INFOXICATION: IMPLICATIONS OF THE PHENOMENON IN JOURNALISM

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ABSTRACT

Information overabundance, which is a characteristic of the digital age, is a society challenge, especially for journalists, people who, because of their jobs are daily forced to deal with a large amount of data, they can't ignore the input-information. and they are responsible for adding value to information in an increasingly saturated society by its volume. This research analyzes the impact and incidence of infoxication in professionals recently initiated as journalists. Through focus groups, vectors are evaluated that allow to understand the complexity of this phenomenon and to determine the impact on the way people create content. The results provide a causal relationship between quantity, distrust and information overload, as well as deterioration of the concentration ability, due to the intensive use of internet, especially from mobile devices.

KEYWORDS: Infoxication - digital natives - journalism - attention economy - internet - technology addiction - information diet

INFOXICACIÓN: IMPLICACIONES DEL FENÓMENO EN LA PROFESIÓN PERIODÍSTICA

RESUMEN

La sobreabundancia informativa característica de la era digital plantea un desafío en la sociedad, principalmente para aquellos que, por su profesión, se ven obligados a lidiar con grandes cantidades de datos a diario, no pueden ignorar la información de

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entrada, y son los encargados de otorgar valor a la información en una sociedad cada vez más saturada por el volumen de la misma. La investigación analiza el impacto e incidencia de la infoxicación en los profesionales recién formados en periodismo. Mediante grupos focales, se evalúan los vectores que permiten comprender la complejidad del fenómeno y su repercusión en el modo de generar contenidos. Los resultados ofrecen una relación causal entre cantidad, desconfianza y saturación informativa, así como un deterioro de la capacidad de concentración ocasionado por el uso intensivo de internet, especialmente en dispositivos móviles.

PALABRAS CLAVE: Infoxicación – nativos digitales – periodismo – economía de la atención – internet – adicción tecnológica – dieta informativa

1. INTRODUCTION

With the advent of the digital era, media professionals, advertisers and, above all, the readers, who were previously passive recipients, have been found in internet the medium to get rid of all restrictions and can generate and distribute content with total freedom. In this situation, the data volume has been increasing exponentially in recent years. In 2002, the information stored in digital format exceeded the analog dataset generated hitherto (Lyman & Varian, 2003). Five years later, 94% of all information was in digital format in (Hilbert & Lopez, 2011) which shows that the production rate in internet is so rapid that it is difficult to count. Especially when in just one minute on average about 2,460,000 contents are shared on Facebook, 277.000 new tweets are posted, 216,000 photos are uploaded to Instagram or 72 hours of video are added on YouTube. These figures only concerns the activity on social networks, but the volume grows even more outside of them. An example of this are the 204 million estimated emails sent as an average in the world in each minute that passes (DOME, 2014).

While millions of terabytes are hastily stored in the cloud, the time to address them gradually decreases. This shows a deterioration, in this context, of the so-called attention economy (Goldhaber, 2006). The mental exertion involved in assimilating more data than human capacity allows takes us to the phenomenon of infoxication (Cornella, 2000), also known as information fatigue syndrome (Lewis, 1996).

There are various studies that have been done on the cognitive overload and they all point in the same direction. The academic of Cognitive Science David Kirsh identifies a condition of saturation when to information overload is added the execution of multiple tasks and interruptions. Multitasking has produced a cognitive leap that allows running multiple processes simultaneously, but impairs the ability to concentrate because no task is uniquely asociated to an area of the brain, but rather is a network of networks and also may require activity in the cortical area of the other, so that the processing of both is interrupted (Kirsch, 2000).

Taking into account the theory of attentional networks (Posner & Petersen, 1990) infoxication would directly impact on the frontal attention system, that takes care to conduct a mental effort to make the subject concentrate on a given stimulus.. Symptoms of injury in this area of the brain resemble those of a person with ADHD have: distractibility or concentration disorder. That is, inability to pay attention, process in parallel and difficulty in making decisions (Klingberg, 2009).

1.1 Hyperconnected Society

In 2014 the number of households in Spain Internet access accounted for 74.4% of the total population, and for the first time the main type of connection was the mobile broadband connection (INE, 2014). This trend reflects that smartphones have more insight into the lives of people, so much that they spend more time with them than it would be desirable in everyday activities. According to a study by Nielsen (2014), it is estimated that US users spend on average about 37 hours and 28 minutes a month using the different apps installed on your mobile device; and turn to viewing content for distraction while they are in the doctor's office or in the line at the supermarket waiting for their turn (Nielsen, 2015).

Data can be applied to the national level. The CIS barometer of March (2015) reveals that from 92.9% of the Spanish using the mobile phone, 39.6% do so continuously and, likewise, also 39.6%, it does several times a day . The sudden and almost involuntary impulse of checking constantly the mobile phone after the warning flasher is called nomophobia (*no-mobile-phone-phobia*) (The App Date, 2013). This phenomenon mainly affects young people. A study belonging to the Reina Sofia Center on Adolescence and Youth shows that half of all Spaniards between 16 and 20 often feel saturated by the use of ICT, to the point of needing to disconnect from them. And 85% of the respondents said that people of their age depends enough or pretty much on social networking, and that the time spent online is excessive (Ballesteros Guerra & Megías Quiros, 2015) The data are placed on the same line as the aforementioned CIS survey (2015), which also reveals that 51.8% of the Spanish population believes that they are wasting time with ICT, and nearly 62% believe that with the new technology the time devoted to reading printed books, newspapers or magazines decreases every day.

1.2. Theoretical approaches

Changes in consumption habits can be explained from the Theory of the medium of Marshall McLuhan (1993), in which it is postulated that the medium changes the perception and understanding of the subject, as well as the fragmented and distracted reading is based on the Theory of hypertext in relation to the theory of games, as hypertext explains the different links or plays that the user can use in reading (Díaz Noci, 2004). Thus, and taking into account the sociocultural theory

(Harris, 1990), in which the origin of social transformation is in technological innovation, arguably the Internet and the new technologies would be acting as actors of a new informational stage, where parallel processing and multitasking make up the social fabric.

Another theoretical approach that would explain the vast amount of information available on internet is the lack of a gatekeeper (White, 1950), or the porter of the information, because the volume of data that is accessed is now so high and comes from so many sources -professionals of information, subject matter experts and users who have blogs or web pages- that it is difficult to regulate their flow. Likewise, the media agenda, understood as the issues to which the media give coverage because they are transcendent for society (McCombs, 1996), is distorted in favor of a personalized information diet, increasingly serving the interests of each individual.

1.3. Challenges in the journalistic profession

Journalism has gone through a process of adapting the information model to the new media where media professionals have found more access to information as a result of the arrival network characterized by the absence of regulation, which makes it more open and free, initiatives related to data journalism and citizen participation, or simply to have new tools with which to gather information instantly, such as microblogs or using wikis to document themselves.

According to the report The communication function as seen by information professionals, of AxiCom (2013), a journalist usually receive as a daily average between 100 and 200 press releases, interviews and reports proposals. The act of reading and reasonably assess the information value that is given to both the press release as to the proposal requires devoting at least five minutes. If this is multiplied by the total count of notes and proposals received daily, it would mean to invest a time impossible to deal with, since it must also take time to track current issues and write about such events (AxiCom and Top Communication, 2013) .Do not forget that this situation of information overload occurs in a context of job insecurity that makes it difficult to produce and present a quality product. According to the report of the Press Association of Madrid (APM), since the beginning of the crisis 11,875 jobs have been destroyed in Spain, along with a salary cut that has been increasing (APM, 2014). In this situation, characterized by recurrent EREs, staff shortages and the same or more workload in fewer hands, to perceive infoxication is almost inevitable.

2. OBJECTIVES

The digital natives spend much of their time looking for information, network activity and often believe they have the ability to run multiple tasks at once. If they further

study journalism, a profession that requires handling large amounts of data daily, these subjects become one of the sectors of the population most at risk of infoxication. In this context, the general objective of the research is to analyze the vision of graduates in Journalism newly inserted in the labor market and young students of this qualification on how infoxication operates in his reporting, both professionally and personal. The specific objectives are: a) to identify vectors for understanding the complexity of the phenomenon, b) to analyze the way which the subjects have to produce content on the network, especially the most linked to the current events, and c) to assess to which extent the tools for selection and filtering counteract their effects.

3. METHODOLOGY

To address the study uses a Focus Group: Qualitative data collection technique allows to collect substantial data on the view that individuals on a particular topic (Berg & Lune, 2004).

The study population was restricted to youngsters: born in the eighties or nineties of the last century, considering the following socio demographic variables: age, education level and region. An age comprised between 18 and 28 years, equivalent to the segment of digital natives (Prensky, 2010), was selected, in order to ensure that individuals were familiar with the use of ICT. The level of education was limited to college students and graduates in Journalism, understanding that these professionals manage daily a large volume of information. Finally, it was segmented at the regional level, including only public universities belonging to the Community of Madrid, so the generated results and theories can only be considered valid if extrapolated to this segment of the population.

The recruitment method executed in the *Focus Group* was the *Snowball mechanism*: initial location of participants from different circles related to journalism so later, the second would resort to their circles and recruited other potential subjects (Mella, 2000)[2].

Fieldwork was conducted in Madrid on December 13, 2014 and there were ten people who participated in the study. All of them came from the King Juan Carlos, Carlos III and Complutense of Madrid universities. Finally, for the analysis process we chose to follow an inductive method in order to generate new knowledge -in form of theories or discourses- starting from interpretations of the experiences told by the subjects. In accordance, we used the method of Foundation Theory, as it allows to collect data and analyze systematically through categories of abstraction. Data

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[2] Transcript of the Focus Group, available at:
(https://www.researchgate.net/publication/279449674_FOCUS_GROUP)

collection was done by a full transcript. Further analysis followed the general lines of categorical coding -open, axial and selective- then drill into the data and reduce them to find more abstract interpretations that would allow the final construction of the theory or emerging discourse (Strauss, 2002).

4. DISCUSSION

4.1 Results

4.1.1 Strategies for information on internet

When asked how to get information from the internet, the journalists agreed on the search, selection and contrast and sources as key processes for finding the desired information. Expressions like "*going to the original source*," "*search keywords*" *"knowing what the real sources are", "have a good filter", "knowing how to focus on something concrete"* and *"follow your own judgment"* continually emerge throughout the discussion.

To avoid the problems associated with information overload and saturation, a general tendency to select and filter based on the subject and the specialization of each of the informants is observed. P4: "*We want to know everything but we are unable to cover so much information. If you want to know something about a topic, you only have to specialize in that topic.*" Journalists give greater importance to information if it is within their information preferences, whether it affects them personally or in the workplace. So, just as one should learn about what concerns you directly because of your interests, you should also be able to apply selection criteria based on the specialization of the medium. Some of the subjects prefer information via a specialized environment, if what you are looking for is concrete, that with a generalist one, no matter how much reputation it has. This reflects that the power and notoriety are other criteria to be considered by the subjects when looking for information. Pº1:

> Is not the same to read a blog of an unknown person. And another thing, if a renowned journalist, it does not matter if he writes in *'El Pais'* or write in a blogger, they will read him and will trust his word.

Remember also that the informants show in the network a greater problem when verifying the authenticity of the information, so they consider to extreme the distrust contrasting the primary sources and content published on different media to get a fuller meaning of the same event.

4.1.2 Perceptions of informational excess arising

The sensations described by the subjects under study before the amount of information out there on the network was derived from expressions that evidence negative states of mood. One such sensation is the distrust experienced by all subjects, even when they assured that they consulted original sources. It is seen in conversation with expressions like "*to doubt everything", "the problem of the truth", "You cannot really know what's going on."* It can be explained with the vision that one of the journalists:

> Sometimes you need a person to tell you 'I know and this is happening'. Because as you know who can you trust and in the end you do not trust anyone, because you do not know well which information is reliable or what information is best left side and at the end everything is a mess(Pº4).

Another perception experienced indirectly, due to the volume of information they have access to in internet, is the dissatisfaction. The sense of failure or defeat fueled by the desire to learn more and better than finally achieved. It is, therefore, the result of information overload and it is confirmed by expressions such as "*the feeling that I have not have read it all," "it takes a lot to be informed", "the feeling that I will not ge it", "I believe I could arrive and I did not.*"

In part, this feeling is fueled by the mistrust that generates the origin of the source, not to find the information that is useful to one and the lack of personal criterion and filtering, because if there is not, a 'bottleneck' will exist and the amount of incoming information to address will be higher, and the process to learn will be complicated as anything goes or has the same weight and interest. This argument is supported by the following statements: "*The more you have, the more you get worked up. You are about to read less and what you read, what you will read will be worse* "(Pº9);" *It's like that it helps, but does not make you feel better informed"* (Pº8). And just when these mechanisms fail, the saturation, due to the large amount of stimuli seeking the attention of the subject, grows and the result is to experience feelings of being overwhelmed and concerned

4.1.3. Attention Deficit vs. concentration

The subjects identified a deterioration in their capacity to pay attention to a single stimulus. One of the main reasons why they cannot concentrate is due to simultaneous activities assimilated as routines and that they implement when getting informed. Some of the tasks described by the informants are "*to watch TV and read at the same time", "reading and talk at the same time to my mother", "studying and listening to music," "drive and answer messages from the mobile"* , etc. Multitasking is a major drawback in the professional field, particularly its impact during the documentation and drafting process.

Distraction is another reason identified by the informants: "*you lose concentration*", "*you do not find out what you're reading about,*" "*you stray and go back*", "*we are often unable to stay focused.*" It is the result of implementing *multitasking*. This is better understood with the following quote, based on the number of pages that users can have open at once in their browsers.

> Pº4:
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> You're reading a report in *El Pais*, for example. I'm interested, but then I see other in related that I want to read and I click on it, and look it over, although later I return to the other and keep reading. But now I am with two or three at the same time.

The main 'distractions' that the informants identify in digital media are the links included within the news, which redirect the subject's attention to another page with complementary information-or not-, on the subject matter; the cover itself, which can become an enemy when one enters a medium without a fixed idea of reading news in particular. In fact, the problem appears when the subject wishes to read several news and end opening in other browser tabs more content that interest him. The same happens with the module of related news, usually located at the bottom corner of the screen that ends diverting the subjects from the priority to read.

Another factor, of greater weight if possible, that affects this question are the notifications from social networks and instant messaging apps, which are reviewed from the mobile phone. In fact, they qualify the smartphone as the main enemy of their attention. It was in this moment when the technological addiction is one of the basic pillars of attention deficit was identified. The subjects answer WhatsApp messages and check Facebook and Twitter notifications in their workplace and / or in class. Also, they recognize mobile use for more hours than desired. "*The mobile phone is always by your side*", "*if you write, answer*", "*I go to the kitchen and I take the mobile*", "*I go to the bathroom with the mobile,*" "*it is the obsession,*" "*you imagine it is sounding* ", they detail. These quotes clearly reflect a relationship of dependency, which is reinforced with this contribution:

> We've come to be born and suckle from Internet and technology in general. So we are used to integrate it into our daily lives so that every day we have to make use of it. In fact, we we are left withoutf it and we do not know what to do (Pº1).

4.1.4. The immediacy of news reporting

As the discussion progressed, qualities of digital media affecting the production and informative dissemination emerged. The subjects perceived that the struggle to be

the first to break the news and appear in Google search results have counterproductive consequences in the profession. One of them was perceived during the process of elaboration, because they assure to consult sources on Twitter if it is a last minute event and they resort to a *timeline* format with very terse information. *"To use tools such as Twitter", " this happened", "We will update later", "a timeline with the updates," "seeing how many deaths there were" and "you have to give the most important*" are some of the journalistic routines assimilated to the urgency of the medium.

The immediacy affects not only the process of elaboration, but also the journalist who wrote the article under the pressure of the medium. All of them, to the question of how they felt under the immediacy, reported feeling unsafe, blocked, frustrated and even disappointed because the submitted product would not be up to quality. These comments reflect some of the feelings commonly experienced when subjected to a process of documenting and with so little time, *"I have a block. I cannot do a story in such a short time and if I do, I will be upset. I would think it many times, although I read it for five seconds, I would not not assimilate it*" (P°8), *"it is that for much you document yourself, you can get one thing that your readers are not used to. The blame is on you, but you are being forced to publish in a short time*"(P°5) ...

Finally, informants are aware that this information generates a loss of journalistic quality and they explain how they perceive the reading of these information products.

> Then it is perceived as a reader. I, some time you read a story and ... you notice that it is not prepared. That rush, with misspellings, repetitions "(p°7); "In media where I have worked, what we did was to take information from other media. Then, if the information of the media was wrong, you too were putting your foot into it(P°9).

4.1.5 Linear vs. hyper textual reading

As for the read mode, the journalists opted for reading on paper because it is linear and allows them to concentrate more. So some of them explained: *"I also prefer to read on paper. I like it more. If I have to read something thoroughly, I like paper. You concentrate better. I get tired less* " (P°1); *"It's much more comfortable. You have everything at hand. You are focused on reading. You do not go to other pages* "However, a minority of participants preferred the digital reading by the advantages in terms of ubiquity and convenience (P°10).

On digital reading, the majority of journalists emphasized the distraction associated with the hypertext nature of the web, because of the ability to direct attention to other parts of the screen.

Pº4 If you see a headline that grabs your attention, maybe if you were going to get something and stop on that other news. Or if for example you're writing something in Twitter and you have Twitter open and read something, well ... In the end you end up looking the other news.

Another of the answers given in relation to the digital reading was that digital media the cover is loaded with a volume of news difficult to digest. In reaching this conclusion, respondents were asked to mention the number of news that make the cover of a digital newspaper and then asked to indicate how many they read. All recognized to read at least ten of all daily news they see on the cover, which can vary according to the digital medium, 30 to 40 items. Regarding the latter, some mentioned that the first five lines that make up a story in mobile format are enough to stay informed. Pº5: "*We are all day hooked on the phone and it is easier to read a small news to know what happened in South Africa. And with five lines I know what happened. I do not need more,* "he stated.

4.2 Approach to the speech: categorical relations

The classification and subsequent analysis of the data allowed us to establish a first connection between the categories drawn from the results.
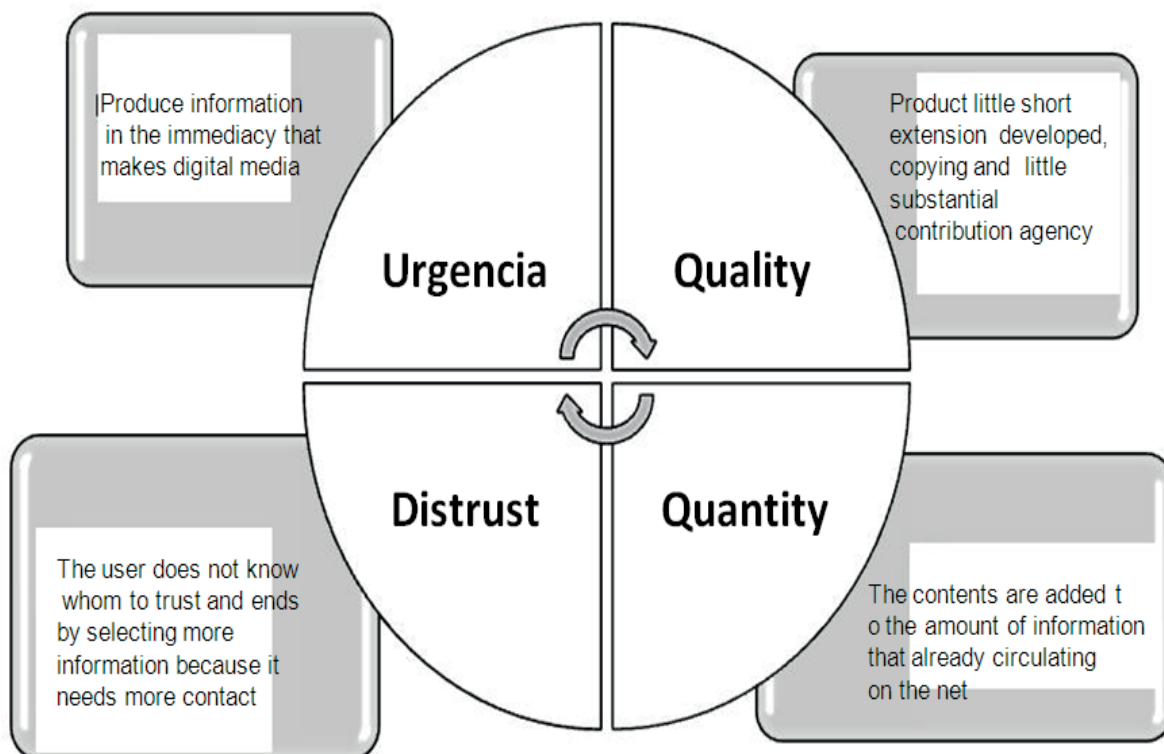

Figure 1: Causal link between categories to explain the appearance of infoxication
Source: Discussion Group. Madrid.

The amount of information out there on the internet, a a first glance, is identified by the subjects as an advantage, since more quantity, more possibility to compare the information, so that one has the opportunity to get informed more and better. The theory is clear. However, respondents showed very high signs of suspicion in their expressions. That which at first became identified as a subcategory becomes one of the central themes of the speech when the next association is noticed:

1. The urgency that prevails in digital media does not help to reduce the infoxication, but rather the opposite, with the publication of concise information and copied, which sometimes has errors and inconsistencies.
2. This leads to a loss of quality, offering readers fragmented and superficial content, either by way of an update as a *timeline* or with a previous agency that, for lack of time, does not grow.
3. If one starts from the premise that there are many contents as you want to find on the Internet, the search and selection process is further complicated by this type of published content, also by the media itself whose their main task in this context of overabundance is to subtract uncertainty and clarify the truth.
4. And if to this is added the possibility that in internet anyone can have a blog and write articles with the appearance of, no matter its aim, the uncertainty generated in the subject is greater. That same distrust will make him to extreme its contrast criterion and level of information that he will choose to analyze will be significantly higher. Therefore, we are in a vicious circle in which to find 'the needle in a haystack' becomes an increasingly complicated task, enabling the emergence of information overload, causing dissatisfaction and oppression in the subject that perceives it.

4.3 Emerging Speech

Starting from the analysis and interpretation of the data it is possible to describe the perception of the journalists about the phenomenon of information overload. The extracted ideas will be contrasted with theories and previous research on the field of study to see if they corroborate or refute the emerging discourse.

The concept of infoxication do not arise in the speech until respondents are asked to explain how they feel when they try to assimilate a large volume of data. All agree that insecurity, dissatisfaction, distrust, exhaustion, frustration and even block. A state of defeat that comes from trying to assimilate and process more information than the central nervous system can assimilate. These feelings described by subjects coincide, in general terms, with concepts where infoxication relates to a pathology, as Information Fatigue Syndrome (Lewis, 1996) or the information distress defined by Richard Wurman (2001).

As discussed below, infoxication may interfere in any stage comprising the information process, affecting either to the role of the reader as to the content producer.
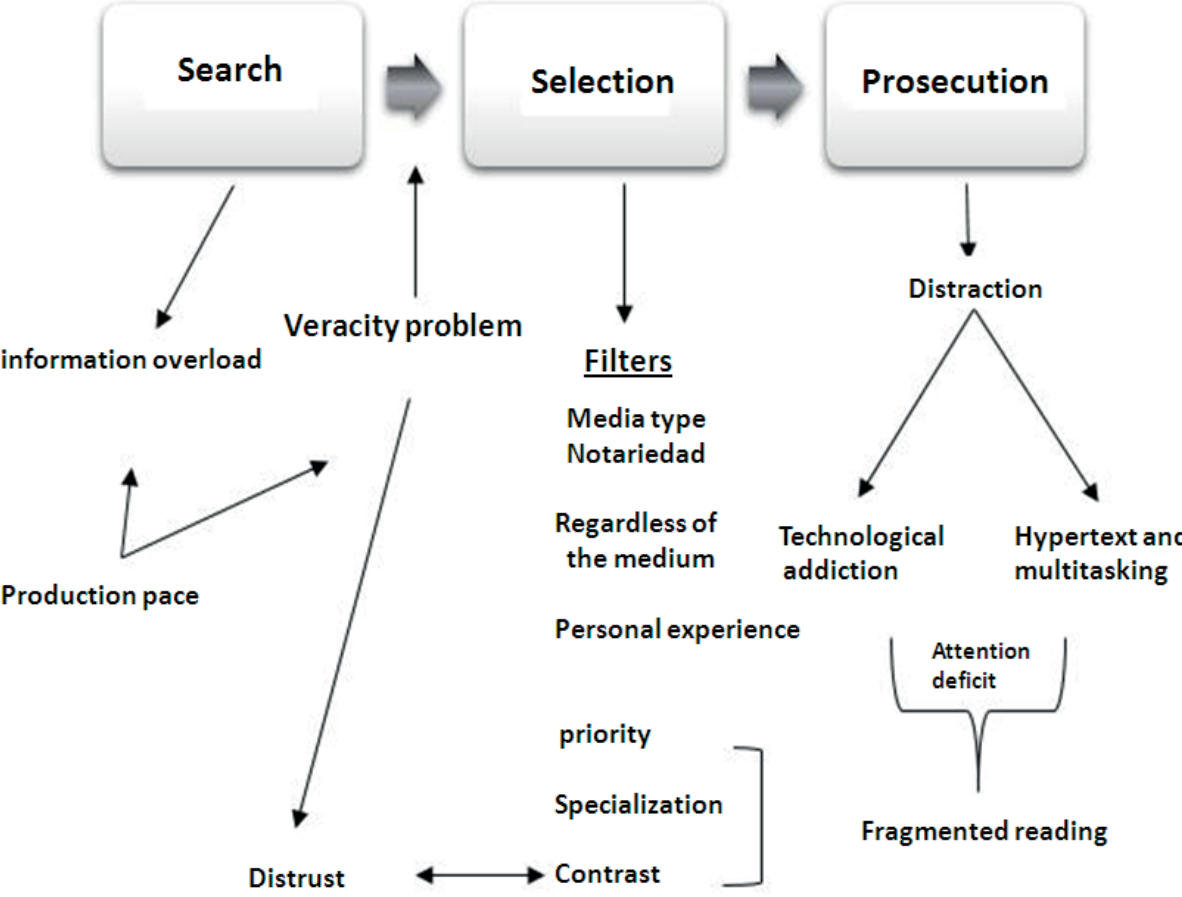

Figure 2: Diagram of infoxication regarding its variables.
Source: Discussion Group. Madrid.

4.3.1   Production, volume and truthfulness of information

Infoxication can be experienced during the search process by the amount of available information on the network, but in relation to the problem of truthfulness of the contents, about which is continually spoken in the discussion and is powered by two negative perceptions that will influence that the subject will end receiving infoxication: insecurity and mistrust. Behind this assumption there is a theoretical explanation that has to do with the production rate in internet. The more information, the more freedom of choice and more uncertainty. This hypothesis has been postulated by Alfons Cornella (founder of the infoxication neologism), which he named as the. Rule of the three Y. Users now have more access to information than before, but also increases the lack of credibility of the source due to the

overabundance, the multiplicity of contents, citizen journalism, defamation and other content of a commercial nature that are broadcast on the appearance of news and that threaten journalistic rigor. As a result, readers are informed with a sense of uncertainty (Cornella, Infonomia, 2011).

Another element associated with information overload, and also related to the pace of production, in how it generates and transmits digital information is the principle of immediacy and instantaneously that prevails in digital media. Working under these parameters reduces the analysis, the comparison between sources and contextualization, which in turn increases the uncertainty and the overwhelming perceived by the reporter. In this situation, the speed is more valued than the quality and much of the content broadcast by the media are mere duplicates of the agency with occasional editing retouching. This assessment is in line with that described by the semiotician Ignacio Ramonet in his book *The explosion of journalism* (2011), which links the content production in the network with a new way to exercise censorship in democratic regimes: no forbidding, but reporting to suffocation. Under a speed leading the media to commit more and more mistakes, it is difficult to digest and transform information into knowledge.

4.3.2 Selection and filtering: specialization and contrast sources

Information saturation can occur during the process of selection and filtering because of personal skills and strategies to be taken to manage the information available will depend on the corresponding level of infoxication. The reporter's diet is ample, and their selection and filtering tools range from specialized search means having some authority to specific search engines or track topics syndication up favorites lists on Twitter and saved browser tabs as they detailed in the discussion.

But not because of it they ignore the problems generated by pretending to be informed of everything. In fact, it is the lack of their own judgment and the need to want to know everything about everything what leads to loss of control information and a difficulty to process correctly by your own extension. This idea about infoxication as a result of a lack of training and use of technology to distinguish the useful from the superfluous resembles the vision of Enrique Dans, who does not consider the infoxication as a problem of quantity, but of adaptation (Dans) (Duenas, 2010).

So, journalists seek in specialization the formula to avoid infoxication, or at least to not feel guilty about not spanning more information. On this, Alfons Cornella explained in his article *How to survive infoxication* (2000) that if a person is not able to identify his five prioritized themes, the subject will inevitably experience infoxication because he does not manages efficiently information and will select more than he it really going to be able to cover.

In a context of information overload, where one of the criteria to be followed by journalists is to question everything, the subjects say to extreme the comparison and contrast of sources. However, it is observed in subjects how that distrust caused by the overabundance ends by dragging them to the welter of information, and instead of learning more about a subject, it produces the opposite effect, accompanied by uncertainty and dissatisfaction. The term 'informed ignorant' that is used by the documentary maker Jorge Franganillo (2010) to refer to this phenomenon reinforces the almost unanimous view of the respondents.

As mistrust it has is increasing on the Internet, sometimes as a solution, which does not exactly, the subject tends to seek information that reinforces their beliefs. This practice, wrong for information, identified with the following expression which provided one of the participants: "*Now there are more, more resources, and you can go contrasting each of them to go looking for information that you think you*" (Pº6) . Something that bears some similarity to the collection interpretation of the theory of cognitive dissonance, which affects the caused imbalance between the views and information are resolved with cognitive elements consonants. That is, information that reinforces the initial review of the subject (Shepherd Bernal, 1993).

4.3.3 Interrupted information processing

Finally, infoxication may appear during the reception and processing of information by the distractions. According to the analysis of the data obtained, these can be caused by:

1. **Technological Addiction**. The first aspect related to distractions derives from the integration of Internet and new technologies in the daily life of subjects. Specifically, the continuous connectivity, social networking and instant messaging systems through mobile devices, that take the user to make an impulsive and compulsive use of it. In this sense, nomofobia Syndrome (The App Date, 2013) and other studies of dependency on the use of the ICT presented in the article would be reinforced with the speech, stating these consumption habits as a real threat to the concentration and self control of Internet use.
2. **Hypertext navigation and multitasking**. The diagonal navigation and the ability to have multiple windows open in the browser is altering the traditional model of reading. This reinforces the theory of hypertext (Díaz Noci, 2004), as from the data obtained a general tendency to practice multitasking in network is observed.

Consequently, these distractions turn attention into a scarce resource and attention an economy of attention. That is, it decreases the time you have to respond to incoming stimuli (Goldhaber, 2006), while the subject is suffering from attention deficit in the working memory (Baddeley & Logie, 1999): difficulty to selectively

control attention and remember instructions priority, because they will be interrupted continuously by new stimuli. Theories that also match the description of attentional limitation given by the architect Richard Wurman (2001) .In this way, the subject will try to pay attention to various stimuli at once, in a short and uninterrupted manner, to direct it later to others, which encourages a superficial and fragmented reading, as predicted by Nicholas Carr (2010), Garcia and Gertrudix (2009) and Raul Trejo Delarbre (2001). As a result, the subject experiences a state of defeat, frustration and anguish, so that critical thinking itself may be impaired. This assumption would be reinforced by contributions extracted from the discussion group like this: *"having little time and trying to read several things at the time and in the end, you realize that you cannot do it and you get blocked"* (Pº3).

While this finding cannot be generalized or extrapolated beyond the segment of the study population, so it is that the reader of a digital medium tends to do a scanning to quickly identify what he wants to read and then ends up in other news of the day. Therefore, it is confirmed that a change is occurring in the habits of lreading that, with the generalized belief of being able to execute several tasks at the same time, the distractions and lack of rigorous selection criteria, could adversely affect the critical thought of the subjects. In broad terms, the theory bears some similarity to recent reports made by the European platform of neuroscientists and psychologists E-Read, who highlights the cognitive effects that are caused by the new formats. (COST: European Cooperation in Science and Technology, 2014).

5. CONCLUSIONS

The results obtained allow us to reach the following conclusions:

- The infoxication is a problem of amount of information, but dealing with the problem of truthfulness and distrust perceived by the subjects before the contents circulating on the Internet, including those created by the journalists themselves.
- It is also a problem of social order by the ignorance of tools and resources offered by the technology itself (design of information, RSS, content curators to organize and track specific topics) and the lack of selection criteria, because if they are not used and therefore not prioritized and discard incoming stimuli, the volume of selected data to process will overflow brain capacity to attend them.
- Journalists are facing a dilemma between what they want to know (either by their expertise or personal interest) and the premise imposed on journalists "to know a little of everything." It is preferable to be updated on one or two subjects for greater and wider knowledge that 'peck' a bit of everything and perceive dissatisfaction at not being able to cover everything, leading to experience saturation.

- The technological addiction, especially from the mobile phone, creates problems related to attention and information processing. It is necessary that we increase the control of what we make with the mobile to avoid distractions.
- The hypertext navigation and multitasking also distract the mind. They generate an attention deficit and weaken the reading and critical thinking. To avoid this, it is necessary to make a linear and complete reading of the text and organize the mind following a plan of priorities, such as planning tasks that are to be carried out and divide them into blocks of time to prevent information collapse caused by the simultaneous execution of tasks.
- Being overwhelmed with information is not equal to power or knowledge. Quality is worth more than quantity. This idea should permeate the fabric of media companies to give up the model of immediacy, whose priority is to saturate the home page with news 24 hours a day, regardless of whether a teletype agency (with minimal editing and assuming tacitly the accuracy of the content without first reviewing the sources). For now, the immediacy of the content related to today will remain a risk of infoxication because this news, along with others aimed at increasing the number of pages viewed, based on trends of Twitter and sensational topics, weaken the confidence of readers and generate more confusion.

In short, there is no question of implementing controls on the internet, which is free by nature and further undermine freedom of expression. Nor is it a question of reducing or limiting the production rate as its advance exceeds the development of technological tools to facilitate work on these data. But it is needed to claim the professional ethics, noting that in a world of overabundance, what the citizen needs is important information, contextualized and interpreted by journalists, which give a value to content that sets it apart from the noise circulating online and therefore, to help the reader to understand the world in which they live so he can transform his judgment into knowledge. Journalism has this task entrusted by the society and has not changed by the fact that the media are now digital, so the hasty news production can not detract from the quality and truth-seeking task.

6.REFERENCES

BOOKS, BOOK CHAPTERS input or a reference book, TECHNICAL REPORTS, THESES:

APM. (2014). *Informe Anual de la Profesión Periodística 2014.* Madrid.

AxiCom y Top Comunicación. (2013). *La Función de comunicación vista por los profesionales de la información.*

Baddeley, A. D., & Logie, R. H. (1999). Working Memory: The Multiple-Component Model. En P. Shah, *Models of working memory: Mechanisms of active maintenance and executive control* (págs. 28-61). Nueva York: Akira MIyake's.

Ballesteros Guerra, J. C., & Megías Quirós, I. (2015). *Jóvenes en la red: un selfie.* Obtenido de http://adolescenciayjuventud.org/images/pdf/selfie-resumen-ejecutivo.pdf

Berg, B., & Lune, H. (2004). *Qualitative research methods for the social sciences.* Boston: Pearson.

Carr, N. (2010). *Superficiales. ¿Qué está haciendo Internet con nuestras mentes?* Bogotá: Taurus.

Castells, M. (1998). *La era de la información.* Alianza Editorial.

Castells, M. (2000). Internet y la Sociedad Red. *Lección inaugural del programa de doctorado sobre la sociedad de la información y el conocimiento.* Barcelona.

COST: European Cooperation In Science And Technology. (2014). *Evolution of reading in the age of digitisation.* Bruselas.

DOMO. (2014). *Data never sleeps 2.0.*

Dueñas, J. (12 de 10 de 2010). Infoxicación: un 'mal' necesario. *El Tiempo*.

Franganillo, J. (5 de 04 de 2010). La ansiedad informativa. *Diario Uno*.

Goldhaber, M. H. (2006). The value of openness in an attention economy. *First Monday*.

Harris, M. (1990). *Antropología Cultural.* Madrid: Alianza Editorial.

Hilbert, M., & López, P. (2011). *The World's Technological Capacity to Store, Communicate and Compute Information.* Nueva York: Science Express.

INE. (2014). *Encuesta sobre Equipamiento y Uso de Tecnologías de Información y Comunicación en los Hogares.*

Johnson, C. A. (2011). *The Information Diet: A Case for Conscious Consumption.* O'Reilly Media.

Kirsh, D. (2000). A few thoughts on Cognitive Overload. *Intellectica*, 19-51.

Klingberg, T. (2009). *The Overflowing Brain: Information Overload and the Limits of Working Memory.* Oxford University Press.

Lewis, D. (1996). *Dying for Information?* Londrés: Reuters Business Information.

McCombs, M. (1996). *Los efectos de los medios de comunicación. Investigaciones y teorías.* Barcelona: Paidos.

McLuhan, M. (1993). *La galaxia Gutenberg.* Barcelona: Galaxia Gutenberg.

Mella, O. (2000). *Grupos Focales: Técnica de investigación cualitativa.* Santiago: CIDE.

Meyer, P. (1993). *Periodismo de precisión.* S.A. BOSCH.

Miller, G. (1956). *El mágico número 7 más o menos 2.*

Nielsen. (2014). *So Many Apps, So Much More Time for Entertainment.*

Nielsen. (2015). *El mundo digital y el impacto de las nuevas formas de consumo audiovisual.*

Posner, M., & Petersen, S. (1990). *The attention system of the human brain.* Annual Review of Neuroscience.

Postman, N. (1998). Five Things We Need to Know About Technological Change. *The New Technologies and the Human Person: Communicating the Faith in the New Millennium* (págs. 3-7). Denver Colorado: cGraw-Hill.

Prensky, M. (2010). Nativos e inmigrantes digitales. *Institución SEK.*

Ramonet, I. (1999). El periodismo del nuevo siglo. *La Factoría.* Obtenido de http://www.revistalafactoria.eu/articulo.php?id=115

Ramonet, I. (2011). *La explosión del periodismo.* Madrid: Clave Intelectual.

Small, G. W. (2009). Your Brain on Google: Patterns of Cerebral. *The American Journal of Geriatric Psychiatry.*

Strauss, A. y. (2002). *Bases de la investigación cualitativa: técnicas y procedimientos para desarrollar la teoría fundamentad.* Medellín: Universidad de Antioquia.

Toffler, A. (1973). *El shock del futuro.* Esplugas de Llobregat, Barcelona: PLAZA&JANES, S.A.

Trejo Delabre, R. (2006). *Viviendo en El Aleph. La sociedad de la información y sus laberintos.* Barcelona: Gedisa.

Trejo Delarbre, R. (2001). Vivir en la Sociedad de la Información. *Revista Iberoamericana de Ciencia, Tecnología y Sociedad.*

Winner, L. (1979). *Tecnología autónoma: la técnica incontrolada como objeto del pensamiento político.* Barcelona: Gustavo Gili.

Wurman, R. S. (2001). *Angustia informativa.* Buenos Aires, Argentina: Pearson Education S.A.

JOURNALS, MAGAZINES, AND SIMILAR WEBES:

CIS. (2015). *Barómetro de marzo.* Obtenido de http://datos.cis.es/pdf/Es3057mar_A.pdf

Cornella, A. (1999). A mayor desarrollo informacional, menor infoxicacion. *El profesional de la información.* Obtenido de http://www.elprofesionaldelainformacion.com/contenidos/1999/septiembre/a_mayor_desarrollo_informacional_menor_infoxicacion.html

Cornella, A. (2000). Cómo sobrevivir a la infoxicación . *Acto de entrega de títulos de los programas de Formación de Posgrado del año académico 1999-2000.*

Cornella, A. (25 de Marzo de 2011). *Infonomia.* Obtenido de 'Infoxicación': http://www.infonomia.com/articulo/ideas/7150

Díaz Noci, J. (2004). Teoría de los géneros ciberperiodísticos. *II Congreso Iberoamericano de Periodismo Digital.* Santiago de Compostela.

García García, F., & Gértrudix Barrio, M. (2012). El Mare Nostrum digital: Mito, ideología y realidad de un imaginario sociotécnico. Revista ICONO14. Revista CientíFica De ComunicacióN Y TecnologíAs Emergentes, 7(1), 7-30. doi: http://dx.doi.org/10.7195/ri14.v7i1.331

Lyman, P., & Varian, H. R. (2003). *How Much Information?* Berkeley: University of California at Berkeley. Obtenido de https://www.ischool.utexas.edu/~i385e/readings/how-much-info.pdf

O'Reilly, T. (2006). Web 2.0 Principles and Best Practices. *O'Reilly Radar.* Obtenido de http://oreilly.com/catalog/web2report/chapter/web20_report_excerpt.pdf

Ovejero Bernal, A. (1993). Teoría de la disonancia cognoscitiva. *Psicothema.* Obtenido de http://www.uniovido.net/reunido/index.php/PST/article/download/7156/7020

The App Date. (2013). *Informe APPS Septiembre 2013.* Madrid. Obtenido de http://madrid.theappdate.com/informe-apps-2013/

White, D. M. (1950). *The gate keeper: A case study in the selection of news.* Obtenido de http://www.aejmc.org/home/wp-content/uploads/2012/09/Journalism-Quarterly-1950-White-383-90.pdf

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