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## RADIO MOBILITY IN THE DIGITAL ERA: INTERACTIVITY, PARTICIPATION AND CONTENT SHARE POSSIBILITIES IN IBERIAN BROADCASTERS

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### Abstract

In the context of the scientific research into radio, recent years have encouraged many theories about the meaning of a *post-radio* (Oliveira & Portela, 2011), thus enlisting several parameters regarding the inclusion of contemporary radio in the digital and online environments. This digital migration has led to the development of mobile applications for radio, broadening the communicative potential of audiences (Aguado, Feijoo & Martínez, 2013), as well as promoting convergence of interactive content among listeners-users. Aware of this opportunity, the main broadcasters in Spain and Portugal have broadened their radiophonic scope to the mobile platform, especially geared towards smartphones through the development of mobile applications, commonly known as apps (Cerezo, 2010). As a symbol of a culture in permanent changing, smartphones not only provide greater easiness in terms of access and interaction, but also afford larger opportunities for disseminating content among audiences, a phenomenon that some studies have labelled as *user distributed content* (Villi, 2012). This article presents an exploratory analysis of the current policies of the main Spanish and Portuguese radio broadcasters regarding mobile applications, evaluating the different levels of interaction and participation in these platforms. This observation led to the conclusion, among other findings, that the mobile platform represents a supplementary channel for traditional FM radio, rather than a new medium with its own language and expression.

### Keywords

Mobility; mobile radio applications; interactivity; participation; content sharing

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### INTRODUCTION

Present features of our technological culture profoundly immersed in portability (Kischinhevsky, 2009), date back to the start of the 21<sup>st</sup> century, in the wake of the expansion of mobile telephony, a phenomenon triggered by the widespread availability of multiple portable devices. Netbooks, e-readers, tablets and smartphones became everyday objects, albeit with different levels of use and appropriation (Dearman & Pierce, 2008). In this context of digital convergence, a new social, mobile, open and interconnected medium has been defined (Weinberger, 2011). Since the launch of the *iPhone* (2007), smartphones have expanded sharply and became the new driving force behind the so-called “information society” (Cerezo, 2010), with worldwide usage calculated at 72% of mobile users, as in Spain (84%) and in Portugal (40%) (AMETIC & Acenture, 2014; ANACOM, 2014).

These devices offer functionalities that transcend the concept of a mobile telephone, bringing a social, expansive and omnipresent medium where communication

and content converge into a single platform (Aguado, Feijoo & Martínez, 2013). Smartphones act as extensions of user's identity given the possibilities provided in terms of independent and personalised content, transforming a single technical device a "home from home" concept (Cassetti & Sampietro, 2002).

The growing penetration of smartphones steered the development of mobile broadband that resulted in regular access to the Internet for 78% of Spanish mobile users and 34% of Portuguese mobile users (AMETIC & Acenture, 2014; ANACOM, 2014). This level of connectivity has challenged established forms of interaction between the media and citizens (Cebrián Hereros & Flores Vivar, 2012; Meso et al., 2014), as the appropriation of these devices paved the way for a culture of access to digital information (Díaz-Noci, 2010).

According to Scolari (2012), smartphones have turned into huge attention predators, providing permanent connection for their users, especially those who need to obtain continuous and personalised information, regardless geographic locations (Nozal, González-Neira & Sanjuán, 2014). Smartphones are a unique device for new media expressions within the scope of convergence. Under the generic label of 'mobile communication', quite a few research projects have been discussing present shifts in media industry to incorporate some dissemination platforms, especially in the perspective of the press, and the transformation of the new communication opportunities into wide-ranging interactive formulas (Aguado et al., 2013; Canavilhas, 2013; Reis, Ribeiro & Portela, 2014).

It seems that convergence between radio and mobile technology was somehow predictable. In the 1990s the development of the Global System for Mobile Communications (GSM) had already converted telephones into analogue radio receivers. This initial technical advancement enabled new radio experimentation, seeking its own language and expression (Vacas, 2007). Today, this remains a topical precept. As a consequence several discussions have moved onto the nature of the sound grammar (Herrerros, 2008), studying high-performance devices such as smartphones, tablets or laptops (Del Bianco, 2011).

In the particular case of mobile phones, the main focus of this research adopted Fidalgo's understanding (2013), one of the researchers who challenged radio to develop an active policy of shifting from its sound essence to an online context, in a multitasking consumption environment or in permanent mobilisation, thus enhancing its intimate and personal feature. It is also suggested that the transition of radio to the online and digital scopes will lead to the transformation of the sound product into multimedia, and the emergence of new forms of content distribution and interaction with the listeners (Albarran & Pitts, 2001; Priestman, 2002; Nyre & Ala-Fossi, 2008; Tolson, 2006).

The appropriation of mobile platforms is a unique opportunity to attract listeners and users (Rosales, 2013). Furthermore, using mobile networks, radio may promote its unique sense of intimacy and group belonging, which have been always seen as distinctive features of this media. Through smartphones radio has the opportunity to offer geolocalized, personalised and participatory content (Cerezo, 2010; Videla & Piñeiro, 2013). To incorporate this potential and adapt to this new medium, researchers have

proposed that radio producers should adapt the sound content to online media (Priestman, 2002; Ramos & González-Molina, 2014b); Ribeiro, 2014).

Notwithstanding the possibilities provided by smartphones, the expansion of radio to mobile networks also opens up new opportunities in terms of access. The number of mobile users with regular access to Internet connection has risen sharply in Spain and Portugal. According to 2014 data from the Spanish Interactive Advertising Bureau (IAB), three out of four internet users access to radio on the Internet, consuming online versions of conventional radios and exclusively online products or automated services (e.g. Spotify, Grooveshark). The same study also revealed that half of these users tend to access radio content through mobile device applications.

The multiple connections of online radio, however, does not correspond to a diversification of listening channels. The IAB report states that the listeners-users continue to prefer the conventional radio brands also on the web (81.5%). The growing access to automated services (64.2%) is clearly pointed out, and as a consequence the intensification of personalised consumption of sound content. This study also mentions that the listeners' willingness to listen to the radio depends mainly on their availability to do so.

Once immersed in this process of self-communication (Merayo, 2000), radio mobility enables the construction of a digital sound world steered by the listeners-users, deciding how, when and what they want to listen to (Perona, Barbeito & Fajula, 2014). We can thus state that while conventional radio allows the socialisation of sound, mobile radio facilitates its individualisation, multiplying the options for digital sharing and interaction, currently known as *user distributed content* expression (Westlund, 2012; Villi, 2012). In other words, content is managed by users.

The portability of radio implies redesigning the structure and content of the mobile applications to fully adapt to the opportunities of this new medium and create its own language and expression. As Johnson et al. (2012) point out, today's finest applications are totally adapted to the potential of the devices, using positioning data and access to social networks or web search in a complete mobile digital experience.

Taking into account some of these considerations, it is our objective to analyse radio mobility by studying the migration of Spain and Portugal's main FM radio broadcasters (general and specialised) to the mobile applications environment, emphasising the possibilities of interaction and participation. This paper follows the particular line carried out by previous studies to analyse the relationship between Spanish radio and their mobile applications (Videla & Piñeiro-Otero, 2012, 2013), as well as broader approaches in the European or American context (Ramos & González-Molina, 2014). By drawing the main conclusions concerning Iberian radio, this study proposes some discussion that we consider essential for the debate about the policies of radio communication within the world of mobile communication.

As such, the text is divided into three parts: a conceptual overlook about interactivity and participation, outlining the essential concepts surrounding the idea of radio's shift to the digital environment; the presentation of the empirical approach that serves as the crux of the study, focusing on Iberian broadcasters and, finally, an assessment of the most relevant results and the possibilities for new practices.

## CONTRIBUTION TO A CONCEPTUAL MAP TOWARDS INTERACTIVITY

The debate about the relationship between the media and citizens has been able to grasp frequent references to the concepts of “participation” and “interactivity”. Although both refer to the same social dimension, in terms of the contact among individuals and/or institutions, we can assume, based on common sense, that a primary distinction between the two of them is related to a technical and technological perception. As so, “interactivity” is often regarded through its digital and online nature, representing “one of the little discussed problems of our time, randomly theorised in the new media and in society” (Bauman, cit. in Deuze, 2006, p. 691).

The potential for interactivity as a communication tool has not been yet fully explained: as Deuze states “regarding the processes of media production, we will continue to witness the exponential increase of down-top content for wider audiences” (2006, p. 697). As a renewed commitment to contact between the media and audiences, interactivity has also motivated wider approaches from academics who have attempted to categorise online interactive behaviours among users and web pages.

Deuze (2001) proposes three kinds of interactivity: 1) navigational (online page viewing, returning to the home page and scroll buttons); 2) functional (links, moderation of user comments, distribution of content through social networks and e-mail); and 3) adaptive (chat programs through specific chatrooms or the customisation of the page by the user). In addition, Boczkowski (2004) suggests that contact interactivity represents part of the online contacting tools among users and managers of the specific web pages, in a dialogue fostered within different parts of cyberspace.

According to Chung (2008), it is possible to include three interactivity levels: low (download of video and audio, picture galleries, etc.); medium (response to polls or other request forms) and high (sending links by e-mail, entering chatrooms, etc.). Liu & Shrum (2002) consider that interactivity can be categorised in three dimensions: between users and the managing page system; between two online users; between the user and the online message.

A very similar concept to the idea of interactivity is ‘participation’, originally brought into play from a political perspective, which goes back to the foundations of Athenian democracy where a primitive participative culture in popular meetings or in the court sessions was initiated, allowing citizens to intervene and give their opinion in some public affairs (Simón, 2006). Although ‘participation’ is not symbolically defined by an exclusively digital connotation, in opposition to the concept of interactivity, it could be also said that modern media are increasingly asking for more “participation” of audiences, such as public opinion forums, collaboration in covering news events with public impact, make part of contests and competitions, etc. In this sense, media have been demonstrating its comprehension on the importance of gathering audiences in some participative formats, not only from the commercial point of view, regarding the number of sales or measurement of audiences, but also in relation to the supply of feedback on the discourse (Moreno, 2006). Dealing with countless technological promises, participation has paved the way to a theoretically infinite number of contact possibilities between

broadcasters and receivers of the media messages. Now the discussion has moved onto the conditions surrounding a mobile reality and the consequences of this new panorama within widespread digital mobility. In the specific case of radio, we should take into account its historical connection with the telephone, over so many decades, through traffic updates or through participation in some entertainment shows. Today's digital demands have led to new interpretations, not only within the scope of the media owners and audiences, but also in the academia, which has sought to make contributions to a debate precisely about citizens' participation in the media.

Having in mind the profusion of concepts that seek to label the mobility among audiences and media, it is probably relevant to review some theoretical contributions about this subject. Following Carpentier's understanding (2007), there are three important concepts to be considered: the access (the physical dimension of the intervention in the media or through another communication channel); the interaction (process of constructing meaning through real and lived experiences or linguistic phenomena); and the participation (exercising power and influence). Regarding the last concept, Pateman (1976) is constantly quoted as one of the academic precursors whom tried to study participation that integrates two modes: partial participation (the process through which two or more parties mutually influence each other in decision making, although one of them has responsibility for the final decision) and total participation (process in which each of the individuals has decision-making power, leading to a balanced power framework to decide on strategic actions). As a generic concept, Arnstein (1969) defines "civic participation" as follows:

it is the redistribution of power that allows citizens excluded from the political and economic processes to make decisions regarding the future (...) representing the means by which they [citizens] can bring about significant social reforms that allow the sharing of future benefits in society. (Arnstein, 1969, p. 1)

As part of an ideological process, the widespread dissemination of the "participation" concept has been consolidated in a broader level, from political communication to environment. By Wasko & Mosco's contribution (1992) about "democratisation in and through the media", and also recovering part of Carpentier and Cleen's thinking (2008), Ribeiro (2013) suggested a distinction between "participation through/with the media" and "participation in the media". The first describes "a concept and practice whereby the citizen actively intervenes by monitoring media information about the direction and evolution of certain matters that take place in public life" (Ribeiro, 2013, p. 126), whilst the latter "depends inevitably on the willingness of the media to collect contributions from readers, listeners or viewers in their productions. This understanding leads to the creation of spaces especially geared towards promoting initiative among the citizens" (Ribeiro, 2013, p. 127).

Pinto & Sousa (2011) suggest different "participation categories": passive (the audience does not interfere in the media discourse); strategic or interested (citizens take part

of the discourse illustration); sporadic or also interested (witness accounts); qualified (experts interventions, specialised commentators) and institutional (opinion panel, interaction with ombudsmen). When citizens are intrinsically motivated to participate, these researchers identify the following levels: monitoring media's activity; as responding to media participative formats (polls, votes, feedback); voluntary (proposals, suggestions, criticisms, suggestions, right to reply); content dissemination (photos, videos, texts, statements, etc.); mobilisation, promotion (organisation of initiatives, campaigns, debates).

In an advanced digital environment, where participation is becoming part of the media discourse, there are still plenty uncertainty about its potential or value. According to Rosa Moreno (2006), media are only interested in public opinion and contributions in specific moments, such as witnessing situations where journalists were not there to report about it. This is labelled as the "affair technique". Considering this critical inspiration about the substantive nature of participation, this article also attempts to assess the real participation opportunities that radio grants listeners and users in the present context of permanent shifting towards digital environments.

#### PLAN AND METHOD OF OBSERVATION

Analysing the interaction and participation possibilities organised by the traditional broadcasters in Spain and in Portugal on the mobile platform, this exploratory study intends to observe the content of their applications. Formal characteristics of the radio apps were examined over the first fortnight of October 2014, taking into account types of broadcasting, ownership and operative systems.

As such, the sample was selected outlining two procedures: broadcaster and operative system. In the first case, we choose the largest Spanish and Portuguese broadcasters in the traditional FM channel (EGM, February-November 2014; Bareme Rádio, September 2014). In total, we observed 29 radio stations, seven of which were channels with general content (four Spanish and three Portuguese) and 22 of which were thematic/specialised broadcasters (14 Spanish and eight Portuguese).

Regarding to the operative systems, the sample was restricted to applications designed for iOS and Android smartphones, which are the most common systems within the Iberian market. Hence, a group of 55 mobile applications were analysed (28 for iOS and 27 for Android)<sup>1</sup>, as shown in Table 1:

BROADCASTER	COUNTRY	TYPE	OWNER-SHIP	OPERATIVE SYSTEMS	
				iOS	ANDROID
SER	Spain	General	Private	Individual	Individual
Onda Cero	Spain	General	Private	Individual	Individual
COPE	Spain	General	Private	Individual	Individual

<sup>1</sup> We noted that no applications were available for SIM Radio (iOS and Android) and Europe FM (Android). In cases where there was a two-fold offer of applications for a single broadcaster, like for Radio 3 (iOS and Android) or Antena 3 (Android), the individual application was given precedence over the collective application.

<b>RNE</b>	Spain	General	Public	RTVE collective radio	RTVE collective radio
<b>Renascença</b>	Portugal	General	Private	Individual	Individual
<b>Antena 1</b>	Portugal	General	Public	Collective RTP	Collective RTP
<b>TSF</b>	Portugal	General	Private	Individual	Individual
<b>C40</b>	Spain	Specialised	Private	Individual	Individual
<b>Dial</b>	Spain	Specialised	Private	Individual	Individual
<b>C100</b>	Spain	Specialised	Private	Individual	Individual
<b>Kiss FM</b>	Spain	Specialised	Private	Individual	Individual
<b>Europa FM</b>	Spain	Specialised	Private	Individual	Not available
<b>Rock FM</b>	Spain	Specialised	Private	Individual	Individual
<b>Máxima FM</b>	Spain	Specialised	Private	Individual	Individual
<b>M80</b>	Spain	Specialised	Private	Individual	Individual
<b>Radiolé</b>	Spain	Specialised	Private	Individual	Individual
<b>Radio Marca</b>	Spain	Specialised	Private	Individual	MARCA collective group
<b>RNE3</b>	Spain	Specialised	Public	Individual	Individual
<b>R5TN</b>	Spain	Specialised	Public	RTVE collective radio	RTVE collective radio
<b>Hit FM</b>	Spain	Specialised	Private	Individual	Individual
<b>Radio Clásica</b>	Spain	Specialised	Public	RTVE collective radio	RTVE collective radio
<b>Antena 3</b>	Portugal	Specialised	Public	Collective RTP	Individual
<b>RFM</b>	Portugal	Specialised	Private	Individual	Individual
<b>Mega Hits</b>	Portugal	Specialised	Private	Individual	Individual
<b>R. Comercial</b>	Portugal	Specialised	Private	Individual	Individual
<b>M80</b>	Portugal	Specialised	Private	Individual	Individual
<b>Cidade FM</b>	Portugal	Specialised	Private	Individual	Individual
<b>Rádio Sim</b>	Portugal	Specialised	Private	Not available	Not available
<b>Smooth FM</b>	Portugal	Specialised	Private	Individual	Individual

Table 1 – Broadcasters according to country, type, ownership and operative system.

## MOBILE APPLICATIONS INTERACTION AND PARTICIPATION POSSIBILITIES

The sample indicates a limited offer of apps for tablets. Only Radio Renascença, TSF, C40 and Kiss FM (in the morning show) have a specific application for iPad, with a design and functionalities adapted for this kind of device.

Taking advantage of the simplicity of the tools and some variables used in previous researches, a specific table was drawn up to analyse the mobile applications. This tool selected categories in a table based on the work of Piñero-Otero and Videla (2013) and Ferreras-Rodríguez (2014), toward the interaction and participation mechanisms for mobile radio. Based on these projects, an analysis grid was designed containing the following interaction-participation variables:

VARIABLES		POSSIBILITIES
<b>Vote</b>		Yes, with no limitations Yes, upon user registration Not allowed to vote
<b>Comments</b>	Comment form	Yes, with no limitations Yes, with prior identification of the listener Yes, upon user registration Not allowed to comment
	Publication form	Comments moderated by the broadcaster Unmoderated comments
<b>Poll<sup>2</sup></b>	Present	Yes No
	Interaction mode	Yes, with no limitations Yes, upon user registration
<b>Online Chat/Interview</b>	Present	Yes No
	Interaction mode	Yes, with no limitations Yes, upon user registration
<b>Creation and sending of listener content</b>	Participation possibility	Yes, all kind of content Yes, with restricted content No
	Publication form	Moderated Unmoderated
	Section	According to topic Specific to listener collaboration
<b>Sharing</b>	Modes	E-mail E-mail and Facebook E-mail, Facebook and Twitter All the possibilities of the operative system Other possibilities
	Localisation	Action bar News Others
<b>Access to social networks</b>	Social Networks	Facebook Twitter Facebook and Twitter Other possibilities
	Access form	Specific APP Icon Link
<b>E-mail producers</b>	Possibility	Contact with broadcaster Contact with programme Contact with radio host Others Not possible
	Contact form	E-mail Form



<b>Telephone producers</b>	Possibility	Contact with broadcaster Contact with programme Others Not possible
	Contact form	Conventional telephone Skype
<b>Access to the radio station's site</b>		Yes, on the specific app Yes, following a link Not possible

Table 2 – Analysis grid of participation and interaction possibilities

Following present or absent categories, it was possible to measure what kind of Portuguese and Spanish radio broadcasters have adapted to the interaction possibilities of the different platforms.

The observation show that their mobile applications do not include mechanisms for interaction with their listeners-users. We can clearly see a lack of basic interaction forms such as polls about the content, interactive communication with the programme's journalists or with personalities (chat) or the possibility to comment on the content. Only the apps for Rádio Renascença (iOS and Android) and Antena 1 (iOS, as part of the RTP collective application) provide the option to comment, especially on news and other kinds of information in text form. In the case of Rádio Renascença, in order to comment on a specific item of content, users of the mobile application need to fill out an identification form with name, e-mail address, location and comment (prior registration is not required). Adding these data, the comment is analysed by a technical procedure, which causes some delay into the comment publication on the page.

As for the participation of radio listeners-users in terms of content sharing, none of the applications has a particular functionality to send texts, images, videos or sound recordings. This may be seen as a severe reduction of the opportunities for the listeners-users to participate, reflecting mobile radio's limited perspective on its possibilities for interaction, connectivity and content creation. The essence of smartphones, as multi-function devices, engages with the possibility to record instantly a moment for further publications in the digital scope.

Traditional radio's refusal to play an active role in promoting participatory strategies in the mobile context will lead to, in the worst-case scenario, its own exclusion from audiences that usually tend to be part of an engaged digital sphere. Hence, it is evident that a very conventional outlook of the medium is still in place, with a very limited understanding of the roles of the broadcaster and the receiver, taking little heed of the opportunities afforded for radio to involve its audience with radio content.

Apart from the use of typical participatory and interaction mechanisms of traditional radio, it is worth highlighting an innovative case in this sample of apps provided by Iberian radio stations that combines the opportunities afforded by the social platforms with the geo-localisation technology of the mobile phones. In the Cope application for

<sup>2</sup> Understood as multiple-choice answers to a question

the iPhone, in the sports programme *Tiempo de Juego*, the listeners-users may meet and interact with other listeners-users who are geographically nearby. This new functionality takes an ambitious step in the connection and cohesion of the programme's community of listeners-users.

#### OTHER PARTICIPATION STRATEGIES

The telephone – the interaction medium traditionally used by radio – e-mail and the social networks seem to be hegemonic in this particular context. Direct connections to the websites of different broadcasters were also analysed, taking into account that in some cases mobile applications do not provide access to the interaction forms, but it is possible to access to them through the web.

In general, the participation and interaction platforms promoted by the Iberian radio producers through their mobile applications is limited to the contact with the broadcaster, rather than with a specific programme or radio host. As Tolson (2006) states, the act of speaking supposes the most expressive method of participating on radio, and hence we believe it is important to emphasise the special relevance of including the broadcaster's telephone number or other contact methods (e.g. Skype) that enable this oral interaction. The telephone has a residual presence in this sample. Among general broadcasters, only Cope and RNE apps provide a telephone contact number. The collective nature of RNE apps means that this contact is common to the broadcasters of the group. Another application that incorporates a telephone number available to the public is the individual Antena 2 app (only available for Android).

Regarding e-mail, a common participation tool through the Internet, its limited presence in the applications of the sample is also noteworthy. Within the scope of "talk radio", i.e. broadcasters who give predominance to speech/debate programs, only Cope includes a link to the e-mail address of the broadcaster, while Antena 1 provides this contact through an online form. Among the specialised mobile applications, only Radio 3 (iOS and Android) and the Smooth version for iOS facilitate interaction via e-mail. The application common to the RNE group includes its e-mail address in the contact information, but it serves exclusively to report questions of a technical nature, such as any faults or incompatibility with the operative system.

The emergence of the social networks in the Spanish and Portuguese radio stations provides a new interaction and participation channel for the listeners-users. In order to take advantage of these tools, displaying more direct and instantaneous contact than e-mail, a policy must be adopted that encourages participation in the radio's social media, promoting the activity among online users, and space for parallel initiatives in an offline context.

This analysis highlights the absence of connections between mobile application and broadcasters' social networks. According to recent studies put forward by Ramos & González Molina (2014b), Spain and Portugal's main radio stations have broadened their presence to several branches of social media, yet only general broadcasters Onda

Cero and Cope (iOS and Android) and specialised channels Hit FM (iOS and Android), Europa FM (iOS) and Kiss FM (Android) – all Spanish – promote connection to the social networks. Besides the above mentioned radio channels, Rock FM application (iOS) incorporates its Twitter profile, making it possible to convert listeners into followers, albeit in a less direct manner.

As for the access to the social networks, there are three basic methods: as part of the application itself, which allows interaction and monitoring on the social networks, without disconnecting the application (Onda Cero and Europa FM); through a link (Cope, Kiss FM) and through an icon (Hit FM), as shown in Table 3.

		SOCIAL NETWORKS		
		FACEBOOK	TWITTER	GOOGLE +
ACCESS	App itself	Onda Cero	Onda Cero	-
		Europa FM	Europa FM	-
	Icon	Hit FM	Hit FM	Hit FM
	Link	Cope	Cope	-
		-	Kiss FM	-

Table 3 – Method of accessing social networks used according to the mobile applications for radio.

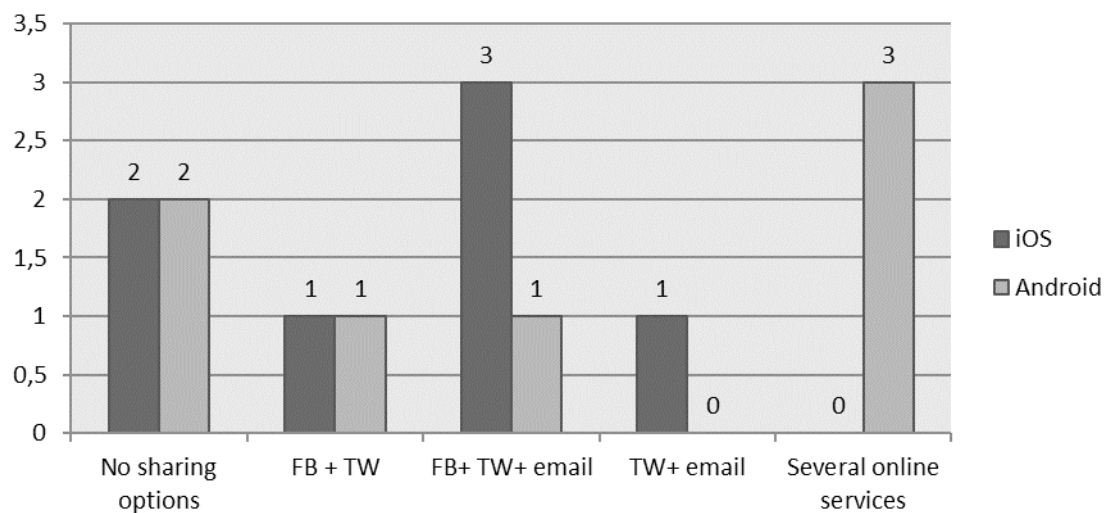
The limited connectivity between the Iberian radio applications and their social network accounts states clearly a shortfall in a global perception of interactivity, neglecting the potential of these tools in the creation and cohesion of a radio community. It is especially remarkable that there is nearly no mention of the social networks on the music radio channels, especially taking into account two factors: 1) both platforms (social and mobile) have extremely rich potential for interaction with the users, using multiple formulas and languages; 2) given that the social networks are widely used by youth, and taking into account that the audience of the music broadcasters is mainly made up of individuals from these ages, it seems like a paradoxical policy.

Furthermore, those radios that give music a special highlight in their daily agenda seem to include applications that are generally simpler than those provided by general radio channels, which is reflected in their functionalities and connectivity. Thus, the applications of Smooth FM (iOS and Android), Cidade FM (iOS), M8o (iOS) and Radio Clássica (iOS and Android) have a single-level navigation page.

Regarding access to the radio station's site from the mobile application, only the public radio applications of Spain and Portugal provide it – with the exception of the individual Antena 1 app – and TSF (iOS) in the case of the general broadcasters and Hit FM (Android) among the specialised radio channels. The low connectivity between of the radio channels' mobile applications and their respective sites demonstrates not only the lack of planning of interaction and participation mechanisms (in the app itself and others), but also emphasises the lack of a global blueprint for online radio.

### SHARE ABILITY POSSIBILITIES IN MOBILE APPLICATIONS

Along with the lack of planning regarding interaction and participation mechanisms, most of the mobile applications of the Iberian radio channels studied (26 out of 41) allow content sharing, i.e. giving listeners-users the opportunity to share content easily and instantaneously. As such, it is legitimate to state that radio prefers the idea of user distributed content, as can be seen on the following graph.



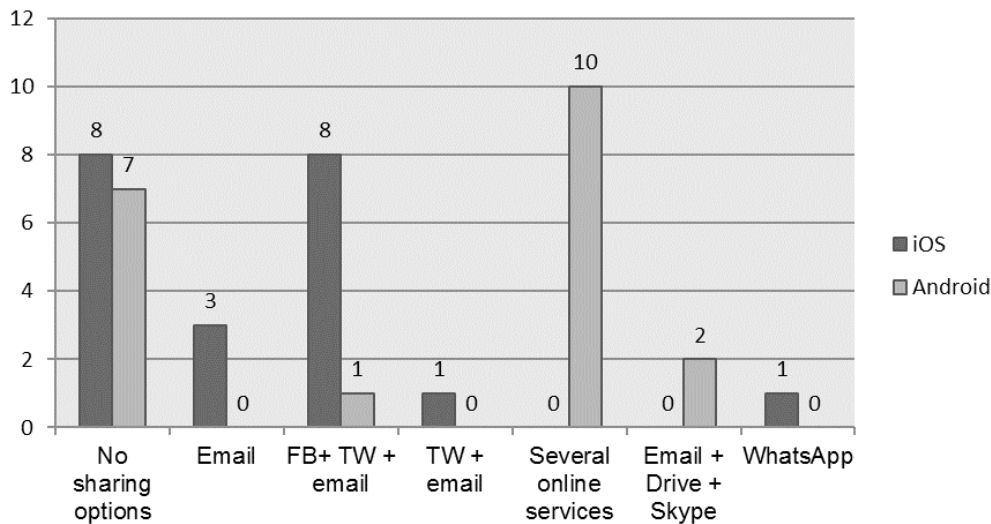
Graph 1 – Sharing opportunities of Spain and Portugal's general radio channels

In the case of general broadcasters, 10 out of 14 decided to take advantage of the content sharing possibilities, although the limited presence of participation and interaction mechanisms in the apps indicates differences within operative systems. Notwithstanding this important condition, Android devices provide more options to share than iPhone, as reflected in the functionalities of their applications. The applications with more capacity to share in iOS allow a redistribution of content on Facebook, Twitter and e-mail; while in Android these possibilities are opened to multiple services of the site and other connectivity options: Bluetooth, ChatON, Drive, Flipboard, Gmail, Google +, Hangouts, Message, Notes, Skype, WhatsApp, etc.

Almost all radio stations analysed – with the exception of RNE (iOS and Android), Cope (iOS) and Onda Cero (Android) – allow their content to be shared. The most common formula, followed by Renascença and TSF (iOS and Android) as well as SER (iOS), is to optimise the distribution of the results by e-mail, Facebook or Twitter. In its Android version, SER widens its sharing capacity by including all the possibilities of the operating system; an option that is common to Cope and Antena 1.

Regarding the location of this functionality, all the applications make it possible to access the sharing options from the content itself. Antena 1 and Rádio Renascença, for iOS, also allow access through the action bar (also known as the navigation bar, which includes direct access to the main functionalities of the app and which is visible in the different navigation levels).

The specialised radio stations (Graph 2) have less capacity to share content compared to the applications of the general radio channels. This functionality is provided in 23 of the 41 applications analysed, albeit with differences among the broadcasters and operating systems.



Graph 2 – Content sharing options of specialised radio broadcasters in Spain and Portugal

The applications of Cadena 40, Cadena Dial, Rock FM, Máxima FM, M8o (Spain), Radio Olé, RFM, Rádio Comercial (iOS and Android) and Cadena 100 and Radio 3 (Android) allow content sharing through all the available possibilities. In the apps for Android the redistribution of the radio content is enabled through a range of 2.0 services and platforms, while in the iPhone applications the possibilities are limited to e-mail the Facebook and Twitter accounts.

In the case of specialised radio mobile applications, it is also possible to underline two aspects: the limited sharing options provided by some broadcasters, restricting the redistribution to e-mail – such as is the case of the apps for M8o (Portugal), Cidade FM and Smooth FM for iOS – or Twitter – Antena 3 (iOS); and the emergence of new sharing formulas such as WhatsApp, in the case of Rádio 3. In relation to access, it is pointed out that the broadcasters Cadena 100, Rock FM, Kiss FM (para iOS and Android), M8o (Spain) and Antena 3 (iOS) and Cidade FM (Android) identify the sharing options directly from the application's action bar.

By analysing all sharing options, we may also point out differences between Spanish and Portuguese broadcasters. All general Portuguese broadcasters incorporate sharing functions, while only half of the Spanish radio stations analysed include this option. This situation is repeated in the case of thematic music radio stations, although Mega Hits (iOS and Android) and Smooth (Android) do not provide any option to share its content in the applications.

Despite the tendency for a higher number of Portuguese radio stations to adopt a content sharing strategy, it is worth pointing out that the few Spanish radio channels

that implement this option do so in a wider range of platforms, both on iOS and Android operating systems.

#### **FINAL REMARKS**

The migration of Spain and Portugal's traditional broadcasters to mobile radio was not followed by a real adaptation of their applications to the interaction and participation opportunities, following similar assessments of previous researches (Meso et al., 2014). This analysis has detected the absence of basic interaction formulas such as polls, virtual meetings (chat modules) or comments on platforms that are increasingly used by smartphones. The Iberian broadcasters also do not integrate user-generated content, nor incorporate formulas that facilitate and optimise content from listeners-users.

Moreover, other possibilities for online radio participation and interaction, such as telephone, e-mail and the social networks are not displaying all possibilities, either directly or through the radio stations' websites. Participation and interaction with media producers is generally reduced to a general contact with the broadcaster, or a broadcasting group, rather than a particular programme or radio host. An essential factor regarding participation, especially on "talk radio" rather than the musical one, is related to how listeners identify themselves with the broadcaster, which can be a decisive for the interaction with audiences.

Based on the limited implementation of participation tools in radio context and low interaction with radio producers, we can note that user-distributed content is the most positive feature within this scope. Almost all the broadcasters of the sample incorporate content-sharing functionalities, thus encouraging the users' participation in the distribution of content of potential interest.

Regarding content sharing, it is especially important to diversify the involvement of the community of listeners within a particular space, programme or radio broadcaster. Affording listeners-users the chance to share the radio content in their own spaces can convert them into a promotional agent of the broadcaster, even leading to the phenomena of "going viral" that sometimes occurs online and which acts as an indirect media marketing strategy.

As a personal, interactive and multifunctional device, smartphones allow their users to play an active role in the creation of content and interaction with producers, as well as establishing a private sphere of personal consumption adapted to their interests (Perona, Barbeiro & Fajula, 2014). This is a current missing opportunity, fostered by Iberian broadcasters who use the mobile platform to promote means of communication among masses but with little interaction, relegating listeners to a passive role identical to the traditional media.

Therefore, it is necessary to reflect on the mobile applications of radios as alternative channels for distribution of conventional radio content, as a new medium with its own functionalities and expression, shaped to the possibilities provided by the smartphones as receiving devices. //

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