P.37)

Waisbord (2001) believes that things have now changed, and that investigative journalism is not the brightest star in the firmament of the American press. He asserts that factors such as media monopoly, commercial interests, lack of economic resources and personnel have taken away the strength and vigor it once had.

As in the United States and many other countries, investigative journalism has also lost interest in Spain. As Chicote Lerena (2006) states, the business concentration, and political relations of the media, together with the lack of sources and the lack of support for journalists, mean that the practice of investigative journalism is minimal. Miguel Jara also points to society, which has stopped demanding critical journalism with the spheres of power and lives in the media consumerism of sensationalist products or pink content (cited in Rodríguez Gómez, 2017).

Rodríguez Gómez (2017) explains that a study carried out by Soengas, Rodríguez and Abuín (2014) found in Spain a clear increase in agency news and a decrease in journalistic investigations. In this sense, Antonio Rubio assures that without the support of the editor and the communication company, investigative journalism cannot be done (Díaz Güell, 2004).

In South America, according to Lagos (2013), the practice of investigative journalism (except in Brazil) has stagnated, attributing this to sociopolitical, economic, organizational, and professional factors.

In Central America, although presidents have fallen due to the work developed by investigative journalism, its practice remains an occupational hazard. Reporters Without Borders and the Committee to Protect Journalists have pointed out that criminal structures in some countries in the region are linked to corrupt police, military, businessmen and civilian officials, making Central America one of the most dangerous territories for journalists, according to Sánchez Reyes (2017).

"For the journalist, a target of organized crime, according to reports from international organizations, adequate protection mechanisms are still incipient. In Central America, they are practically nonexistent," Sánchez Reyes expresses. Similarly, Montenegro states that the debt of the media in Central America lies in the fact that little investigative journalism is done due to lack of investment (Miranda Aburto, 2016).

The significance of this panorama for society is pointed out by the Nicaraguan journalist and researcher Sofía Montenegro:

If the media are the lungs of democracy and this lung is running out of oxygen, it affects the state of freedom of expression, the right to know, the right to control and control over the power of the media. (Orozco et al, 2014, p. 131).

### ***Investigative journalism in Honduras***

"From the beginnings of Honduran journalism to the present time there is no deep and devastating journalistic investigation (of the impact of Watergate). We can say that the Honduran press has the enormous challenge of generating work that allows it to graduate in investigative journalism". This was written by journalist and university professor Juan Ramón Durán (2010) in a paper on investigative journalism in the written media of Honduras (taking as reference the newspapers *El Heraldo* and *La Tribuna*, from January 1 to June 28, 2009), the only article on the subject, in the Honduran context, published in scientific and academic journals. This analysis spoke of an investigative journalism that was taking its first steps in Honduras.

Professor Durán's statement may seem adventurous, however, currently, a decade later, the development of investigative journalism is still a pending matter in the country, which has faced serious restrictions on freedom of expression and violence against journalists since the coup d'état of 2009 (Owens, 2014). Honduras is one of the countries in Latin America with the greatest danger for communicators, ranking 151 out of 180 in the world press freedom ranking. "Assaults and death threats, murders and prosecutions against opposition journalists and community media continue to rise" (Reporters Without Borders, 2021).

The Committee for the Defense of Human Rights in Honduras (CODEH) has denounced, in the last ten years of the National Party government, the violent deaths of 74 people linked to the media, including journalists, social communicators, cameramen, photographers and media owners. More than 90% of these crimes remain unpunished and only eight cases have been solved (Funes, 2019).

### ***Leak or investigation?***

What would be his definition of investigative journalism, the renowned journalist Miguel Ángel Bastenier was asked in an interview: "There is only investigative journalism, everything else is filler. There are two terms that mean the same thing: own agenda and investigative journalism... The only valid journalism that remains is investigative journalism" (Ramírez, 2014). In the same sense, the Nobel Prize in Literature Gabriel García Márquez (2007), in his speech before the Assembly of the Inter-American Press Association (IAPA), said that "all journalism must be investigative by definition".

This way of looking at investigative journalism makes its importance clear, but does not clarify precisely what should be understood by it. The definition of investigative journalism encompasses many characteristics. Pepe Rodríguez (1994), for example, states that investigative journalism is good journalism, i.e., that "which investigates, analyzes, contrasts, verifies and publishes information".

However, this way of looking at things could also lead to confusion and lead one to believe that all good journalism is investigative journalism. To clarify this, we can resort to a metaphor: well-done journalism shows a photograph of reality, while investigative journalism shows an x-ray of that reality. That is to say, investigative journalism is that which brings to light that which does not emerge at first sight, but which remains hidden and comes to light with techniques and differentiated work (Ricardo Arqués quoted in Caminos Marcet, 1997a).

Authors such as Petra Secanella or Daniel Santoro (Di Domenica, 2018) assure that investigative journalism is characterized because such information is intended to be kept hidden, the content achieved is the result of the journalist's research work and is a subject of interest to society.

Considering these characteristics, rigorous work is part of investigative journalism, since all information presented must be unobjectionable. The content published must be truthful and verified from beginning to end by the journalist himself. In this sense, Caminos Marcet and Camacho (2011) express themselves as follows:

For investigative journalism to exist, it is necessary that the verification of the data be done by the journalist and not by the source of information. If it is the journalist who verifies the data, we are dealing with an investigation. If the source is the one who has verified the data, we are dealing with a leak.. (p.45)

Chicote Lerena (2006) also points out that the responsible for the verification must be the journalist, because if he/she only writes a row of documents that was delivered, without a verification, this "can never be sold as an investigation, but as dossier journalism" (p.85).

In journalistic jargon there is something called a leak, which Núñez Ladevéze (1991, cited in Caminos Marcet, 1997b) defines as the supply of information by a source who maintains anonymity and who acts out of self-interest or on behalf of his superiors. Journalists work continuously with leaks that come from everywhere and provide clues to initiate an investigation or confirm data. The problem is when a source leaks complete information, limiting the journalist only to summarize and then publish it. This is called false investigative journalism.

From this, it can be considered an ethical problem for the media to present the leaks as investigated and verified materials. "The media tend to hide the existence of leaks because they know that the public's attitude towards the veracity of what is claimed is not the same if they are faced with a leak" (Ispizua Hormaetxea, 2014).

This often happens in Honduran newspapers, which show on their front pages works with the seal of investigation, but which really have the characteristics of leak journalism. Based on the above, the first objective of this article is to perform a content analysis of what the three most important Honduran newspapers (El Heraldo, La Prensa and La Tribuna) published as investigative journalism for two years (2018 and 2019), in order to understand what they are really offering to the audience: leak or investigative reporting?

The second objective of this article is to make a characterization of the state of investigative journalism in Honduran print media, taking as a basis for this the experience of experts in the field. More specifically, the aim is to identify the factors that influence the non-publication of investigative journalism, the risks, and obstacles to its publication and how the press can be encouraged to play the role of watch-dog, which is materialized precisely through the production of investigative reports (Martínez Albertos, 1994).

## **Methodology**

### ***Design***

This is a mixed approach research, cross-sectional and non-experimental design. The objective of choosing a design with these characteristics is to build an overview of written investigative journalism in Honduras from quantitative data, and the qualitative part has the purpose of deepening the phenomenon of investigative journalism in the country from the subjective experiences of theoretical and practical experts in the subject (Hernández Sampieri, Fernández Collado, & Baptista Lucio, 2014).

### ***Sample***

For the realization of this research work, the three main written media in Honduras were taken into account: the newspapers El Heraldo and La Tribuna, published in Tegucigalpa, and La Prensa, from San Pedro Sula. The sample was framed in the years 2018 and 2019 due to the fact that a considerable amount of works with investigative journalism seal were published in them. In total, 2,190 newspaper editions corresponding to this period were reviewed. This is the quantitative part.

In the qualitative part, 23 interviews were conducted with journalists who stand out for their investigative work in Honduras and Central America. Of these experts, 18 are Honduran and five are from other countries in the region.

### ***Data collection and analysis strategies***

In the quantitative part of this research, a content analysis was conducted to identify the investigative works published in the country's written newspapers (2018-2019), differentiating them from those that are in-depth or leak journalism. This was carried out based on the characteristics of investigative journalism proposed by Caminos Marcet: discovering something that someone is interested in it remaining hidden, that such discovery is proper (not a leak), that it is of public interest and that the information has been verified and contrasted by the same journalist.

For the qualitative part, three versions of a semi-structured interview guide were elaborated, with 16 questions each. The three versions of the interview were applied to three subgroups into which the 23 interviewees were classified: journalists, directors of journalism courses at various universities and editors and editors-in-chief of Honduran newspapers. They were asked questions such as the following: "Is investigative journalism done in the print media in Honduras?" and "What are the biggest obstacles faced in doing investigative journalism in Honduras?".

In the end, due to the variety and richness of the sample, sufficient information was obtained to characterize investigative journalism in Honduras, even comparing it with other Central American countries.

## **Results**

### ***State of investigative journalism in Honduras***

When comparing Durán's data (2010) with those found in the present research, it is evident that investigative journalism in the print media in Honduras has not evolved much, especially because it continues to be scarce. In addition, there is confusion related to the fact that many works that are published with the seal of investigative journalism,

announced from the relevance of the front page, are in fact filtration journalism. This confusion is transferred to many readers who do not have the tools to distinguish between one exercise and the other.

By applying a content analysis to the three most important newspapers in Honduras (El Herald, La Prensa and La Tribuna), after reviewing 2,190 editions (using as a frame of reference the parameters proposed by Caminos Marcet), it is found that in 2018 and 2019, 14 works were published that can be considered investigative journalism (see Table 1). It stands out that in La Tribuna no work of investigative journalism was found in the two years studied, even though this newspaper nominally has an investigative unit.

Table 1

*Investigative journalism reports in the Honduran print media*

News Paper	Year 2018	Year 2019
El Herald	5	7
La Prensa	2	0
La Tribuna	0	0

*Note:* Author's own creation based on research data.

Diario La Prensa in 2019 bet on one-week or three-day series with extensive work on gangs, sexual abuse, migration, public services, and employment. Some of them were published under the label of special series and others as investigative series, although they were really in-depth reports.

In March 2019, El Herald's Investigative Unit published four series, all works of investigative journalism in which a journalistic team infiltrated to get the information. In one of them it was evidenced that in social networks marijuana cakes are marketed, abortion pills are found, there is free sexual trade and sale of illegal weapons. And in 2018 the same newspaper published the report *Red de timadores operan en agencias de colocación* (Network of scammers operating in employment agencies) the result of the infiltration of a journalist in a placement agency to corroborate a scam. The data make it clear that El Herald is the print media that does the most investigative journalism work and the one that most uses the technique of infiltrating a journalist.

The other works published (97 in total) in these years with the seal of investigative journalism are rather cases of leak journalism (Table 2).

Table 2

*Leakage journalism reports in the print media in Honduras*

News Paper	Year 2018	Year 2019
El Herald	32	18



La Prensa	17	11
La Tribuna	14	5
Total	63	34

Note: Author's own creation based on research data.

The data obtained from the 18 journalists and researchers interviewed corroborate the results of the content analysis on the state of investigative journalism in the country (see Table 3). This is noticeable in expressions such as the following: *"Investigative journalism is not currently practiced in Honduras and the road towards investigative journalism is too paved"* (newspaper editor, San Pedro Sula, 2020).

Table 3  
State of investigative journalism in Honduras

Opinion	Percentage
There is	11%
In process	28%
Scarce	33%
None	28%

Note: Author's own creation based on research data.

It should be noted that most of the interviewees perceive that investigative journalism is being produced in Honduras, but that it is still *"very incipient due to economic, political and censorship factors. I don't think Honduras has advanced at the newspaper level, but at the website level there have been interesting exercises"* (journalist and teacher, Tegucigalpa, 2020).

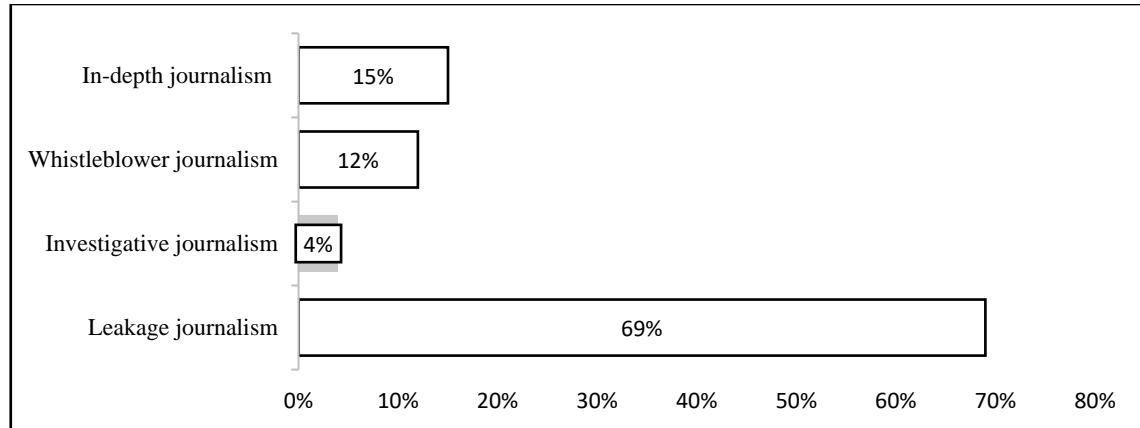
From what this informant said, we can begin to understand the reasons why investigative journalism has not been consolidated as a recurrent practice in the country (this topic is discussed in more detail later in this article), and it is also relevant that he points out how information technologies have become tools that facilitate this type of journalistic exercise. One possible explanation for this phenomenon is that the ease of creating a website or blog makes it possible to overcome the economic barriers posed by physical publication, giving the journalist or communicator a certain degree of independence.

Regarding the confusion between investigative journalism and filtration that arises from the labels with which the written media classify their reports, the interviewees consider that *"there is a marketing campaign that wants to sell investigative journalism when it is in-depth and filtration journalism, but as a sales issue it is being sold as investigative journalism, this tends to confuse the population"* (digital editor, Tegucigalpa, 2020).

This marketing campaign shows that the confusion is generated voluntarily with the intention of giving prestige to the media and increasing sales. Based on the opinion of the experts, it is possible to distinguish four types of publications that are published

under the label of investigative journalism: in-depth journalism, denunciation, filtration and true investigative journalism (see Figure 1).

Figure 1  
Types of reports published under the label of investigative journalism



Source: Author's own creation.

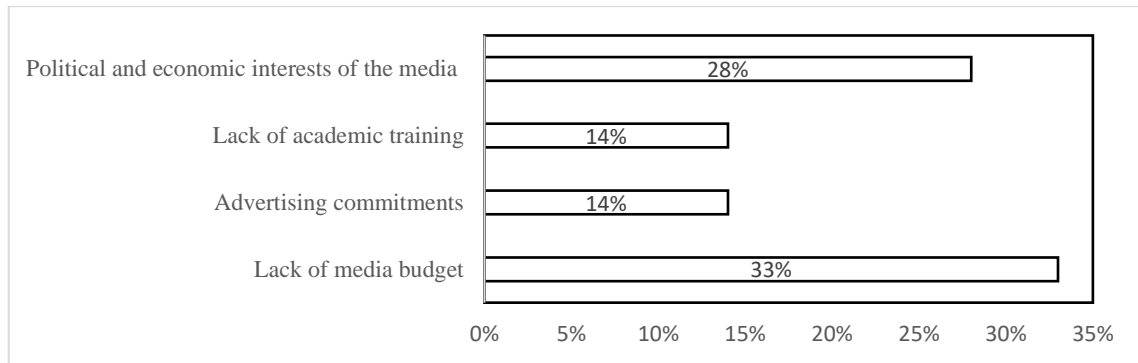
**Why is investigative journalism scarce in the print media?**

The main reason that investigative journalism has not been consolidated as a practice in the Honduran print media is the media's lack of budget to be able to have investigative units. *"Every small, medium or large media outlet should have an investigative team, but doing investigative journalism is expensive. The logistics, the personnel, the time involved, everything is limited and that's not the way to work"* (editor-in-chief, Tegucigalpa, 2020).

However, in addition to this, there are determining factors such as the interests of the media and advertising, as they are constraints for independent journalism. *"In Honduras, it has been noted that the interest in attracting publicity sometimes pushes the media away from investigative journalism; in the end, it is the media that allows or does not allow investigative journalism to be put into practice"* (journalist and teacher, Tegucigalpa, 2020).

To this we must also add academic training, in which many journalists do not develop the necessary skills to put into practice quality investigative journalism (see figure 2 below).

Figure 2  
Experts' perceptions of the reasons why investigative journalism is not being done in Honduras



Source: Author’s own creation.

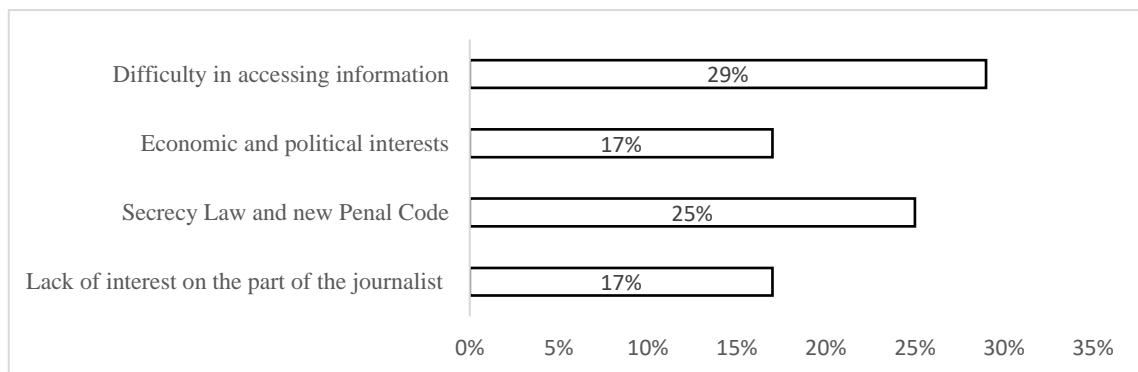
### Obstacles and risks for investigative journalism

Honduras is one of the most dangerous countries in which to practice journalism, and this translates into a series of obstacles and risks that investigative journalists must face. In the case of the obstacles (see Figure 3), one stands out mainly because it comes from the State apparatus: the Secrecy Law and the new Penal Code.

*This "Secrecy Law" is an obstacle to investigative journalism, as is the new Penal Code, which criminalizes the anonymous or confidential source because most of the information provided is from secret sources that cannot be revealed for security reasons. It is a law against freedom of expression and investigative journalism. The Penal Code criminalizes anyone who receives information or discloses it, and if it is considered that the honor and reputation of a person is being damaged, the journalist runs the risk of going to jail. So it is a very big limitation for investigative journalism (editor-in-chief, Tegucigalpa, 2020).*

Figure 3

Main obstacles identified for the realization of investigative journalism



Note: Author’s own creation.

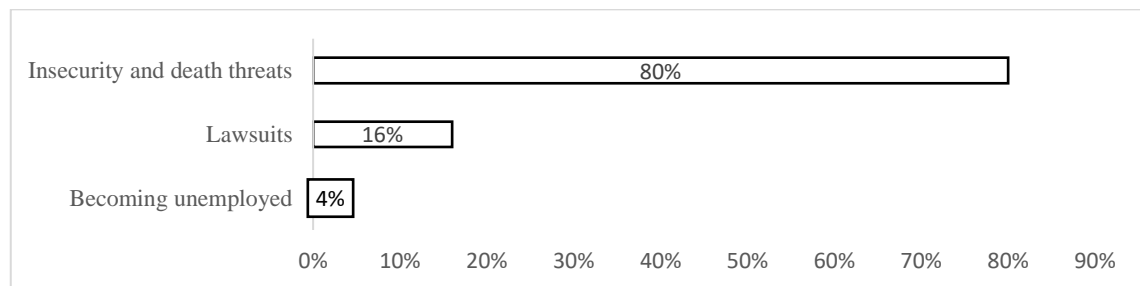
In addition, doing journalism implies the risk of suffering serious consequences (see Figure 4), and this means that *"one must think a lot about all that it implies, since Honduras is one of the most insecure countries in which to practice journalism"* (editor-in-chief, Tegucigalpa, 2020).

In this context, investigative journalists receive death threats and even attempts on their lives, they are exposed to legal proceedings or are out of a job if they allude to the interests of the power groups. This is how one of the informants interviewed put it:

*In 2017, I did not want my media to have another partner, the money came from the government, and I did not accept it. Three hours later I suffered the attack, about 120 meters from the newspaper, my wife was driving, I was listening to an Olimpia game, when a car crossed in front, there were four assassins, later I found out that the attack came from the high spheres of political power in the country, from the Presidency.... My eldest daughter was killed in the coup d'état, she was burned alive with her husband, we had colleagues who were kidnapped and tortured, they stole expensive photographic equipment, there were persecutions, they went to draw the legend RIP in front of the newspaper's office (founder of a media outlet, Tegucigalpa, 2020).*

Figure 4

*Main risks identified for the practice of investigative journalism*



Note: Author's own creation.

***Alternative media's bet on investigative journalism***

In line with what was identified about the use of social networks as channels that facilitate the exercise and publication of works, in Honduras it is the alternative and small media that bet on investigative journalism, not the traditional media, which are generally committed to political and economic power groups. This is what one of the expert informants says:

*It is the non-traditional or alternative media that are betting on investigative journalism. Honduras is going through an interesting moment; independent media are emerging, no longer linked to economic interests or to the country's monopolistic corporations. I feel that investigative journalism is the salvation of this country (founder of a digital media), Tegucigalpa, 2020)*

***Investigative journalism and independent media in Central America***

The situation in the rest of Central America is not very different from that of Honduras in this matter: it is the digital and alternative media that are being referents and "have achieved interesting advances in investigative journalism in the region" (journalist from Guatemala, Guatemala City, 2020). Among these media are El Faro and Revista Factum in El Salvador, Plaza Pública and Nómada in Guatemala, El Confidencial in Nicaragua and Semanario Universidad in Costa Rica.

This has allowed that, in Central America, which is not a pioneer in the area of investigative journalism, consolidated efforts have been made to become a reference in this area, although great challenges are still identified to achieve it, such as the need to

professionalize those who practice journalism and the preparation of the faculties to graduate professionals with the required competences. This is the opinion of an investigative journalist from El Salvador:

*Great investigations have been made at the level of independent media and processes that no other media, big or small, has been able to tell. But there are still challenges to further professionalize the profession and for the new generations to acquire basic knowledge of investigative journalism in university faculties.*

However, as in Honduras, investigative journalism in Central America carries significant risks:

*The risks are many because the journalist will always be an obstacle for the corrupt to continue doing their business. In Nicaragua, for example, the profession has been criminalized by Daniel Ortega's regime, where journalists and independent media are censored in state events, threatened, and attacked by FSLN groups, mayoral authorities, the Sandinista Youth and sympathizers of Orteguismo (Nicaragua journalist, Managua, 2020).*

In this context, investigative journalism can be classified as an exercise of courage, which also does not find much funding or openness in the traditional media, so that, as in Honduras, *"this type of journalism has evolved to web pages, where it is reflected that it is investigative or journalistic reporting, by the quality of the data collected or contrasted"* (journalist from Panama, Panama City, 2020).

One of the biggest challenges for investigative journalism in Central America is then to have the *"resources, audience and to find bosses who believe in it. The media do not have the space and time to do it"* (journalist from Costa Rica, San José, 2020), so that journalistic work ends up being reduced largely to red news, entertainment and political news, which have a more or less interested public.

### ***How to improve investigative journalism in Honduran newspapers***

It is said that education is the key to the development of a society; this is also true for investigative journalism. Most experts agree that the promotion and strengthening of investigative journalism should begin in the academy. This should begin with a thematic update in the journalism careers offered by universities, emphasizing investigative journalism and deepening knowledge about national events. Ideally, vocational and aptitude tests could even be conducted to identify potential students with investigative skills.

To this must be added the requirement that the teachers who teach the subject of investigative journalism must themselves be researchers. At the same time, students should be given small internships in newsrooms or other media outlets in the country, with the intention of producing research in association with them. In that sense, one of the informants says: *"These collaborative projects between universities and media can bring about transcendental progress"* (journalist, Tegucigalpa, 2020).

However, this must go further: the importance of the academy for the training of investigative journalists implies that more aggressive measures for professional training in journalism schools must be taken by the academy itself. One of these measures is the creation of a specialty in Investigative Journalism, to be taught in two or three modules over a period of six to nine months, depending on the academic periods of each educational institution.

All this shapes a fundamental conclusion: *"The university should be the first laboratory and par excellence the place where the potential of the investigative journalist is unleashed and discovered"* (founder of a media outlet, Tegucigalpa, 2020). However,

newspapers and the media in general should also invest in the education and training of journalists, especially those who have shown qualities such as interest and a nose for unraveling facts and situations that merit the implementation of investigative journalism.

The final aspiration is that the investigative journalism works come out of the media's own agenda, without advertising, political or economic coercion, since it is necessary to give them a news approach of their own. *"The written media must always offer exclusive and differentiated content to readers, and not topics imposed by third parties"* (editor, Tegucigalpa, 2020). Only in this way can the media assume their role as public watchdogs and be at the service of the people and the community with responsibility.

### Conclusions

This study focused on the works that the print media in Honduras highlighted on the front page with the investigative seal during 2018 and 2019. It is concluded that there is ambiguity in the written press regarding the handling of the concept of investigative journalism, since many of the works published as investigations actually correspond to filtration journalism. This is evidenced by the fact that of the 111 published as investigative journalism in 2 years, only 14 are actually investigative journalism. The rest, 97, are exercises in filtration journalism, according to the conceptualization made by Caminos Marcet and Camacho (2011) and Chicote Lerena (2006).

This conclusion is reinforced by the data collected in the in-depth interviews with the experts, since 69% have the perception that what is mostly read in newspapers is filter journalism, and only 4% think it is investigative journalism.

The print media that most publishes investigative journalism is El Heraldo, with 12 works carried out between 2018 and 2019. It is followed by La Prensa with 2. La Tribuna has none. El Heraldo is also the one that most uses the technique of infiltrating a journalist to do investigations and is also the one that carries out the most leaks, having done 50 in the two years taken into account for this study. Diario La Prensa published 28 and La Tribuna 19. In total, 63 filtration works were published in 2018, and 34 in 2019.

The most recurrent topics in investigative journalism works in print media, in the period 2018-2019, were irregularities and public corruption. These same results were obtained by Durán in the content analysis he conducted in 2009 in written media. This makes it evident that these topics have more than 10 years of being a problematic of reference in the country.

Among the reasons for the lack of constant practice of investigative journalism in the written media are the lack of budget to keep the investigative units active and trained, as well as the economic and political interests of the media owners. Chicote Lerena (2006) believes that the problem is that "there are no longer entrepreneurs of information, but of business, people who put business results before the search for truth" (p. 73). According to Durán, the problem is that in Honduras "avoiding political partisanship is dramatic (...), since the media are owned by businessmen who, generally, have partisan or political ties that advise their actions" (p. 73).

Although newspapers have an investigative unit, it is often not supported with economic and logistical resources to carry out more work, either by the management or the owner of the media outlet. This adds to the little time journalists have to dedicate exclusively to this unit, as they are also involved in other daily jobs by their editors. In

this sense, Sobral (2014) exposes that there is reluctance on the part of the media to hire journalists who are exclusively dedicated to do research, preferring a person who makes several notes in a day, who performs an exercise of diarism, instead of investing in someone who has full dedication to a single assignment, as required by investigative journalism.

On the other hand, through interviews, journalists confirm that the difficulty in accessing information, the Secrecy Law and the new Penal Code are among the biggest obstacles to investigative journalism in Honduras. These laws restrict freedom of expression, they are practically a muzzle for not denouncing and investigating in depth any act of corruption, since journalists run the risk of going to jail or even being victims of worse reprisals such as homicide.

All this directly produces censorship or self-censorship, elements that also play a relevant role in the scarcity of Honduran investigative journalism. This has also been denounced in the work of Meza and Oliva (2014): "Censorship continues to be identified as the main obstacle to the exercise of freedom of expression and the free exercise of journalism. The sources of censorship identified include media owners, advertisers and public officials" (p.105).

Honduras is one of the most dangerous countries in the world to practice investigative journalism. This is proven by the fact that, according to the interviewees, insecurity and death threats are the main risks for investigative journalism in the country. This was also identified by Meza and Oliva (2014), who explain that attacks on journalists involve threats, harassment, surveillance, illegal detentions and even restrictions on access to public information. This is also endorsed by data from the International Press Institute (IPI), which states that since 2001, 82 journalists have been murdered in Honduras and only seven of these crimes have been solved by the authorities (Wiseman, 2020). Some factors that contribute to the configuration of the risk faced by investigative journalists are the widespread presence of organized crime, corruption of state security officials and agents, and impunity, according to the study by Sánchez Reyes (2017).

Alternative media are the ones that are betting on investigative journalism in Honduras, and not the traditional media or the largest or most powerful ones. This is the opinion of 83% of the experts interviewed. This is also true for the rest of Central America, where the independent media are the referents in investigative journalism. This is due, in the opinion of the experts, to the fact that in the traditional media, journalists go as far as the owner of the media, advertising or their suppliers, which in many cases are the government and private companies, allow them to go. The alternative media, on the other hand, are largely supported by international cooperation, which has been interested in offering subsidies for this type of journalism.

Based on the above, it is imperative that the Honduran academy begins to lead the training of future researchers, based on a deep knowledge of national events. For this, the faculties of communication and journalism must carry out scientific studies that allow them to identify deficiencies and present formative improvements, such as the incorporation of teachers trained in this area, make reforms in the curricula, practice vocation and aptitude tests to students and incorporate them into collaborative projects with other universities and media, as well as stimulate entrepreneurship -focused on the creation of alternative media- in the training of future journalists, to avoid censorship imposed from the political power through the big owners.

More scientific studies are needed on the risks and obstacles faced by investigative journalism in the country, and on the training needs of journalists to perform successfully and freely in this field. The present study focused on the phenomenon of investigative journalism, but there is also a need to study the curricula of universities and review the way in which investigative journalism is taught. This will allow us to identify those things in which the academy must improve to promote the practice of investigative journalism in Honduras.

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**DIAGNOSIS OF THE PERCEPTION OF COMMUNICATION  
UNIVERSITY STUDENTS IN ONLINE PLATFORMS AND THE USE  
OF TRANSMEDIA LANGUAGE**

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**Abstract.** The transmedia language is the consequence of a digital literacy that challenges society and that induces the academies to generate responses from the pedagogical and didactic fields; In addition, it calls us to add and transmit knowledge, tests of new strategies to strengthen the teaching-learning process, taking advantage of technological innovations. This transmedia phenomenon has transformed the use and interaction of university students in the city of Santo Domingo and their entire social environment, due to the way they interact on social media through their technological equipment. Young people have gone from being mere consumers of content to also being generators of news and multimedia that constantly exchange from their digital platforms, leaving behind the role of spectators of previous times to become actors in a constant communication process that defines them. as prosumers who exchange information and opinions and constantly generate interactive data. Process that has led them to add new modalities to their offers and to their menu of options.

**Keywords:** Education; technology; communication; transmedia narrative.

## **Introduction**

The evolution and technological revolution imply constant challenges for academia and science, as both must interpret and explain sociocultural variations. And this scenario commits us to provide answers and find flexible ways to help teachers interpret and transmit current technological advances and the new narratives that emerge in the digital macrouniverse, taking as a reference the objectives of social communication as a promoter of the common good.

Likewise, with the constant application of techno-scientific innovations, errors can be corrected and programs and functions can be adjusted to facilitate the teaching-learning adaptation process. Synchronically, the educator and the communicator must understand and master these technological languages in order to interact with the different social segments, and so that young people do not perceive them as obsolete professionals who are not up to these changes and their confidence in the educational process is not affected.

To analyze in depth the preferences of new languages and technological innovations among communication students in the Dominican Republic, it is important to record that by 2017 they had a student enrollment of five hundred sixty-two thousand six hundred sixty-seven students (562,667), of which 63.96% were female and the remaining 36.04% male. Of these 31 academies registered in the country, twelve offer communication studies at the undergraduate level with different concentrations ranging from corporate communication, audiovisual communication, film and graphic arts to digital communication with different approaches.

The Universidad Autónoma de Santo Domingo, UASD, is the only one that offers journalism as a specialized branch. The number of communication students in this period amounted to a total of 6936 and, a relevant fact, is that communication is a predominantly female career, with a total of 5249 women, representing 75.6% of this student population.

In this context, the results of the consumption of digital platforms by communication students of five universities in the National District, Santo Domingo, with the largest population of communication students at the time of the study, are shown below.

## **Methodology**

Our methodology is based on the analysis of data obtained from higher education institutions in the Dominican Republic and a percentage of 10% of their communication students, from the Ministry of Higher Education, Science and Technology and other institutions in the DR; through deductions of qualitative-quantitative data contrasted with other research. In order to approach an objective diagnosis, a questionnaire was applied to 626 young people from five universities in the National District of Santo Domingo, Dominican Republic.

In addition, five focus groups were carried out, which were coordinated through the schools of communication of each center of studies and were applied to those who came to participate voluntarily in each case. This research is defined as descriptive because it takes as a starting point the main objective of this study, which is to evaluate and identify the uses of the main digital platforms by communication students. The question that guides the development of this research -which is part of our doctoral thesis- is, what are the

characteristics of digital media consumption by social communication students in the metropolitan area of Santo Domingo?

### *New communication paradigms*

Currently, users of technologies seek to ensure that their stories have an impact on audiences and have electronic devices that help them to fulfill this purpose more effectively, but they need to learn to develop their creative potential and learn to structure new formats, for which transmedia language is a fundamental creative tool that breaks paradigms.

The six characteristics of the web, according to Area and Ribeiro (2012) and which are related to each other, should be taken into account: "As the universal library in which it is constituted, as a global market, as a giant puzzle of hypertexts, as a public square of communication and social interaction, as a territory of multimedia and audiovisual expression, and as multiple interactive virtual environments" (p.14).

An important attribute of the 2.0 platforms is the collective construction of knowledge and the organization of knowledge on the network, as indicated by Zayas (2012), who favors the possibility of direct access to information sources in this environment of media convergence, with the possibility of no one intervening in its interpretation.

Web 3.0 is more advanced and the difference is that, according to Hendler (2009), it allows the generation of information models or conceptual descriptions, to link data from various websites or databases. Web 3.0 is defined by many authors as semantic web, it represents one of the evolutionary bridges from web 2.0, and creates knowledge and qualitative information "oriented towards the protagonism of computer engines and information processors that understand descriptive logic in various more elaborate languages, such as metadata" (Küster, & Hernández, 2013, p.106).

Metadata use specialized programs to generate interaction with the user and with access from different types of devices with customized uses that allow them to become viral. The algorithms that already exist are part of the semantic web, which some specialists, such as Hendler (2009), call an emerging technology in an important moment of transition, based on the large number of investments, events and conferences that have been taking place since 2008.

In the economic field, they induce new styles of doing business, through programs with platforms capable of carrying out movements of large volumes of capital, sales of products and services with the minimum effort of people, concentrated and guided in networks by the interests of the user-consumer. Such is the case of virtual stores, package courier services, direct sales by small, medium and large companies and sales through social networks, the so-called "influencers", among others.

The evolution of the web has also impacted education and represents an important leap towards new models of dissemination and appropriation of knowledge, as can be seen in some of the applications to support blended and virtual education in cyberspace, such as Moodle, Webcity and Edmodo, among others.

***Online digital platforms at the service of knowledge***

The new information spaces offered by the Internet are diversifying to facilitate the usability of the various platforms and technological devices. In this way, web page services and applications are adapted to portable devices, especially cell phones.

In the words of Ballesteros, López and Torres (2004), the Internet is a new collaborative scenario where culture is shared from different platforms, and specifies: "The Internet constitutes a new means of communication that brings together the attributes of printed publications, the conversations of millions of people, thousands of radio stations and, soon, an almost unlimited number of television channels.

Free online tools also abound, some with innovations in a specific field, such as journalism, and as Ferreras (2013) explains there are multiple ways to present a story in data journalism. Some are free and others are paid, such as Tableau, CartoDB, Google Fusion, ManyEyes, among others. Here is a sample of specific innovation projects that have helped with the organization and optimization of information for journalism:

Table 1  
*Technological tools to support journalism*

<b>Information tools</b>		
<b>Common tools</b>	<b>Examples of innovations in journalism tools</b>	<b>Uses</b>
<b>Data visualizations</b>	2007 the Knight Foundation awarded the Holovaty EveryBlock project	Allows users to know information about their neighborhood, obtained from databases.
<b>Real-time tables and data</b>	2007 Rich Gordon takes an in-depth look at IndyStar.com's Data Center site	Online users can see police and fire emergency calls in real time, look up their property tax assessments, review school test scores and suspensions, check out CEO salaries, look up crime statistics in their neighborhood.
<b>Infographics</b>	2009 The St. Petersburg Times received the Pulitzer Prize for the Political Fact project	A web environment where reporters and editors analyzed the statements of politicians, in relation to reality, to assess the degree of truth.
<b>Videos</b>	2010 The video documentary "Journalism in the age of data" produced by journalist Geoff McGhee for Stanford University	Faced with the enormous amount of data that is generated every day in the world, the journalist's job is to "organize, make sense of and synthesize the massive wave of raw information that the rise of digital communication brings, but also to design tools for readers to complete these operations

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themselves".

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<b>Graphics and maps</b>	Promoted by <a href="http://clasesdeperiodismo.com">clasesdeperiodismo.com</a>	User information is used and placed in the portals to generate graphs, maps and statistical tables that help to better understand the information.
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**Source: Author's own creation based on Ferreras (2013) and Bergman (2007).**

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It is increasingly common for both companies and professionals to hire the services of online applications or tools, and some of these can be categorized as particular businesses that allow them to organize and take greater advantage of public or private information and databases, either to solve problems or to obtain greater profitability.

Giraldo, Tejedor and Carniel (2017) highlight that one of the main interests that journalism students have in the use of social networks is to maintain a communicative link with their communities, which gives them a sense of belonging to a social group and a collective identity.

Also, young people use the networks as a way of acquiring social status within their group, so as not to be excluded and to assert themselves based on the validation of others.

Among the social networks that dominate popularity in this study by Giraldo et al (2017) are WhatsApp and Facebook, and coincides with the study by CEDAL, RIAL and CELAM (2017) in which these two networks have a preference between 90% and 70%, and emphasize that the time of use of WhatsApp ranges from 8 to 22 hours, while on Facebook it is from 1 to 7 hours per day. Another social network that has gained importance is Instagram, which is gaining presence among teenagers and young university students, judging by the interest it generates in the relationship with publications in other social networks, since its content can be shared jointly.

### ***YouTube and media literacy***

As a social network YouTube (2017) increases by more than 400 hours of video per minute according to its statistics, the content stored ranges from tutorials, music, movies or audiovisuals and a growing phenomenon that of youtubers, producers and partners, who have built for themselves a new format of self-presentation and production in this social network, which at the same time is the second largest search engine on the internet (Brandwach, 2019).

These audiovisual producers use their own and localist language, uninhibited, spontaneous and interactive, in which they show both youth lifestyles, as well as other unusual topics that are difficult to find on television, their purpose is to expand the number of followers to "monetize" their channels. They differ, in addition to the peculiar style to transmit information, in that their content is not exclusively informative, nor does it depend on a professional use of audiovisual language.

The company Open Slate (2016) published that by 2011 YouTube had more than two billion videos viewed in a day, hence this phenomenon of youtubers is taken into account as one of the most attractive for young people.

According to the portal SocialBlade.com, at the top of these new video makers is the youtuber PewDiePie, a character whose real name is Felix Kjellberg, born in 1989 in Sweden, who as of October 2019 had more than 102 million subscribers, and is a video game player who stands out for his sense of humor (Socialblade, 2017).

The second most important among these entrepreneurs in the world on YouTube is "HolaSoyGerman" by 27-year-old Chilean Germán Garmendia, who has almost 39.9 million subscribers is dedicated to making humorous parodies and is the most viewed in Latin America, and the third in the list of the most quoted youtubers in the world is the channel of the Spanish Ruben Doblas Gundersen, known as "ElrubiusOMG", and is a leader in his country by the number of views, more than 36 million subscribers and also stands out for playing video games sprinkled with humor.

However, women do not have the same result, SocialBlade points to the channel of the Mexican "Yuya" by Mariand Castrejón, as one of the main female youtubers, she is the third in Ibero-America (after Holasoygermán and ElrubiusOMG), her channel has more than 24.1 million subscriptions and is dedicated to giving beauty tips, but within the 50 youtubers channels with more subscribers only two women appear, this indicates the magnitude of the difference between youtubers (Socialblade, 2017).

In the case of the Dominican Republic, these trends and the type of humor and lifestyle that prevails are also evident, but as in the international cases, none of these channels have educational functions and women are at a disadvantage.

Table 2

*Dominican Youtubers*

<b>Dominican Youtubers - September 2021</b>		
<b>Channel name</b>	<b>Subscribers</b>	<b>Watched videos</b>
<b>El Show de Carlos Durán</b>	<b>4,270,824</b>	<b>566,288,587</b>
<b>Yarissa</b>	<b>3,550,276</b>	<b>261,964,722</b>
<b>Carlos Montesquieu</b>	<b>2,460,208</b>	<b>225,404,898</b>
<b>Adolfo Lora</b>	<b>2,784,662</b>	<b>325,034,532</b>
<b>Ely García</b>	<b>522,299</b>	<b>34,290,517</b>
<b>Hermanos HD</b>	<b>468,038</b>	<b>63,892,197</b>
<b>Trompo Loco</b>	<b>418,100</b>	<b>70,050,385</b>

This participation of young people in the web makes it even more necessary to reflect and socialize the criteria to be taken into account in order to generate an information media literacy (IML1), to promote education from the key areas of the educational curriculum and should cover from the knowledge and evaluation of the media to their production and use from a critical perspective.

<sup>1</sup> Definition provided by UNESCO.



Different approaches attribute different names to it, but all agree on the general definition of the concept, as Durán (2016) points out, it can be understood as information literacy, media literacy, digital literacy and many other combinations that arise from these, but what is not in doubt is the growing relevance of its study (p.7).

Gutiérrez (2015) states, "The basic education to which any individual is entitled if it is to be a preparation for life, is today an education for the media, a media education" (p.22).

The term digital literacy or media literacy is used to describe a double dimension, firstly educational and secondly technological. Training digital citizens to understand the usefulness of the media and current technology.

In this sense Tejedor (2006), citing Perez, defines it as "the process of using digital technology and communication tools and networks to access, manage, integrate, create and evaluate information in order to function in the Knowledge Society" (p.373). Gros and Contreras (2006) define a series of characteristics of the concept of digital literacy, taking into consideration various approaches ranging from the technocratic and functional, to the critical view of its functioning and interpersonal relationships.

Another similar approach developed by Lara (2012) analyzes media literacy competencies at three levels; knowledge or knowing, interpretation or knowing how to do and participation or knowing how to be.

Media education has to be shared with the integral education of individuals, but to achieve this goal it is necessary to recover the critical and ideological approaches to education, as stated by these authors.

## **Results**

The non-probabilistic sample of 10% of university students of Social Communication in the universities with more than 100 students in the Metropolitan Zone of Santo Domingo turned out to be a representative study group in which 77% are under 24 years of age, while 16% are between 25 and 29 and only 6.7% are over 30 years of age, while 79.6% are women and 20.4% are men.

Some 10% of the student body lives in the Metropolitan Zone-Central Polygon, where the universities are located, 20% live in Santo Domingo East, 17% reside in Santo Domingo West, while 16.4% and 13.26% live in the peripheral neighborhoods of the Metropolitan Zone and Santo Domingo North, respectively.

Students who reside in different provinces, but study in one of the five universities located in the Metropolitan Zone of Santo Domingo amounted to 17.9%. A 45.85% of those consulted work and within these the majority earn less than RD\$15,000 (the equivalent of US\$300), with 53%, in contrast with 2% of the students who receive more than RD\$60,000 (US\$1,200). Meanwhile, 39% earn between RD\$15,001 and RD\$30,000 and 5% of the young people receive between RD\$30,001 and RD\$60,000.

### ***Technological equipment owned by students***

Of the students surveyed, almost 79% own smartphones and 48.08% have a Smart TV at home, a higher percentage than those who own computers (47.6%). Taking into account that about half of those surveyed work, but more than 53% earn less than fifteen thousand pesos, it is understood that for them the possession of technological equipment is

a priority, since 78.59% own a smart phone, despite the fact that the prices of these phones are above, in most cases, a full month's salary.

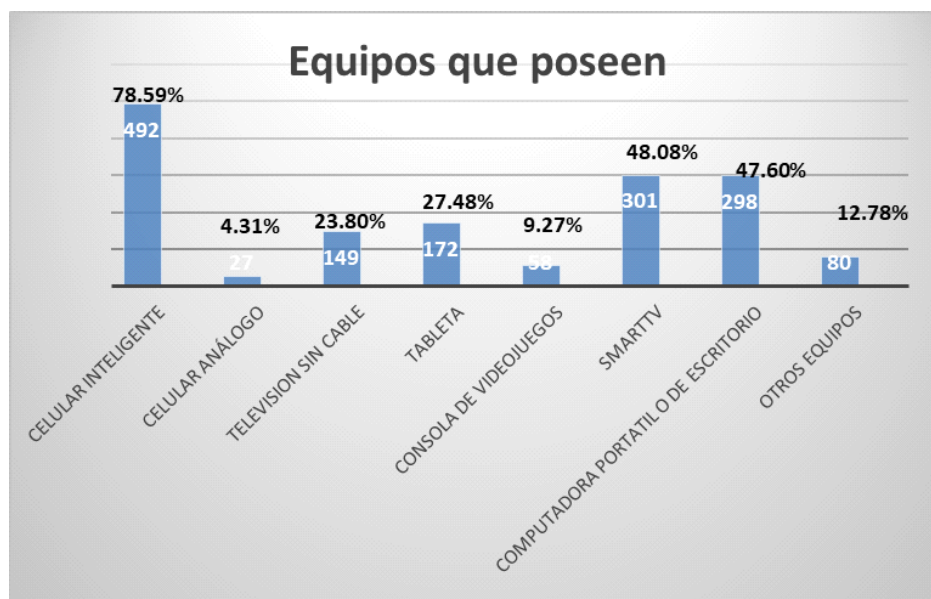


Figure 13. Technological equipment owned by students

Source: Author's own creation based on SPSS data from the surveys applied.

An interesting observation is that 56.8% of students with a smart cell phone earn less than RS\$15,000 pesos and 34.9% earn from RS\$15,001 to RS\$30,000 pesos. Meanwhile, 88% who earn less than RS\$30,000 own a Smart TV (smart TV).

The interest in technology contrasts with the more than 65% that use prepaid services (39.94% of those surveyed use prepaid cell phones, in addition to 25.56% who have prepaid internet service) and only 17.41% have cell phones with a bill and 28.43% have fixed internet.

Regarding the types of portals most frequented by students, the relevance of the use of social networks is evident with 42.49%, followed by digital newspapers with 29.87%. However, the information of the educational and university portals visited contrasts with the information previously provided by 54.2% that the purpose for which they use the web is to do homework, which indicates that it is not part of their favorite online activities.

### **Website and social network preferences**

Regarding the three web pages that students visit the most for information, entertainment or thematic purposes, the results were very varied, taking into account that it was an open question with three options that they could suggest.

Many of the answers had only one or two coincidences and were registered in the line of others with an average of 27.53%, which cannot be listed due to the diverse number of names. Meanwhile, the most repeated answers were grouped by area, and in the case of social networks it was decided to place them apart from the networks that wrote

individually, because they reflect the preferences of respondents with a higher frequency of repetitions.

The pages of the traditional media that migrated to the web were grouped in a single line and occupy a preponderant place, since on average of the three possible options, 14.70% registered the name of one of these media, which apparently have relevance for the respondents, since it was in first place, although it is noted that none of the media by itself came to occupy a privileged place, only Listín Diario and Diario Libre managed to position themselves in the taste of the students with 10.24% and 7.68% respectively.

However, two web projects such as Cachicha and Alofoke, which have more than two hundred thousand and almost one and a half million followers respectively, only obtained 26 mentions among the 626 university students for both YouTube projects, which could suggest that the young people surveyed do not give them importance.

Within the most resorted websites individually they were given freedom to suggest the three most preferred ones, and the one with the highest predilection was Instagram which has 13.69% in the average of the three options, but as first option it represents more than 20%, despite functioning more as an application than as a website.

In this line the second most recurrent is the social network YouTube with 11.66% that individually and as first option represents 12.62%, this network was defined by the expert Michael Hoechsmann as the "big screen of the world", because it has become one of the most frequented spaces by young people seeking "to learn in an easier way" as indicated in one of the focus groups. In third place is Facebook with an average of 10.59% and, curiously, the respondents who mention the search engine Google as their favorite page account for 6.71%, as can be seen in the following table:

Table 3

*Most visited websites by students*

Page A	Amou.	%	Page B	Amou.	%	Page C	Amou.	%	Amou.	Average
Traditional media	96	15.34%	Traditional media	99	15.81%	Traditional media	81	12.94%	92	14.70%
Digital-only media	19	3.04%	Digital-only media	56	8.95%	Digital-only media	34	5.43%	36.3	5.81%
Buying and selling on the Internet	2	0.32%	Buying and selling on the Internet	2	0.32%	Buying and selling on the Internet	2	0.32%	2	0.32%
Instagram	128	20.45%	Instagram	85	13.58%	Instagram	44	7.03%	85.7	13.69%
YouTube	79	12.62%	YouTube	83	13.26%	YouTube	57	9.11%	73	11.66%
Whatsapp	23	3.67%	Whatsapp	40	6.39%	Whatsapp	53	8.47%	38.7	6.18%
Facebook	72	11.50%	Facebook	65	10.38%	Facebook	62	9.90%	66.3	10.59%
Redes Sociales	14	2.24%	Redes Sociales	8	1.28%	Redes Sociales	1	0.16%	7.67	1.23%
Twitter	3	0.48%	Twitter	7	1.12%	Twitter	20	3.19%	10	1.60%
Google	52	8.30%	Google	29	4.63%	Google	45	7.19%	42	6.71%
Others	138	22.04%	Others	152	24.28%	Others	227	36.26%	172.3	27.53%
<b>Total</b>	<b>626</b>	<b>100%</b>	<b>Total</b>	<b>626</b>	<b>100%</b>	<b>Total</b>	<b>626</b>	<b>100%</b>	<b>626</b>	<b>100%</b>

Source: Author's own creation based on SPSS data from the surveys applied.

To specifically establish the position of social networks, the surveyed students were asked which are the most used and the answers coincide with the previous ones, but

WhatsApp is added in first place, a social network that many do not consider it as such, however as confirmed by the findings of the study by Chávez and Gutiérrez (2015) applied to students of the Autonomous University of Chihuahua, it coincides with being one of the most used: "The social network used to a greater extent is WhatsApp, in almost 100%, followed by Facebook, with more than 80%; in third place is YouTube, with more than 70% of students using it" (p. 10 ).

For the present study, the use of WhatsApp is also widespread, although its reach is slightly more than two thirds of the students surveyed (70%), followed by Instagram with 52.9% and YouTube with 39.3%.

Rubio and Perlado (2015) analyzed the use of WhatsApp in students and show the comfort they experience in this type of communication, mainly because it does not involve emotionality, nor warmth, but at the same time it is easier to express feelings, in addition to the fact that young people highlight the need to be permanently communicated which motivates, according to the authors, to "a certain conversational frivolity", exemplified in the following testimony of one of the young people: "Before they thought about when and whom to call, at what time, the reason for the call. However, now it doesn't matter the time or the reason to write you on WhatsApp, for example, Hello what are you doing?" (p.84). In one of the interviews of the present research, the Mexican Jorge Hidalgo analyzed the issue of young people's participation in networks, especially in Instagram, indicating that their inclination to use these networks refers to the need to seek self-affirmation that is typical of adolescence. On their side, De Casas, Tejedor and Romero (2018), indicate in their study on micro-narratives on Instagram that, out of a group of 204 there are 175 who use Instagram, and within this group the most important publications they make are photos with friends, everyday life situations and personal hobbies.

Pinto, J. (2018) describes the use that fourth year middle school students make of Instagram, and the result obtained is that 39% use it to post important photos of themselves and their surroundings, 33% to maintain contact with others and also indicates that 33% of the students use it to observe what others share and in 44% of the informants said they use it as a personal agenda.

The portal Multiplicalia.com, which is dedicated to online sales, has conducted a series of measurements for several years among millions of Internet users. This company annually publishes the preferences of network users around the world, and this shows a five-year evolution that can serve as a reference for comparison with the preferences of students.

It highlights the upward growth of Facebook in the world, as the most used with 2271 million users in 2019, followed by YouTube with 1800 million and the third network is Instagram with 1000 million active users. WhatsApp stands out in 2018, tied with YouTube.

### ***Time of use of social networks***

In addition to inquiring about the most used platforms on the web and the preferred social network, this research questioned young people about the hours they spend in contact with their social networks. The results suggest that WhatsApp is the social network they spend the most time using.

Regarding the number of hours that students are exposed to social networks, it is striking that most of them were in the range of one hour or less, and although this is contrary to the perception that young people are hyperconnected, if we add the number of hours they spend on the multiplicity of networks and online activities, it confirms their hyperconnection. Those who use the networks for an hour on Facebook add up to almost 50%. Only in the case of WhatsApp the percentages of use are more distributed between those who use the application for less than an hour (17%) to those who interact for more than 11 hours (20.1%), passing through the 25% who spend from 2 to 4 hours per day.

64.5% of Instagram users spend between 1 to 4 hours, while the majority of Facebook users who spend that amount of time total 68.7%.

On YouTube something similar happens, 71.5% of users spend between 1 and 4 hours in contact with this network. In this case, it is noteworthy that only 10% do not take it into account, which indicates that there is a high level of use and acceptance in the population studied in this research, which indicates that it is one of the favorite social networks.

While the least used social networks are LinkedIn, Pinterest and Twitter, this is deduced by the number of students who did not select the hours of use of these options with 69, 62 and 61 percent, respectively.

On the other hand, there is much speculation about the addiction of young people to video games, however, something that most of the experts interviewed for this study agree on with the responses of the types of portals most used by students is that it is not a widespread problem. It is confirmed that video games are one of the portals least consumed by the group studied, with only 4.4%.

Ratifying what Martín-Barbero (2009) said, addiction is not the fundamental problem of young people in their relationship with technologies: "There is a certain addiction, but it is neither the only one nor the strongest, and it is certainly not the one they are dying from, but rather other very different ones" (p.29).

## **Discussion and conclusions**

Cell phones are the most consumed products in the Dominican Republic, with 88.8% and among university students of communication the total number of cell phones is in the hands of 72.9%. Internet penetration has surpassed 60% of the population, and this advance in access to technology in the country is relevant for young people, 48% have a smart TV or smart TV at home, in addition to 47.60 have laptops or desktops and only 23.8% have televisions without access to cable. Given this high exposure to technologies, students are in a good position to interact with technologies for educational use.

Learning strategies in universities should take into account the cell phone or cell phone and the Internet as essential tools in the educational process, since, as confirmed in the present study, they are widely used among communication students. Only 1.6% do not own cell phones, while more than 79% own smart phones, and more than half of them access the Internet on a regular basis, not counting those who do so via wifi. This is indicative of the high exposure of young people to technological devices, which

increasingly accentuate the need to own a cell phone to enter the social dynamics, so as not to be left out of the topics that mark the interaction of the group to which they belong.

It is possible to conclude that the fact that communication students in Santo Domingo are constantly exposed to the cell phone as a basic technological device, explains that their presence in social networks is high and that their demand for information increases. This high exposure to a large volume of content constitutes the most important challenge faced by both teachers and students and as pointed out by Hernández (2013), it is necessary to train them in the selection of information, to help them become strategic searchers who can follow systematic processes and thus achieve the necessary competencies for an adequate professional performance.

The large number of cell phones and smart TVs owned by students allows thinking about the possibility of working strategic axes in the medium term, which help to deepen, as indicated by Area and Ribeiro (2012), in the liberating, dialogic and democratic training approach, to approach the more comprehensive perspectives of digital literacy and help students build a digital identity as autonomous citizens. The participation of young people in different networks due to the majority access they have to smartphones creates links with their communities, conferring them status and allowing them to stay connected with their interest groups, so as not to be excluded from them. These are social phenomena that are transferred to the virtual world and are increasingly as intangible as material existence itself.

On the other hand, this model of networked society develops a predominance of the global over the local and can be seen in the diversity of pages that students visit, which in most cases have to do with global realities, rather than with their own immediate reality.

It can be concluded that the excess of global content can confront young people with problems that require their participation and it is necessary that students learn to identify the contents that are pertinent from those whose possibility of incidence is null, from the needs of their local context, so that a false idea of participation is not generated, since they run the risk of being distracted with sterile actions in front of transcendental situations that require their attention.

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