Immediacy and connectivity as fundamental characteristics of hyperconnected journalism. Building an evaluation tool for news apps

(Berehalakotasuna eta konektagarritasuna, kazetaritza hiperkonektatuaren funtsezko ezaugarri gisa. Berrien aplikazioetarako ebaluazio tresna bat eraikitzea)

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In this paper we discuss smartphones in Bauman's liquid modernity and present what we understand to be the communication paradox of 21st century: at the same time that it is hyperconnected, there is a condition of enclosure of users in personal media bubbles. We propose a classificatory system based in immediacy and connectivity to evaluate how apps address these characteristics.

Keywords: Mobile journalism. Smartphone. Liquid modernity. Hyperconnection.

Artikulu honetan Bauman-en modernotasun likidoko smartphoneez hitz egiten dugu, eta gure ustez XXI. mendeko komunikazioaren paradoxa dena aurkezten dugu: hiperkonektatuta dagoen bezala, beregan eragina du erabiltzaileak burbuila mediatiko pertsonaletan itxita egoteak. Berehalakotasunean eta konektibitatean oinarritutako sailkapen sistema bat proposatzen dugu, aplikazioak ezaugarri horietara nola egokitzen diren ebaluatzeko.

Gako hitzak: Mobile journalism (mugikorreko kazetaritza). Smartphone. Modernitate likidoa. Hiperkonexioa.

Dans cet article, nous parlons des smartphones dans la modernité liquide de Bauman et nous présentons ce que nous considérons comme le paradoxe de la communication au XXIe siècle : tout en étant hyperconnectée, elle est affectée par l'enfermement des utilisateurs dans des bulles médiatiques personnelles. Nous proposons un système de classification basé sur l'immédiateté et la connectivité pour évaluer l'adaptation des applications à ces caractéristiques.

Mots-Clés: Réalité mobile journalism (journalisme mobile). Smartphone. Modernité liquide. Hyperconnexion.

1. INTRODUCTION

Smartphones are the first news devices that merge personal communications and entertainment features. For the first time a news support is truly connected to the user continuously, with nearly no geographical barriers; thus, users expect to receive content uninterruptedly. Within this context, journalism cultures must change in order to fulfill user's expectations. The reality to which journalism needs to adapt itself can be defined as "liquid modernity" (Bauman, 2000). The logic of operations imposed today ends all the rigidity of the previous era, called "solid modernity" (Bauman, 2000). What prevails now is immediacy, consumption, and connection, the last one being a crucial point when approaching mobile devices and the role they play nowadays.

This new relationship poses many challenges to journalism (Fidalgo & Canavilhas, 2009), since those who inform can permanently reach those who are informed. This paper proposes a theoretical approach, followed by an empirical research. At first, a discussion about the smartphone and its roles as mobile media device in Bauman's liquid modernity context. Through the use of the bibliographic research method, we discuss what we understand to be the communication paradox of the 21st century: at the same time that it is hyperconnected, there is a condition of enclosure of users in personal media bubbles, a term suggested by Turkle (2011) to define the control of our lives today by technologies, that seems natural to us.

The empirical research analyzes 12 newspaper applications for smartphones from different Ibero-American countries in two aspects relevant to the scenario of hyperconnection: immediacy and connectivity. We have developed an intra- and extra-textual classificatory system to evaluate how apps address these characteristics in their home and in their headlines. In "immediacy", we identified items such as: notifications frequency and personalization options; where and how the publication date is highlighted in the home and in the text; possibility of handsfree updates or notifications of available updates. In "connectivity" we evaluated: sharing icons in the home and text; comments box; integration between the app and social networks; possibility to contact the newsroom. At the end, a panorama of the identified scenario is presented and we expect to offer a tool for apps evaluation in future researches on mobile journalism.

2. THEORETICAL FRAMEWORK

2.1. Hyperconnection x media bubbles

Smartphones have revolutionized the telecommunications industry by being the technology most rapidly adopted in history (Godfrey et al., 2016). For comparative purposes, to reach an audience of 50 million people,

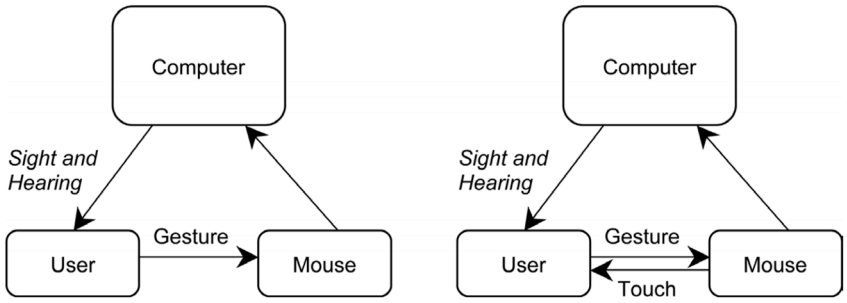
radio needed 38 years, television, 14, the Internet, four, and the first mass smartphone, the iPhone, two years to sell two million units (Leber, 2012).

Canavilhas (2012) says the smartphone acts as a sort of sixth sense that "brings a sense of security since it made our friendships one telephone call away" (Canavilhas, 2012, p. 5). However, because it requires more senses in its use than any other communication process, it has enormous attraction, acting as the virtual place that always accompanies its user. The use of the smartphone for the consumption of journalistic information involves, according to Pellanda et al. (2017), a diverse information paradigm: while the rhythm is more intense, since the information becomes much closer to the public, it is also more dispersed, since it coexists with various stimuli throughout the day (Pellanda et al., 2017, pp. 197-198).

The digital applications stores commonly used in smartphones nowadays are the heart of the software of such devices. They made possible to developers outside big hardware and software companies to deliver a complete product, an app, directly to the consumer. Historically, individuals were involved in marketing enhancements or extensions, such as plug-ins, but never in delivering something complete. But the iPhone, previously referenced by Leber (2012). as the "first mass smartphone", also broke with a hardware configuration hitherto established for portable handsets, with a display on the top of the device and a physical keyboard with buttons for numbers and other functions. The Apple smartphone did not have any buttons, but a touch screen that took its entire front face.

By the time, some gadgets already had no buttons, but required the use of stylus pens so that touches on the screen were recognized. The iPhone allowed the use of the human finger for direct interaction with the screen, according to a pre-established grammar of "tactile gestures" (Palacios & Cunha, 2012): tap, double tap, drag, long press, etc. Communication between application and user occurs through these gestures, replacing or complementing several traditional input mechanisms such as mouse and keyboard (Palacios & Cunha, 2012, p. 673). The elimination of these interaction mediators allows bidirectional exchange of information between user and environment. Figure 1 highlights the difference between the mediated and the direct interaction through the touchscreen.

Figure 1. A distinguishing feature of haptic interfaces is the simultaneous exchange of information between the user and the machine



Source: Hayward et al. (2004)

Decades ago Negroponte (1992) warned about the inadequacy of the mouse, defining it as a mediocre interface for pointing and clicking, and useless for other forms of drawing. The author believes in any other forms of interaction that encourage the use of human senses, such as voice recognition, identification of commands through the eyes, and touchscreens.

The success of smartphones and tablets with their tactile screens consolidates the view of the North American author on the dominance of this type of display. "The dark horse in graphical input is the human finger" (Negroponte 1992, p. 129). At the time he wrote the work in question, the only reason the fingers were not yet the main means of human-machine contact was the lack of a sufficiently sensitive technology.

A second hardware innovation brought by the iPhone was the use of the accelerometer, a sensor that identifies levels of positioning and inclination of the device and evaluates its relative position, adjusting the rotation of the screen when the device is turned, and allowing its use vertically (portrait) and horizontally (landscape). "Both the touch screen and the accelerometer enabled us to overcome some of the major physical limitations to the use of the smartphone as a device for internet access" (Satuf, 2016, p. 40). A user-friendly operational system, the iOS, also played a major role on turning smartphones popular.

Together, hardware, software and operating system delimit what we call the mobile ecosystem, which, although full of new features, kept the same objective of telephones, computers and other communication technologies: establishing relationships with other individuals. The difference between smartphones is that they fit into a different context, in which users expect to

receive a great amount of information, since they have the device with them at all times.

This condition is due to the unique personal character of the smartphone: when calling a landline, a number is called, but when calling a mobile number, a person is called (Castellet & Feijóo, 2013). The fact that the smartphone adds customizable features such as photos, protective covers, wallpapers, and ringtones, makes the device itself, along with its stored content, something of affective value to the owner. It thus becomes part of the process of individual user expression "(Castells, et al., 2007).

According to Fidalgo and Canavilhas (2009) is the permanent portability that allows this degree of proximity of the smartphone and its owner, and it is also the great distinguishing feature between these handsets and notebooks and netbooks. "Like glasses or watches, the cell phone has become part of human clothing" (Fidalgo and Canavilhas, 2009, p.15). For many individuals, the smartphone replaced the watch.

We understand, as Satuf (2016) suggests, that the relationship of the user with the smartphone represents a communication paradox of the 21st century. At the same time that it is hyperconnected, there is a condition of enclosure in "media bubbles" (p.21). The latter term is used by Turkle (2011) to define the current day-to-day controlled by technologies that allow constant contact and/or monitoring, in a way that feels natural to people.

The author also discuss the notion of "always on", which is the ability of the devices to receive data and process information in an uninterrupted manner. The permanent connection would revolutionize commerce, education and medicine, as well as make people safer. This is because this same constant connection makes smartphones know their owners like no other device, from data collected from GPS (where we are), to the browser (what we are looking for), etc.

There is also a change in the notion of time, since spaces previously intended for waiting or changing places (public transports, walking, waiting in line...) were not covered by the ubiquitous access to information. Now, the smartphone starts to fill them fully with all sorts of content, which gives the user the notion that this time is not "wasted".

Turkle (2011) also understands our networked devices encourage a new notion of time "because they promise that one can layer more activities onto it. Because you can text while doing something else, texting does not seem to take time but to give you time. This is more than welcome; it is magical" (Turkle, 2011, p. 164).

Baron (2010) also approaches the idea of "always on", reflecting, above all, the consequences of being always connected to the human being. The

author sees the change in the notion of time decisive for the adaptation of man to a new individual condition, which is to be multitasking. This ability starts with the massive use of computers (Baron, 2010, p. 32) and the possibility of performing multiple tasks simultaneously in different windows, but it is definitive from the widespread smartphones, acting in the previously mentioned waiting or displacement time spaces. It should be noted that modern multitasking is described by Baron (2010) as cognitive, thus distinguishing itself from multitasking ability of the social type, exemplified, for example, by a person who cares for the children while performing other household tasks, or who makes a meal while socializing with others.

However, permanent connection is only one of the basic characteristics of the smartphone that allow it to be considered a mobile device (Aguado & Martínez, 2008). Authors point out other three characteristics: i) ubiquity: permanent and independent connection of temporal or geographical barriers; ii) adaptability: on-demand content, adapted to each user; iii) multifunctionality: functional integration of applications and formats characteristic of other media or devices.

Aguado and Martínez (2008) also highlight the notion of technological metadevice. It is a key to the correct understanding of the term "mobility" (p. 300), that should not be limited to the idea of portability, after all, printed newspapers are also portable (that is, easy to carry around). The authors' concept refers to the ability of new technologies to aggregate different functions that were previously made available individually by the media. In the case of smartphones, in addition to the computing features similar to the tablets, the phone function is also available.

Aguado and Martínez (2008) identify three types of media gathered by the smartphones: the self media, the conversational media, and the conventional media. The first comprises components that allow the user to generate information such as a photo and video camera and edit and share text or image apps. This aspect is the great differential of Mobile Journalism, although initiated in Webjournalism, in which the audience is fully integrated into the informational process. According to Jenkins (2009), there is a new possibility, the spreadable media, that enhances the reach and effectiveness of the information.

> The concept of "spreadability" preserves much of what was useful about the earlier models – the idea that the movement of messages from person to person, from community to community, over time increases their effectiveness, and expands their impact (...) This notion of spreadability is intended as a contrast to older models of stickiness which emphasize centralized control over distribution and attempts to maintain 'purity' of message. (Jenkins, 2009, online)

On the conversational media are the items essentially linked to the original use of the mobile device: voice, text and interpersonal connectivity. At last, the conventional media includes analogous possibilities of use to the

press, television or radio, like downloading a digital version of the newspaper or magazine, or listening to the radio and watching television through Internet connection. Fidalgo and Canavilhas (2009) refer to the possibility of accessing via smartphone the same online sites as any computer, but also to the inadequacy of the practice.

Journalism is challenged by the consolidation of smartphones as a support for accessing information, and it seeks to create versions of sites specific to these devices, since traditional online versions are usually made for screens at least 15 inches large. In fact, the challenges that the mobile Internet places on Journalism (Fidalgo & Canavilhas, 2009, p.14) are multiple, since a new relationship is established, compared to an "umbilical cord", in which those who inform permanently reach those who are informed. The reception of information is, for the first time, in fact continuous, and without spatial limits.

2.2 The role of smartphones in liquid modernity

The reality to which journalism needs to adapt itself is defined as "liquid modernity" (Bauman, 2000). The logic of operations imposed in the contemporaneity ends with all the rigidity and references of the previous era, called "solid modernity". Now immediacy, consumption, and artificiality prevail.

Classical authors such as Marx and Engels (1996) already characterized modernity as the historical process that melted all institutions of other epochs, such as family or religion. The objective was to question various everyday aspects, ruling out the possible irrationality contained in them. The molten solids are not discarded, but re-signified and reinserted into the new modern social order. Liquid modernity, therefore, is a process of creative destruction:

> The solids whose turn has come to be thrown into the melting pot and which are in the process of being melted at the present time, the time of fluid modernity, are the bonds which interlock individual choices in collective projects and actions - the patterns of communication and co-ordination between individually conducted life policies on the one hand and political actions of human collectivities on the other (Bauman, 2000, p.6)

The most interesting point to emphasize when highlighting the mobile devices and the role they play nowadays is that of the connections. This is the key term by which Bauman (2000) describes the personal relationships in the context he investigates. Connections are simple, low-cost ways to establish contact, which allows you to have a large number of them. However, what really stimulates the network of contacts to grow, according to the Polish author, is the fragility of the modern connection, that is, the ease with which it disconnects (with which the connection is interrupted): silence equals exclusion (Bauman, 2004). The number of connections would

compensate their lack of quality: “When quality disappoints you, you seek salvation in quantity. When duration is not available, it is the speed of change that can redeem you” (Bauman, 2004, p 78).

In this way, one understands how individual relationships and identities adapt to the logic of liquidity and its immediacy, consumption, and artificiality. The virtual connection often replaces the proximity, and the personal relationship; in this scenario, the smartphone is an important tool for contact. The disconnection, the rejection, the exclusion, are much less relevant in view of the possibilities of contacts allowed by the device.

Aguado et al. (2013) used the Baumanian metaphor to think about Communication nowadays. It is a fluid, transient, reticular modernity, without defined borders (Aguado et al., 2013, p.18). There is the fluidification of the technological, institutional and cultural dimensions of the environment. In the scope of content formats, new dynamics are also emerging, with convergent formats — adapted from other media — and new aspects specific to mobile devices. For the authors, the distinction between format and genres increasingly makes less sense, and so does the link between content and support — which has its maximum expression in the cloud system storage and sharing.

It is such a hybrid nature of technology that it results in a momentary liquid indefinition: the mobile medium is not only made up of currently known mobile devices, but is essentially a multi-device environment whose core lies in a conception of consumption mode and access to content and services. The logic of smartphones and tablets should be adopted by several other objects. The Internet of Things (IoT) is a good example of what is to come (Aguado et al., 2013, p.19).

Another phenomenom of the mobile liquidity is the transversality in the use of means (multi-screen consumption). They change social situations, identities, and objects of consumption, thus changing the habits and modalities of access. The smartphone is not only a source of news information, but of personal information, making it even more "valuable". From the journalism companies point of view, it is worth noting its direct clash with the companies of the technological and digital branches. The first contracts, the latter expands. As a result we have the dissolution, mixing and multiplication of business models, which the journalism industry needs to assimilate to remain active.

For Silva (2010) these conditions make the beginning of the 21st century the period in which journalism was studied and explored the most. Digital technologies have imposed "on journalism (its nature, its products, the profession, the audience) a sort of permanent agenda in the discussions about its present and its future in the face of changes" (Silva, 2010, p.1). Changes have been so intense that the author proposes the term "reflux"

journalism due to the malaise caused by the incorporation of new tools, concepts, products, business models, relations with the audience, etc. It was not possible to incorporate so many tools that impacted the interior of the field, which caused a rejection and an (illusory) attempt to expel the aforementioned "foreign bodies" from journalism's secular functioning, based on the mass media (Silva, 2010, p.3) hence the allusion to the reflux.

Although the future of journalism is still uncertain (Silva, 2010, p. 2), we seek to understand the complexity that is installed in the communication groups and in the information flow of the networks. Silva (2010) argues that studies must face Mobile Journalism as a practice and an object of study, since it fits into the Baumanian metaphor of liquid modernity both because of its fluidity of production dynamics or the adherence of different mobile applications, and the incorporation of portable devices. "We associate 'lightness' or 'weightlessness' with mobility and inconstancy: we know from practice that the lighter we travel the easier and faster we move" (Bauman, 2000, p.8).

3. METHODOLOGICAL DESIGN

In order to understand the previously described role of smartphones as contemporary mobile media devices, we propose an intra- and extra-textual classificatory system to evaluate how apps address two relevant aspects to the scenario of hyperconnection: immediacy and connectivity. Our main goal is to offer a tool for apps evaluation in future researches on mobile journalism. After the conceptualization of immediacy and connectivity, we present the methodological design made to approach both terms in the analysis proposed.

3.1. Immediacy and connectivity: a theoretical approach

Immediacy "in online news is about delivering news "immediately". It has always been associated with news timeliness" (Omar, 2017, p. 258). When it comes to mobile news, considering the scenario presented in the previous topics, such characteristics are even more intense, since users are truly connected 24/7, not needing a computer to access content.

To some authors, the high speed of information on the internet implies that news are, or can be, published before they have been completed (Hall, 2001; Spence and Quinn, 2008). That is, let people know what is happening and that you will come up with more information as it becomes available.

Nevertheless, this is not an easy task. Salaverría (2005) carried out an interesting study during the 9/11 terrorist attacks. It concluded that immediacy had a significant impact on the content, and that online media

"show an insufficient editorial maturity that occasionally leads them to commit important mistakes in their news reporting" (Salaverría, 2005, p.84)

Karlsson (2011) summarizes the results of some other studies about immediacy. In general, they show that news producers "view immediacy as one of, if not the, key feature and (sometimes) an advantage" (Karlsson, 2011, p. 288). of online media over conventional ones (O'Sullivan, 2005; Quandt et al., 2006; Robinson, 2007).

The consumer's view of the issue has also been investigated. Studies have rated continuous updating as the most important feature of online news (Bergström, 2008; Chung and Yoo, 2008). Also Nguyen (2010) has found immediacy (measured by 24/7 updates) as the defining characteristic of online news.

In a previous study, Karlsson (2007) has defied immediacy as no lag between when the information is received or created by the news producer and when it is passed on to news consumers. In addition to the speed of production, immediacy of news is also defined as freshness of content (Lim, 2012). Most often, as Omar (2017) summarizes, immediacy refers to "the availability of breaking news and its fastchanging content in online publications, which together offer new possibilities for updating,changing and reshaping news" (Omar, 2017, p. 258).

Moving forward to the concept of connectivity, we also find a duality condition, which can either enhance or threaten journalism practices. We understand connectivity as the potential of reaching people disregarding time and location boundaries. Internet connection is, thus, the most important tool in this context. To Martinez-Fernandez (2017), Information and Communication Technologies (ICTs) enable exchanges and generation of communication flows in real time. They act as a virtual space in which we are immediately seen and perceived, beyond our physical life.

Lees (2016) states connectivity has had a significant impact reshaping global communications and transcending national boundaries. More efficient international connectivity means that journalists can verify information, reach contacts and find potential sources very quickly. It also means there is wider awareness of news and information nearly everywhere.

But connectivity has also made reporting more difficult and sometimes more dangerous. Lees (2016) exemplifies her statement with a case where a western journalist would go to the east and could write what he wanted, and get interviews because nobody knew what he were writing. "Now everybody knows what western journalists and local journalists do. Now people are far more aware of how to manipulate journalists, or how to use their own propaganda instead of talking to journalists" (Lees, 2016, online).

The hyperconnected world has been created for whom "the planet is a big social network" (Martínez-Barea, 2015, p. 13) in which citizens are constantly online. We are permanently connected to a "public square" (Reig, 2012, p. 168) and it is difficult to maintain privacy.

To Innerarity (2013), the cyberspace is a truly transnational construction, where boundaries have little relevance, and by which information flows are global. This environment has led to a world where communications are instantaneous, interdependent, and linked.

Once concluded the presentation of the theoretical approach of both concepts, it is important to determine the items that will be evaluated in each of them. We have selected three main categories within immediacy,, and two within connectivity. Figure 2 summarizes the items and its description.

Figure 2. Categories, items and descriptions for the classificatory system

Category	Item	Description
Immediacy	News update	Where and how the app shows the last update of certain piece of news, both in the homepage and once the headline is selected
	Alerts	Options to receive alerts (notifications) and select its frequency and/or subjects
	Update	How the app informs users about the last update: warnings, handsfree updates or a last minute section
Connectivity	Social network	Possibilities to login, comment and share content through social networks
	Newsroom contact	E-mail or in-app options to contact the newsroom about general matters, errors, misinformation or submit new material (pictures, videos...)

In the following section the items described will be arranged in the classificatory system proposed. After the definition of the system, section 4 will present its first experimental trial, in which it will be used to classify the hyperconnection features in 12 apps from Ibero-America.

3.2. Development of a classificatory system

Based on the definitions built in the previous topic, we have developed a classificatory system to analyze hyperconnected journalism. Immediacy

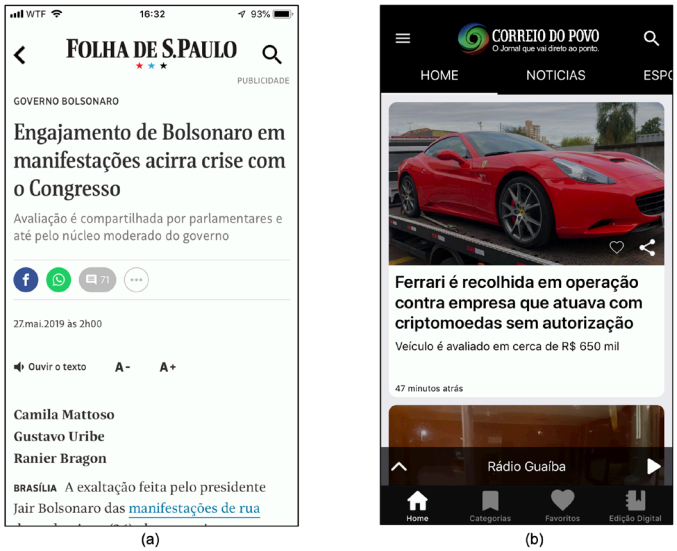
and connectivity are the central terms used, and each one is analyzed concurrently, but separately,through the application of the following tables of contents.

The researcher must interact with the news app while searching for the presence or the absence of each item on the tables. Furthermore, there are classification options that must be detailed in order to get a more precise evaluation.

Figures 4, 6 and 8 show the items for immediacy and Figures 10 and 12, for connectivity. In the first item considered when evaluating immediacy, called "news update", we are looking for how and where the app informs users about the last update made for certain piece of news. We understand this evaluation must be made twice for each app. The first one is when the user opens the app, within its homepage. The second time is when the user selects a piece of news to be read.

Figure 3 illustrates the two possible ways considered for evaluation. In Figure 3a we see the date of publication is stated as "27.mai.2019 às 2h00". This option is what we call "time mode", since it indicates the day and the time. Figure 3b shows the other way of telling the time of publication, called "last updated", because it counts the amount of minutes/hours passed since the last update.

Figure 3. Options for "news update"

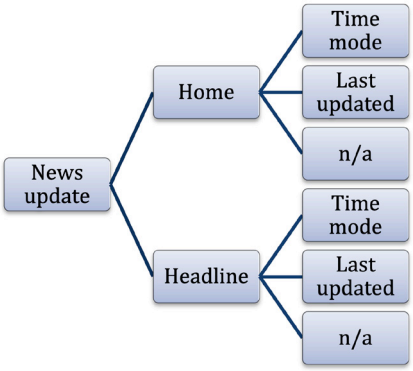


(a) (b)

Source: Screenshot Folha de S. Paulo and Correio do Povo apps

A third possible option is "n/a" (not available), suited for apps that do not indicate at all the last update of the news. Figure 4 synthesizes the categorization for "news update".

Figure 4. Categorization for "news update"



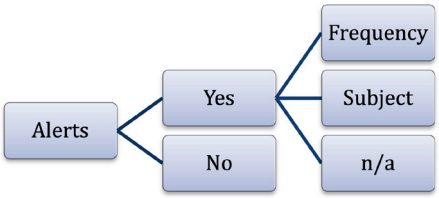
The second item for evaluating immediacy is called "alerts". We consider wether or not the app offers the option of enabling mobile alerts, or notifications, as well as customizing its frequency and/or its subjects, according to the user's preferences. In Figure 5 we see an example of both possibilities: the user can select: i) to allow notifications, ii) to receive only breaking news or the main topics of the day and iii) if he wants to include sports news alerts.

Figure 5. Notifications options

Source: Screenshot from El Pais app

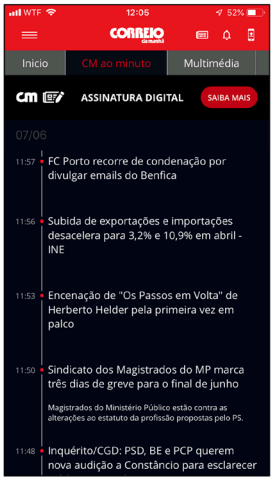
A third possible option is "n/a" (not available), suited for apps that do not offer frequency or subject customization. Figure 6 synthesizes the categorization for "alerts".

Figure 6. Categorization for "alerts"



The third and final item to be evaluated within immediacy is called "updates". It refers to means of offering users the last information available. This may happen while the user is navigating in the app, leading to two options: i) the app tells the user there is an update available and he can refresh the page to see it or ii) the app refreshes the page automatically. The first one is called "update alert" and the second one, "handsfree update". There is also a third option: a specific section for the last minute news, arranged as a timeline, as shown in Figure 7.

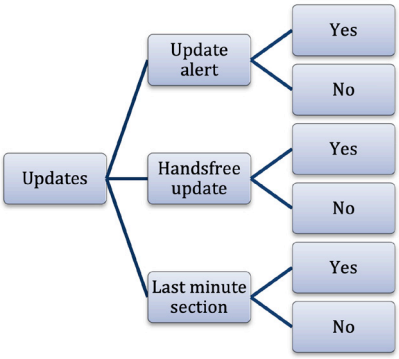
Figure 7. Last minute section



Source: Screenshot from CM app

Figure 8 synthesizes the categorization for "updates".

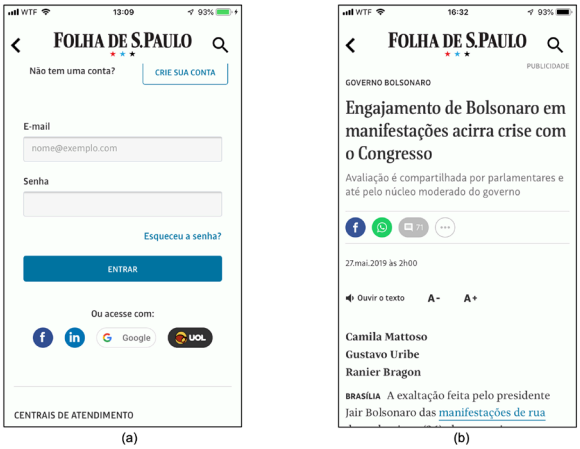
Figure 8. Categorization for "updates"



Moving on to "connectivity", we have two main categories: "social network" and "newsroom contact". In the first one, there are three items that must be considered:

- can the user login using a social media accounts? (Figure 9a);
- can the user comment the news using a social media account? (Figure 9b);
- can the user share the news within a social network? (Figure 9b).

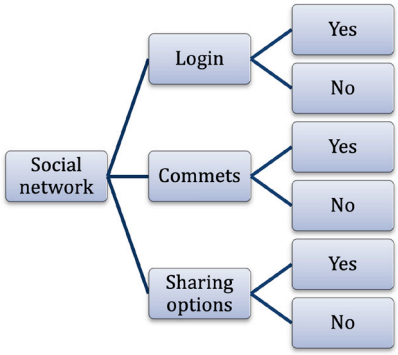
Figure 9. Social network login (a) and commenting and sharing options (b)



Source: Screenshot from Folha de S. Paulo

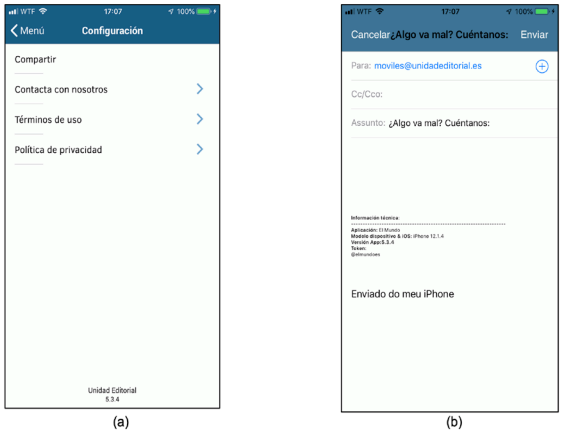
In Figure 9a we see the app allows the user to login using an email address or other social media accounts. Figure 9b shows commenting and sharing options aside, in a vertical menu below the news title. Sometimes commenting and sharing options are not displayed together: usually the comments section is at the bottom of the page. Figure 10 synthesizes the categorization for "social network".

Figure 10. Categorization for "social network"



Finally, in "newsroom contact" we consider how the app allows users to reach professionals involved with its maintenance. This could be done in two ways: through the phone's email app or using a specific section within the analyzed app. Figure 11 shows an example of the first case, in which the section "contacta con nosotros" (contact us) redirects user to the phone's email app.

Figure 11. Newsroom contact option via email app



Source: Screenshot from El Mundo

In a second level of analysis, we consider what type of information is requested or possible to be sent:

- General: the "contact us" section does not ask for anything specific. It provides a blank textbox so users can write freely about multiple themes.
- Errors/suggestions: a specific section for the user to report errors (both technical or content errors) or make suggestions.
- Send information: when the app clearly asks users to send information that could be incorporated to news. It could be text, pictures, videos or any media format.

Figure 12 synthesizes the categorization for "newsroom contact".

Figure 12. Categorization for "newsroom contact"

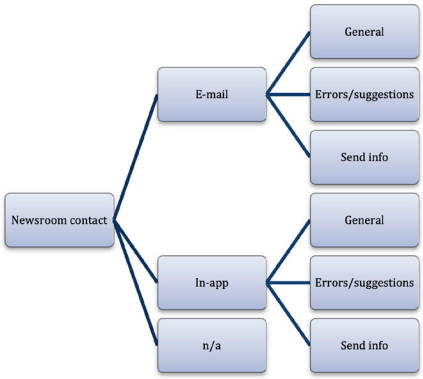


Figure 13 gathers all categorizations in a single data sheet in order to simplify the information filling.

Figure 13. Data sheet to evaluate hyperconnection items in news apps

Category	Main item	Specific item	Option
Immediacy	News update	Home	Time mode
			Last updated
			n/a
		Headline	Time mode
			Last updated
			n/a
	Alerts	Yes	Frequency
			Subject
		No	-
	Updates	Update alert	Yes
			No
		Handsfree update	Yes
			No
		Last minute section	Yes
			No
		n/a	-
Connectivity	Social network	Login	Yes
			No
		Comments	Yes
			No
		Sharing options	Yes
			No
	Newsroom contact	Email	General
			Errors/suggestions
			Send info
		In-app	General
			Errors/suggestions
			Send info
		n/a	-

By the application of the proposed tool, in the next topic we present the analysis of 12 news apps from Spain, Portugal, Brazil and Argentina. The experiment provides a panorama of how Iberoamerican news apps address immediacy and connectivity affordances and works as a validation method for the developed system.

4. ANALYSIS AND RESULTS

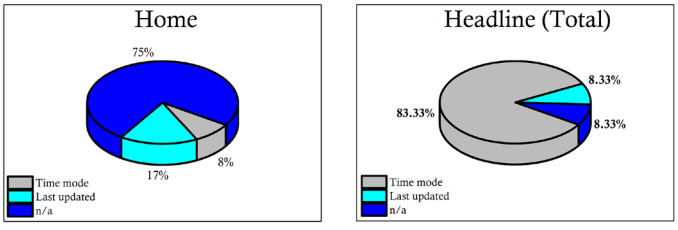
After the use of the data sheet shown in Figure 13 to individually evaluate each of the following 12 apps (Figure 14) from Ibero-America, we present the results found for each item analyzed in the form of tables and charts.

Figure 14. Apps analyzed

App	Country
La Nación	Argentina
El País	Spain
El Mundo	Spain
ABC	Spain
La Vanguardia	Spain
Folha de S. Paulo	Brazil
Gazeta do Povo	Brazil
Correio do Povo	Brazil
Correio da Manhã (CM)	Portugal
Expresso	Portugal
Público	Portugal

For news update, results showed most of apps (75%) do not inform at all in its homepage when each news was last updated. When considering the headline, however, 11 out of 12 did inform the last update made (Figure 15).

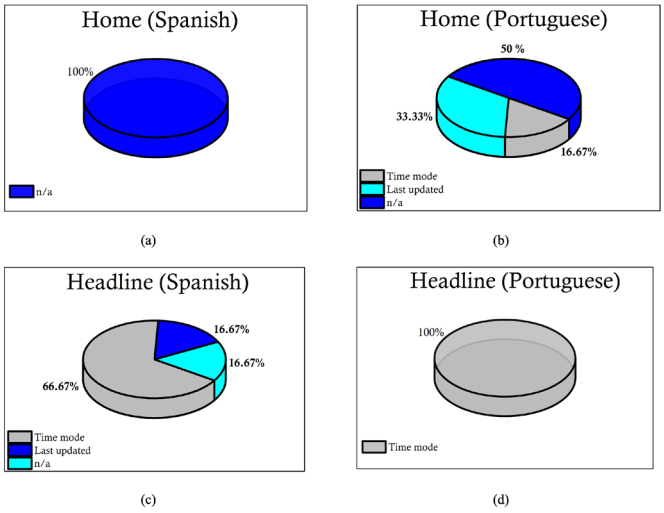
Figure 15. Results for "news update" general



(a) (b)

It is interesting to highlight the differences found when comparing apps in Spanish and in Portuguese. None of the analyzed Spanish apps had in their homepages some information about the updates of each piece of news. In Portuguese, 50% of the apps did have this information. When considering the headline, the Spanish index improved to 66.67% of cases informing the last update, and the Portuguese to 100%.

Figure 16. Results for "news update" per language of the app



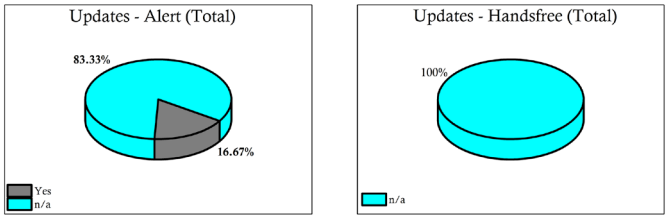
Results for "alerts" are shown in Figure 17 since one app could have one or two options checked, not favoring data presentation in circle charts. It is clear that most of the analyzed apps did not offer any kind of customization of its alerts, or notifications. Only two of these did not offer to send news alerts at all: ABC and La Razón. El País was the only app that provides both frequency and subject customization.

Figure 17. Results for "alerts" general

App	Frequency	Subject	n/a
Expresso			*
Público		*	
CM		*	
Folha de S. Paulo			*
Gazeta do Povo			*
Correio do Povo			*
El País	*	*	
El Mundo			*
La Nación		*	
La Razón			*
La Vanguardia		*	
ABC			*

Regarding "updates", we have found alert updates in only two of the analyzed apps, Folha de S. Paulo and El País, and handsfree updates were not found (Figure 18). Nevertheless, the last minute section was a popular tool.

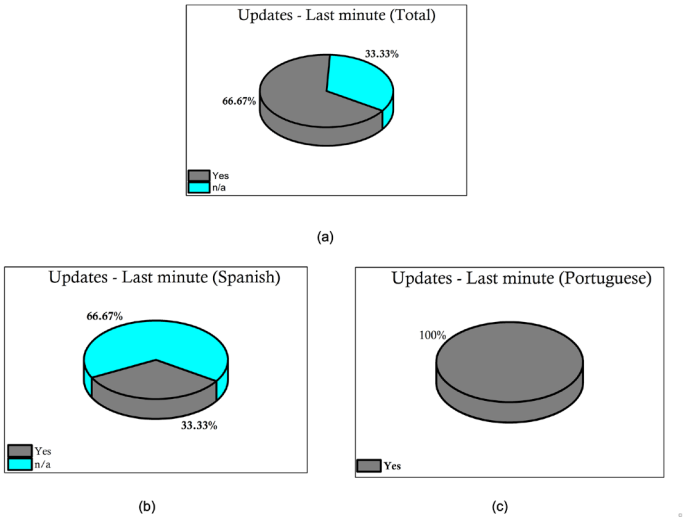
Figure 18. Results for "updates - alert" and "updates - handsfree" general



(a) (b)

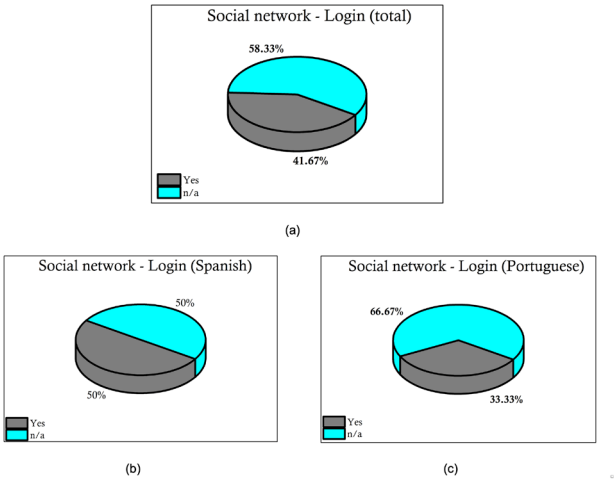
8 out of 12 apps have a last minute section, where news are displayed in a timeline mode (Figure 19a). Within the Portuguese apps, this tool was seen in 100% of the cases, being much less used in the Spanish apps, 2 out of the 6 cases (33.3%).

Figure 19. Results for "updates - last minute section" general and per language of the app



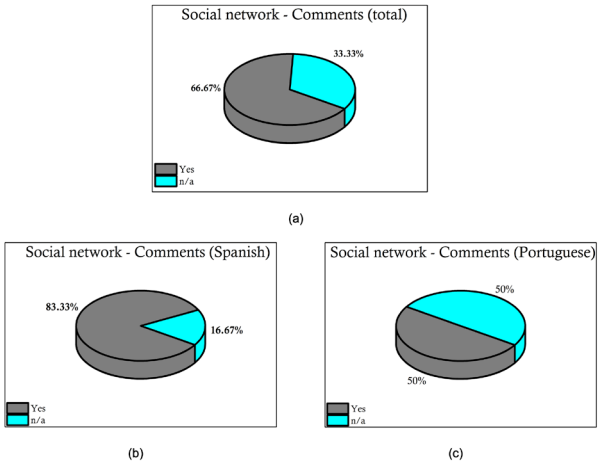
Advancing to the items that compose the "connectivity" evaluation, in "social network" we evaluated 3 items: login, comments and sharing options. In the first one, we found out the minority (41.67% - Figure 20a) of the analyzed apps offer the option to login using a social media account. Apps in Spanish performed better than the Portuguese in this case (50% and 33.3% of "yes" response, respectively - Figures 20b and c).

Figure 20. Results for "social network - login" general and per language of the app



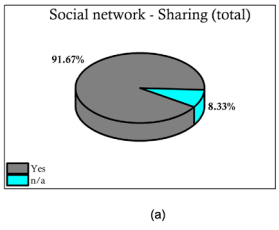
The analysis of "social network - comments" shows now a better performance of Spanish apps. 83.3% of them have a specific section for commenting news (Figure 21b) while 50% of the Portuguese apps (Figure 21c) have it. The general score sums 66.7% of apps offering users the option to comment on news stories (Figure 21a).

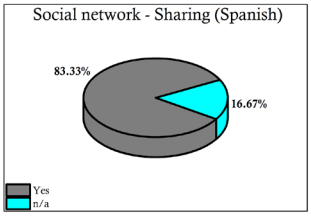
Figure 21. Results for "social network - comments" general and per language of the app



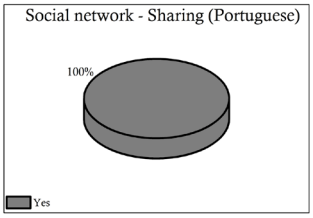
"Sharing" was the most common option within the social network analysis. Only La Vanguardia app does not offer the option to share the news. In that way, 91.67% of all apps offer sharing options (Figure 22a) and 83.33% of Spanish apps do (Figure 22b). All Portuguese apps offer this option (Figure 22c).

Figure 22. Results for "social network - sharing" general and per language of the app





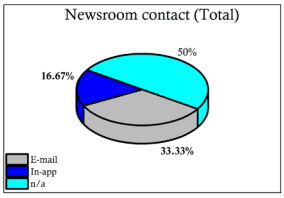
(b)



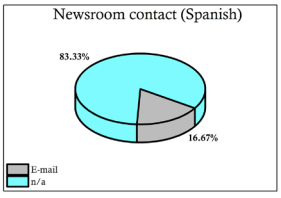
(c)

Options for the user to contact the newsroom are only available in 50% of the analyzed apps, being the email the most used way to do so (Figure 23a). Apps in Portuguese scored better in this evaluation, with 50% using email tools, 33.33% using in-app features and only Correio do Povo not offering any alternative (Figure 23c). Among Spanish apps, 83.33% (that is, 5 out of 6) do not have any means of contacting the newsroom. El Mundo is the only one that offers email contact for the users.

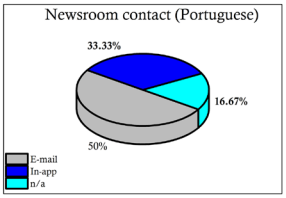
Figure 23. Results for "newsroom contact" general and per language of the app



(a)



(b)



(c)

Considering only the apps that offer email contact options, all of the 4 cases simply provided a link to write and send the message using the smartphone native email app, which we called the "general" way. None ask specifically for users to report errors, make suggestions or send information they consider relevant. Figure 24 synthesizes the findings.

Figure 24 - Results for "newsroom contact - email" general

App	General	Errors	Send info
Expresso	*		
Público	*		
Gazeta do Povo	*		
El Mundo	*		

The 2 apps that offer in-app tools to contact the newsroom are Correio da Manhã (CM) and Folha de S. Paulo, both from the Portuguese group of apps. While CM has a specific section for users to send information, pictures and videos, Folha de S. Paulo stands out in this analysis as the only app that has all the 3 specific sections: possibility to write an email, freely; space to report errors and misinformation; and also a section to send information and other type of media. Figure 25 synthesizes the findings.

Figure 25 - Results for "newsroom contact - in-app" general

App	General	Errors	Send info
CM			*
Folha de S. Paulo	*	*	*

Thus, we conclude the presentation of the results obtained with the application of the proposed evaluation system and move on to the conclusions of the work.

5. CONCLUSIONS

In this paper we proposed a theoretical approach, followed by an empirical research. The first subject of the theoretical part was the smartphone and its roles as mobile media device in Bauman's liquid modernity context. We also discussed a communication paradox of the 21st century: at the same time that it is hyperconnected, there is a condition of enclosure of users in personal media bubbles (Turkle, 2011).

Martínez-Fernandez (2017) states that "the mobile screen is the channel whereby the final function of hyperconnectivity becomes a fact" (Martínez-Fernandez, 2017, p. 21). The theoretical discussions mentioned above aimed at developing this idea and positioning mobile journalism in this hyperconnected scenario. But after concluding the empirical research, in which we propose and test a data sheet to evaluate hyperconnected journalism, we understand hyperconnection features are not yet widely adopted by news apps.

The empirical research presented in this paper is clearly exporatory, that is, it does not intend to offer a conclusive overview of news app and how they approach hyperconnection features, but it aims to contribute to a initial panorama of Ibero-America and, most of all, to validate the proposed evaluation system. The validation of this system, on the other hand, can be considered done, as it was tested 12 times and provided interesting results, compiled next.

- 75% of apps do not inform when the news in their homes was published or last updated, but once a piece of news is selected, 91.67% do inform the publication date of the material.
- 10 out of 12 apps offer alerts/notifications, but only 5 of them enable subject customization and 1, frequency choice.
- The last minute section was seen in 8 of the analyzed apps, but only 2 of them alert users about new information and the need to refresh the page to see it. Handsfree update, which is the automatic version of the refreshing alert, was not seen.
- Social network items were the most seen ones. 41.67% of apps offer login through social media, 66.67% offer comments section and 91.67%, sharing options.
- Newsroom contact via email or specific in-app section was available for 6 of the 12 apps, 4 through email and 2 through in-app tools.
- A brief comparison between apps in Spanish and in Portuguese allow us to see the latter performed better in all conditions, but two: login through social media and comments section. As the classificatory system was successfully applied to the empirical research, hopefully it will be useful to future studies, as well as contribute to the consolidation of the Mobile Journalism field.

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