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The innovation of European public service media in digital communication and user communities

La innovación de las radiotelevisiones públicas europeas en la comunicación digital y las comunidades de usuarios

A inovação das radiotelevisões públicas europeias na comunicação digital e as comunidades de usuários

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ABSTRACT

This research analyzes the innovation and social interaction strategies of European public service media (PSM) in response to the transformation and adaptation challenges entailed by the new digital communication ecology. The research methodology was based in the study of the corporations' annual reports, a mapping of the structure of their Internet platforms and a selective observation of the websites and the users communities of the PSM of the five European countries with greater population (Germany, the United Kingdom, France, Spain and Italy). The results show that both participation and the management of such communities is still incipient, not very proactive and quite conditioned by the requirements of their parent public service organizations.

Keywords: european public service media; innovation; social interaction; user communities; digital platforms; participation.

RESUMEN

Esta investigación analiza las estrategias de innovación e interacción social de las radiotelevisiones públicas europeas como respuesta a los retos de transformación y adaptación a la nueva ecología de la comunicación digital. Metodológicamente, se realiza una exploración de las memorias de las corporaciones, un mapeo de la estructura de sus plataformas en Internet y una observación selectiva de la gestión de las webs y sus comunidades de usuarios de los entes públicos de los cinco países europeos con mayor población (Alemania, Reino Unido, Francia, España e Italia). Los resultados muestran que la participación y gestión de estas comunidades es todavía incipiente, poco proactiva y bastante condicionada por las exigencias de sus organizaciones públicas matrices.

***Palabras clave**: radiotelevisiones públicas europeas; innovación; interacción social; comunidades de usuarios; plataformas digitales; participación.*

RESUMO

Esta pesquisa analisa as estratégias de inovação e interação social das radiotelevisões públicas europeias como resposta aos desafios de transformação e adaptação à nova ecologia da comunicação digital. Metodologicamente, se faz uma exploração das memórias das corporações, um mapeamento da estrutura de suas plataformas na Internet e uma observação seletiva da gestão das webs e suas comunidades de usuários dos entes públicos dos cinco países europeus com maior população (Alemanha, Reino Unido, Franca, Espanha e Itália). Os resultados mostram que a participação e gestão destas comunidades é ainda incipiente, pouco proativa, bastante condicionada pelas exigências de suas organizações públicas matrizes.

Palavras-chave: radiotelevisões públicas europeias; inovação; interação social; comunidades de usuários; plataformas digitais; participação.

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INTRODUCTION

Public television in Europe has been hegemonic and a monopoly for several decades, until the seventies or eighties depending on the different countries; however, it currently loses presence, audience, penetration and funding, which are now being gathered by traditional private operators and the new converging platforms of audiovisual, telecommunications and the Internet. In the last decades of transit between the two last centuries, the public audiovisual service –in Europe and in other parts of the world– faces competition and the challenges of neo-television (Eco, 1986), of hypertelevision (Scolari, 2008) and of the metamedia audiovisual hybridization (Manovich, 2005), trying to preserve its legitimacy and fulfill its mission.

In the new current situation of hyper fragmentation of consumption –starring the multiple accesses of users, and the mega concentration of content distribution (Evans, 2015; Miguel de Bustos & Casado del Río, 2016; Echraghi, 2017), increasingly monopolized by GAFAN platforms (Google, Apple, Facebook, Amazon, Netflix)– public service broadcasting (PSB) has to transform itself (Tambini, 2015; Burri, 2015; Bustamante, 2015; Martin, 2016; Tremblay, 2016) into a public service media (PSM) adapted and necessary for the diversity of the new ecology of the digital society (Fuchs, 2014).

THEORETICAL FRAMEWORK

CURRENT RADIOGRAPHY OF EUROPEAN PUBLIC SERVICE BROADCASTING

The quantitative evolution of the European audiovisual landscape reflects the trend described above, as shown by the reduction of public channels between 2016 and 2017, years in which it went from 10.6% to 7.3% of the total number of televisions in the European Union; i.e., of a total of 4,703 channels in 2016, of which 502 were publicly owned and 4,201 private, in 2017 the numbers fell to 309 public and 3,899 private, totaling 4,208, according to the data of the European Audiovisual Observatory (EAO) (2018). In 2018, the decline was barely noticeable in the public sector, with 308 channels, while the private ones increased to 4,105 (EAO, 2018).

In 2016, the European Audiovisual Observatory accounted for 156 national terrestrial television channels. A year later, that number was reduced to 134, increasing again to 150 in 2018. In other broadcast technologies (by satellite and cable) there were about 57 national channels in 2016; a year later, that number increased by only two more and in 2018, it dropped to 32 channels. In 2016 there were 218 regional public channels, in 2017, 61 and in 2018 similar figures were maintained, with 62 active channels. Similarly, in 2016 there were 71 public channels broadcasting abroad and the following year only 55 remained. This number increased slightly in 2018, reaching 62 (EAO, 2018). Adjustments in broadcasting technology systems and in emission costs –due to funding difficulties– are the cause of this restructuring in broadcasting systems.

The European Union officially ended the technological transition from the analogue to the digital terrestrial television system in April 2012, except for only half a dozen countries that obtained a delay until 2015. The EU countries are currently, with a deadline until 2020-2022, in the second phase of the digital blackout and the release of the frequency band above 700 megahertz to auction them so that they can be used by telephone operators for the operation of 5G and mobile communications

Digital terrestrial television has the exclusivity of the frequency band below 700 megahertz until 2030, after the intervention of a High Level Group led by a European Union mediator, the Frenchman Pascal Lamy (2014), who achieved a consensus between the audiovisual and mobile operators to distribute the use of the radio spectrum in the next decade of 2020-2030, and a hard confrontation with the telephone companies at the World Radiocommunication Conference in Geneva 2015 (WRC15).

The WRC15 Geneva debate put on the table the strategic importance of the use of the terrestrial radio spectrum for both television –especially to provide the principle of universality of the public broadcasting service (Ala-Fossi & Lax, 2016; Ala-Fossi & Bonet, 2018)– and for telephone operators that are increasingly expanding their mobile communications services. In the middle of both competitive positions are the governments, which yearn for the availability of spectrum to auction, to increase their tight fiscal revenues.

Regardless of this dispute for a greater or total privatization of the spectrum, after 2030 we could find ourselves facing the last decade of DTT open television in Europe and the migration to fiber optic broadband and Internet protocol. Until 2030, broadcasts are guaranteed in DTT, and in 2025 their future will be discussed again. In any case, this is another challenge for open, private or public television, and especially for the latter, because its principle of universality and free access is at stake. Northern European countries, such as Finland, are advancing the new digital blackout and closing traditional broadcast television channels to migrate them to Internet platforms.

The broadcasting systems via satellite (DTH) and digital terrestrial television (DTT) are the ones that connect the largest number of households in the European Union (EAO, 2018). About 120 million homes are connected by DTT through primary and secondary access (EAO, 2018; Campos-Freire, 2016). In some countries (Spain, Italy, France, the United Kingdom), the broadcast and coverage of DTT is the majority, which would cause a huge distortion and replacement cost when migrating to the Internet. For the whole of Europe, the impact of the replacement of broadcasting by DTT was estimated at 38.5 billion euros (AETHA, 2014).

The impact of the emergence of new technologies is unquestionable. The European audiovisual market is stagnant and affected by the irruption of the new convergent global Internet and on-demand operators that challenge the traditional advertising and broadcasting models. Between 2011 and 2016, the European audiovisual market grew just 1.7%, from 102,539 million to 111,450 million euros. Revenues from public television increased from 24,728 million in 2011 to 25,729 million in 2016, just 0.8%.

Television and radio advertising revenues increased from 33,619 million in 2011 to 36,564 million in 2016. In that same period, pay-tv grew from 29,684 million to 34,246 million. The largest growth of 43.2% was in on-demand audiovisual services, from 638 million in 2011 to 3,844 million in 2016. Cinema ticket sales were 6,446 million in 2011 and 7,037 million in 2016. On the other hand, video sales on physical support dropped from 7,424 million in 2011 to 4,030 in 2016, according to statistics from the European Audiovisual Observatory (OAE, 2017).

The countries that increased the budget of their PSB in that period were Germany (1.6%), Belgium (9.9%), Denmark (13.5%), Slovakia (13.5%), Estonia (41.9 %), Finland (12.7%), France (4.5%), Hungary (68.85%), Latvia (22.1%), Lithuania (90.2%), Malta (42.7%), The Netherlands (3.6%), and the United Kingdom (4.4%). Those who, on the contrary, decreased the budgets of their public service broadcasting were Austria, (0.3%) Belgium (7.79%), Cyprus (26.2%), Croatia (11.1%), Estonia (11.2%), Spain (27.1%), Greece (50.7%), Ireland (8.4%), Italy (0.4%), Poland (21.3%), Portugal (30.4%), the Czech Republic (10%), and Romania (17.7%).

Audiences dropped in all cases –the highest in Spain, with a 49% decrease, Greece with 74%, Ireland with 34%, Portugal with 75%, Poland with 38%– except in the Czech Republic, where they increased 9%, Hungary, 23%, Denmark, 17%, Germany, 4%, and Sweden, 2%.

In economic terms, public broadcasting represents a quarter of the European audiovisual sector as a whole, although with different financing systems and diversity of models with different linguistic, socio-cultural, territorial and administrative characteristics. Until now, the system of television license was considered as the most stable and independent model, because it did not depend on the problems or the instrumentalization of the financing of television, nor is it subject to political pressures and the rejection of citizens (in Switzerland its suppression was submitted to a referendum in 2018, in Germany it has been suspended and in Austria, Finland and Italy it has been reformed).

About twenty European countries still retain this system of financing the public audiovisual service, with rates ranging from 330 euros in Denmark, 284 in Austria or 234 in Sweden, to 34 euros in Portugal or 18 in Romania, 210 in Germany, 178 in the United Kingdom, 100 euros in Italy and 137 in France (EBU, 2017). These rates are annual amounts per household and for access to television through any device. In Finland, however, the television tax is personal and is paid along with the tax return, according to income and up to a maximum of 150 euros per year per citizen.

INNOVATION AND DIGITAL INTERACTION

The public service broadcasting is defined as a means of dissemination made, financed and directed to the public, to the universality and diversity of society, which must be controlled by the society itself, according to the European Broadcasting Union (EBU), which is the organization that brings together 73 public corporations in 56 countries and another 33 associates from Asia, Africa and the Americas. This definition embodies the spirit of a public service, its usefulness and social importance and rejects its manipulation and political instrumentalization.

The six core values of public service media are: universality, independence, excellence, diversity, accountability and innovation (EBU, 2014). That is, maintain and strengthen its legitimacy by adapting the public service broadcasting to the current demands of the public, to technological innovation and to the new forms of communication and digital interaction (Trappel, 2016), at the service of democracy and the empowerment of society, adding value and revaluing its social contribution.

European public service media (PSM), despite their structural, financial and political difficulties, are trying to respond –through innovation, interaction and the new forms of social conversation allowed by digital tools and platforms– to five problems diagnosed by Damian Tambini (2015) in Mapping Digital Media, which covers 56 countries: 1) its audience is dropping; 2) its funding is declining; 3) its mission is in dispute and its standards are threatened; 4) digitalization weakens its traditional toolbox, and 5) new online platforms increase the competition they already had with conventional private media.

Considering these aspects, the European public service media need to place innovation at the center of their strategy to try to change their corporate culture, renew the processes of production and content creation, of distribution, communication and business organization, and recover the young people audiences who were taken away by other digital communication alternatives (Ranaivoson, Farchy, & Ganesemer, 2013). Their forms of innovation are incremental or evolutionary, and they face as they can the open and disruptive innovation introduced by the new Internet platforms.

Disruptive innovation (Christensen, 1997) is the one generated by new operators through the revolution of organizational systems, production processes, content offerings, business models and funding, as well as forms of participation and collaboration. Within these last forms of innovation there is open innovation (Chesbrough, 2003), developed thanks to the digital social tools (web 2.0), semantics and big data (web 3.0), the Internet of things and artificial intelligence (web 4.0).

This transition from closed innovation to open innovation is what the most dynamic European public service broadcasters are trying to accomplish through their generalist or thematic virtual platforms, their social networks and their experimental initiatives with laboratories and incubators to relate to and involve the audiences (Lin, 2015), through experiences with immersive techniques, 360 degrees, augmented reality and artificial intelligence, without forgetting about their triple classic paradigm of informing, training and entertaining, entrusted to them by their public service mission.

Innovation should help reinvent and reposition the public service broadcasting (Cunningham, 2015) based on horizontal and vertical accountability (O'Donnell, 2004; Schedler, 2008; Jacobs & Schillemans, 2016), promoting the participation of audiences, the interaction with public political discourse and the integration in different media platforms (Debrett, 2015). That is, trying to combine public service, creativity, innovation and interaction (Glowacki & Jackson, 2013) through valuable experiences and emotional impact for educational content and the objective public not served by private operators. And in the information field, to protect the service, diversity and quality journalism (Ferrell Lowe & Stavitsky, 2016).

Although online virtual communities, as tools evolved from the web in the late 1990s, are conceptually studied and defined (Rheingold, 1993, 1997, 2004) as precedents of digital social networks that explode in the first decade of the 21st century (Boyd & Ellison, 2007; Beer, 2008), they are subsequently applied in traditional media.

Virtual communities are more restricted networks, with greater identity of bonds, sense of belonging, affinity, affiliation, objectives, membership, feelings, values and more common objectives than open digital networks (Proulx & Latzko-Toth, 2006). That is the interactive, participative and prosumer objective (Toffler, 1980) that television platforms intend to capture through their user communities. But the creation and participation of these communities entails legal, regulatory and self-regulatory responsibilities that also require public service broadcasters to update and innovate their statutes and editorial standards.

The business platform model and concept, as a convergent system of digital distribution and marketing, is a revolution (Parker, Alstyne, & Choudary, 2016) and a disruptive innovation (Christensen, Raynor, & McDonald, 2015) of the networked economy, propitiated by the architecture of information technologies (Tiwana, 2013) by allowing the direct connection, without other intermediaries, of producers and users, which disrupts business models (Osterwalder, 2004) and traditional markets. The adaptation to the network and the platform model is the innovation that European public service broadcasters are currently developing.

METHODOLOGY

The object of study in this research is the innovation in the management of the digital platforms of public service broadcasters and their user communities, contextualizing them in the context of the five European countries with the largest population (Germany, the

United Kingdom, France, Spain and Italy) and some specific reference corporations (ARD, ZDF, BBC, France Televisions, RTVE and RAI), with a long history of providing different audiovisual services through traditional terrestrial, cable, satellite and Internet networks. Considering the above, the base methodology used was the exploration and observation of the management reports of the State and regional corporations that provide public service broadcasting in Europe to document the results of structure, funding, audiences and broadcasting systems, contrasted with the databases of the European Audiovisual Observatory (EAO) and the European Broadcasting Union (EBU), as well as with the monitoring panels of the Global PSM Experts Network and Public Media Alliance. At the same time, we conducted a mapping of the structure of the Internet platforms of European public television stations to determine the organization and offer of their contents for the consumption of new digital audiences. Finally, we made a selective observation of the management of the digital platforms of State-owned public corporations of the five European countries with the largest population already mentioned and their users.

RESULTS

EUROPEAN ONLINE PUBLIC BROADCASTING PLATFORMS

The evolution of technologies in audiovisual production has entailed changes that have affected both the content distribution chain and the forms of audience consumption. Considering this transformation, European public service broadcasters, as seen in table 1, have developed strategies for adapting to a digital environment that involves increasing channels and creating digital platforms with interactive content that allow viewers to enjoy them from their computers, tablets or smartphones. The idea of connecting with users means that the European corporations analyzed in this article do not stop launching new proposals focused on an increasingly active audience, with a clear tendency towards individual consumption through mobile devices.

The main online platforms of the European public service broadcasting corporations analyzed (*ARD Mediathek, ZDF Mediathek, rtve.es, BBC iPlayer, Francetv pluzz, RaiPlay*) are generalist and are structured around a home page from which one can access to their best television and radio offer. In addition, they allow to follow live the contents of the different channels; in case of requiring registration, there is the option of customize them on demand according to the user's interests. These public entities reinforce their offer with thematic websites aimed at younger audiences, with a tendency to television consumption through the Internet. These proposals, which present a multitude of options, respond to a safe, entertaining and, in many cases, educational navigation.

All European corporations are present in the main social networks, in many cases with a large number of followers and with several different profiles. This means that European public service broadcasters have understood their importance as the main tools when generating a dialogue with their audience. The proximity with the audience allows to know their needs and preferences, to offer a more personalized service, one of the purposes of the new online windows created by the public entities analyzed.

However, we have observed that much of the media participation of these platforms revolves more around the contents, thanks to the creation of accounts of their programs in the main social networks, than to the profiles of the platforms themselves, which in many cases do not even exist. In this way, we can see in table 2 that many of the platforms, especially the generalists (*iMedia, RTP play, LRT Mediateka* or *Replay LTV*, among others), have no presence in the main social networks. This generates some confusion, because sometimes the user is directed from the web addresses of these portals to the profiles of corporations and not to those of the digital spaces of interest.

It is also important to note that some of them, the most ambitious in innovation, decide to bet on new technologies such as virtual reality or interactive content. This is the case, for example, of the United Kingdom's BBC or the Belgian VTR that, with the aim of generating emotional impact among users, experiences with the latest narrative trend in the field of information, the VR Journalism, a modality that, through virtual reality, promotes attractive immersive experiences.

Regarding the presence of the platforms analyzed in social networks, it is worth mentioning that, in many cases (*ARD Mediathek, Playz, rtve.es* or *Francetv pluzz*), it is not easy to access to them from the main pages of these portals. On the contrary, platforms such as *ZDF Mediathek*, or the French thematic ones, *France.tv Education* and *Ludo* send to the profiles of their social networks directly from their websites' homepages.

The generalist platform with less activity in social networks is *ARD Mediathek*, which only has an

Country	Corporation	Platform	Release year	Links	Gender	Offer
Germany	ZDF	ZDF Mediathek	2001	https://www.zdf.de/#/hauptnavigation/startseite	Generalist	Viewing and community
	ARD	ARD Mediathek	2008	http://www.ardmediathek.de/tv	Generalist	Viewing
		DW Media Center	-	http://www.dw.com/en/media-center/s-100824	Generalist	Viewing
Spain	CRTVE	RTVE.ES	2008	http://www.rtve.es/	Generalist	Viewing and community
		PLAY Z	2017	http://www.rtve.es/playz/	Generalist	Viewing
France	FRANCE TV	Francetvpluzz	2010	https://www.france.tv/	Generalist	Viewing and community
		France.tv Education	2015	https://education.francetv.fr/	Education	Viewing
		Francetv info	2016	https://www.francetvinfo.fr/	Information	Viewing
		Ludo	2014	https://www.ludo.fr/	Children	Viewing
		Francetvslash	2018	https://www.france.tv/slash/	Generalist	Viewing and community
Italy	RAI	Raiplay	2007	https://www.raiplay.it/programmi/	Generalist	Viewing and community
		TivuON	2016	http://www.tivuon.tv/	Generalist	Viewing and community
		Raiplay Radio	2017	http://www.raiplayradio.it/	Generalist	Viewing and community
United Kingdom	BBC	BBCiplayer	2007	https://www.bbc.co.uk/iplayer	Generalist	Viewing and community
		Taster	2015	https://www.bbc.co.uk/taster/	Interactive content	Viewing and community

Table 1. Online platforms of the European public service broadcasters analyzed (2018)

Source: Own elaboration.

Instagram profile with just 7,500 followers. In the case of the thematic ones, the account in that same social network of the French web *Ludo* is the one that has the lowest number of active users, 467. Regarding *BBCiPlayer*, two things are worth noting: the first one, that it does not have an account on YouTube and the second, its inactivity on Instagram, in whose profile there are no publications, so it does not even reach 10,000 followers. Twitter accounts with a wider mass of followers are those of the *rtve.es* and *ZDF Mediathek* platforms, which exceed one million one hundred thousand users. The most recent digital portals, with

Plataforms	TV channels	Radio channels	Social networks	Virtual games	Virtual reality	Blogs
ZDF Mediathek (ZDF, Germany)	5	0	4	Yes	Yes	Yes
ARD Mediathek (ARD, Germany)	17	63	1	No	No	No
DW Media Center (ARD, Germany)	4	0	0	No	No	No
ORF tvthek (ORF, Austria)	4	12	1	No	No	No
Rtbf Video (RTBF, Belgium)	3	6	1	No	No	No
VRTnu (VRT, Belgium)	6	6	4	No	No	No
VRT NWS (VRT, Belgium)	3	5	4	No	Yes	No
iMedia (BNT, Bulgaria)	4	0	0	No	No	No
CyBC Media (CyBC, Cyprus)	4	0	0	No	No	No
HRTi (HRT, Croatia)	5	12	0	No	No	No
DR TV catch-up (DR, Denmark)	9	9	1	No	No	No
RTVSLO catch up (RTVSLO, Slovenia)	6	9	3	No	No	No
STV Videoarchiv (STV, Slovakia)	2	9	5	No	No	No
Rtve.es (CRTVE, Spain)	5	6	8	Yes	Yes	Yes
Play Z (CRTVE, Spain)	9	0	4	Yes	Yes	Yes
ETV arhiiv (ERR, Estonia)	3	4	0	No	No	No
YLE AREENA (YLE, Finland)	3	34	5	No	No	Yes
Francetvpluzz (France TeleviYesons, France)	7	0	8	Yes	Yes	Yes
France.tv Education (France TeleviYesons, France)	19	0	5	Yes	No	No
Francetv info (France TeleviYesons, France)	13	1	7	No	No	Yes
Ludo (France TeleviYesons, France)	3	0	4	Yes	No	No
Francetvslash (France TeleviYeson, France)	6	0	7	No	No	No
Médiaklikk (MTV, Hungary	7	7	2	No	No	No
RTE player (RTÉ, Ireland)	3	0	3	No	No	No
RTE Junior online (RTÉ, Ireland)	3	1	2	Yes	No	No
Raiplay (RAI, Italy)	14	0	5	No	No	No
Raiplay Radio (RAI, Italy)	0	10	0	No	No	No
TivuON (RAI, Italy)	100	44	0	No	No	No
Replay LTV (LTV, Latvia)	3	6	0	No	No	No
LRT Mediateka (LRT, Latvia)	3	3	0	No	No	No
TVM (catch up) (PBS, Malta)	1	2	3	No	No	No
NPO Start Plus (NPO, The Netherlands)	13	6	3	No	No	No
NOS sport videos (NPO, The Netherlands)	6	0	4	No	No	No
NLziet (NPO, The Netherlands)	12	0	8	No	No	Yes
Net in Nederland (NPO, The Netherlands)	6	3	4	No	No	Yes
2DOC (NPO, The Netherlands)	6	1	5	No	No	No
TVP VOD (TVP, Polonia)	9	0	5	No	No	No
RTP play (RTP, Portugal)	9	15	0	No	No	No
BBCiplayer (BBC, United Kingdom)	11	57	3	Yes	Yes	Yes
Taster (BBC, United Kingdom)	6	0	3	Yes	Yes	No
iVyYeslání (CT, Czech Republic)	6	0	1	No	No	No
TVR plus (TVR, Romania)	9	0	1	No	No	No
SVT Play (SVT, Sweden)	6	0	1	No	No	No
UR Play (SVT, Sweden)	8	47	3	No	No	No

Table 2. Structure of the platforms on the Internet (2018)

Source: Own elaboration.

Country	Platforms	Facebook	Twitter	Instagram	YouTube	Others
Germany	ZDF Mediathek	√	√	x	√	√
Germany	ARD Mediathek	x	x	√	x	x
Spain	Rtve.es	√	√	√	√	√
Spain	Play Z	√	√	√	√	x
France	Francetvpluzz	√	√	√	√	√
France	France.tv Education	√	√	√	√	√
France	Francetv info	√	√	√	√	√
France	Francetvslash	√	√	√	√	√
France	Ludo	√	x	√	√	√
Italy	RaiPlay	√	√	√	√	√
Italy	TivuON	x	x	x	x	x
Italy	RaiPlay Radio	x	x	x	x	x
United Kingdom	BBCiplayer	√	√	√	x	x
United Kingdom	Taster	√	√	x	√	x

Table 3. Presence of the platforms analyzed in social networks (2018)

Source: Own elaboration.

content aimed at a young audience, *Playz* and *francetv slash*, present different realities. In the case of the French platform, Facebook is the social network with the largest number of followers, more than 450,000, compared to the few more than 11,600 fans that the Spanish platform has on that same network. On the contrary, *Playz* has a profile on Twitter with 230,000 followers, compared to the 16,000 of *Francetv slash* in the same social network.

ANALYSIS OF ONLINE PLATFORMS OF GERMANY, THE UNITED KINGDOM, FRANCE, SPAIN AND ITALY

The observation of cases, conducted on the offer of online platform models of public service broadcasting corporations of the five countries with the highest population in the EU (Germany, the United Kingdom, France, Spain and Italy), completes the qualitative analysis of this research.

In the case of Germany, we studied the platforms of the two public service media at the State level, i.e., *ARD Mediathek* and *ZDF Mediathek*. Both have points in common in the distribution and access to content, but in aspects related to community participation and management they present differentiated approaches. *BBCiPlayer* and *BBC Taster* are the digital spaces developed by the British public corporation analyzed in this research. The first of these is the Internet transmission service that the BBC launched in December 2007. The second, a more recent platform (2015) is the ideas' laboratory for the digital content of this corporation.

Within the French context, we studied the following digital platforms of France Télévisions: *Francetv pluzz*, service active since 2010, *France Info*, news portal of the French public corporation, *France.tv Education*, initiative born in 2015 with the intention of complying with the mission of making all the cultural contents of the group accessible for free, and *Ludo* and *francetv slash*, the two platforms aimed at children and young people, respectively.

In the case of Spain, we analyzed the on-demand service launched by *rtve.es* in May 2006 and the free platform of exclusively digital content released in November 2017, *Playz*. Finally, we analyze the multimedia portal of the public television company of Italy *RaiPlay*, which replaces *Rai.tv* since September 2012, and *TivúON*, a television service made by *Tivúsat*, a free digital platform created by Tivú srl, a subsidiary from RAI, which was created with the objective of complementing digital terrestrial television to reach territories that it does not cover.

From the point of view of distribution and access to content, all platforms analyzed have a common feature: they are structured around categories and their classification is usually alphabetical. Access to the programmatic offer is open to all users, without registering, on portals such as *ZDF Mediathek*, *ARD Mediathek* or *rtve.es*. However, registering allows consumers to activate personalization services that facilitate their use. In the case of the two German platforms, certain programs may have limited access to users in Germany (geoblocking), because they are content whose rights have been acquired only for the national territory.

Something similar happens with the Internet streaming services of the BBC, France Televisions and RAI. The contents of *BBCiPlayer* are free for all those who pay for a television license in the United Kingdom and require users to register with an ID account to benefit from personalized services. *iPlayer* tracks the public IP of the connection device to find out its location; if it detects that it is done from abroad, it does not authorize the reproduction of contents, except that of radio programs. It is worth mentioning that there is an international version of *iPlayer* in several countries that, by subscription, allows access to the offer of this platform. On the other hand, *Francetv pluzz* allows access to audiovisual content under two modalities. The first is free and offers the programs broadcasted on French television in the last seven days, as well as the live signal. The other is a subscription service that allows access to exclusive content, complete series seasons or the entire archive. The Italian *RaiPlay* platform also requires user registration to enjoy on-demand content.

Another common feature of these six websites of a generalist nature is their multiscreen strategy. Content consumption is possible through devices such as the computer, video game consoles, smartphones, tablets and smart televisions.

Regarding the offer, the generalist platforms analyzed (*ARD Mediathek*, *ZDF Mediathek*, *rtve.es*, *BBC iPlayer*, *Francetv pluzz*, *RaiPlay*) offer the content of the television channels and radio stations of the public corporations to which they belong. Its consumption can be done live or deferred for a limited time, ranging from 7 days (*rtve.es, RaiPlay*) to 30 (*BBC iPlayer*). Some of these websites (*rtve.es*) allow viewing of the least updated material through the archive section, where those programs that have had greater acceptance by traditional audiences are hosted.

In the case of thematic digital platforms, access is made through sections whose content responds to an informative (*France Info*), educational (*France.tv Education*) or children and youth (*Ludo, francetv slash, Playz*) nature. The French portals *Ludo* and *France Info* feed on programs that come from traditional channels of the public entity such as France 2, France 3, France 4 and France 5. On the contrary, *Francetv slash*, and the Spanish *Playz*, more recent digital spaces aimed at young users, host unpublished content that is presented in the form of proposals designed for the network. On the Spanish platform, whose concept revolves around personalization and interaction, transmedia formats coexist with original series such as the successful *Si fueras tú*, now turned into a film, and with current e-sports collected in the *Clash Royale* program. It also has a musical space, *Playzound*, which offers a new way of understanding music, surprising the public based on secret concerts in surprise places. On the other hand, the content of *francetv slash* tries to respond to the concerns of the young people to whom the portal is directed. Proof of this is *Haut-Parleurs*, a format in which French reporters in their twenties comment on social issues that concern them, or *Sexy Soucis*, a program in which a female blogger clarifies doubts about sex.

Other platforms function as ideas laboratories for the content of the corporation to which they belong, with the intention of calibrating the user's reaction to new projects or exploring new emerging technologies. This is the case of *BBC Taster*, whose contents are organized in several sections. Some of the most outstanding are *Immersive stories*, dedicated to projects that experiment with new ways of sharing and enjoying content or *Interactive video*, one of the sections that has more participation. *Quizzes and Games* is the most exploited category and presents some interesting proposal in which the videogame is mixed with social media profiles. *Virtual Reality* is the section dedicated to projects that have an environment of real-looking scenes. In turn, *Real Life* hosts proposals that invite the user to participate in real experiments. In this same vein, but integrated into the *rtve.es* portal, there is the space for audiovisual innovation of the Spanish platform, which develops and puts at the service of the digital user transmedia projects, virtual reality, interactive reports, immersive journalism or webdocs

The possibilities of participation in the analyzed platforms are quite limited, with exceptions. *ARD Mediathek* allows the user to create an account on the platform, which will allow him/her to manage a list of favorites to which he/she can add the ARD content of his/her choice. However, the absence of options for sharing content on social networks or commenting on the offer of German public television is striking. On the contrary, in the *ZDF Mediathek* –in addition to having the option of creating a free account with which to manage personalized content lists– registered users can also obtain recommendations based on their views, make comments and participate in chats.

BBCiPlayer, RaiPlay, Francetv pluzz and *rtve.es* allow registered users to download programs to enjoy them without being connected to the Internet. Likewise, it is possible to access content that has not been seen or can be added to a list to view later. The online service of *rtve.es* also gives access to the original versions of the programs and allows subtitles to be included in those contents, when available. As in other services, and thanks to applications such as + TVE, it is possible to share short videos through social networks.

The most interactive platforms of all those analyzed are *Playz* and *francetv slash*. The French website adapts the format of many of its programs to the demands of the social networks in which the content is broadcast, since this newborn online portal is present in most of them: YouTube, Medium, Twitter or Instagram They are some of the most used. On the other hand, *Playz* allows the user to interact in real time through social networks both with the actors of the webseries and with the hosts of the entertainment programs. Thus, viewers can decide the continuation of a story or solve doubts while a program (for example, a cooking one) is live. Thanks to these innovation strategies, the RTVE platform becomes a leading brand in the digital environment from the point of view of immersive and interactive narratives.

DISCUSSION

The analysis of the platforms of the European public service broadcasters shows a willingness to adapt its public service activity to the possibilities offered by the digital environment. Virtually all public television broadcasters in the European Union have developed their own platforms in which, mainly, they share the content offered in their traditional media, in an on-demand service that allows users to choose when to access their programming.

However, the mapping of the digital platforms of European public service media, as well as the detailed analysis of the five main countries, illustrates two trends within the conceptualization of these platforms. On the one hand, in parallel to the platforms of generalist nature that encompass the linear contents of each media, thematic platforms specialized in certain contents or audiences also emerge. This is the case of the specialized information content services offered by both France Télévisions through *Francetv info* and the Belgian VRT with its *VRT NWS* platform, or the platforms aimed at children, such as *Ludo*, also from France Télévisions, and *RTÉ Junior*, from the Irish RTÉ.

The creation of these platforms is also related to the creation of spaces specialized in digital content, designed for dissemination through these websites, without going through traditional radio or television channels. In the United Kingdom, the BBC uses its new *Taster* platform to explore the reception of innovative formats, while in Spain, RTVE offers on its *Playz* platform a range of digital content aimed at a young audience. The production of this type of digital formats can be used to attract the interest of young audiences, those who less resort to traditional public media, thus contributing to the universal public service mission of these media and their future legitimacy.

On the other hand, the analysis of the public media of the five main countries of the European Union also shows their interest in getting users to register on their platforms, even for free. To do this, they allow registered users to prepare playlists, mark certain contents as pending, or even download them so they can be consumed offline. In addition, user registration gives the public service media the opportunity to get to know their audiences, their preferences and their consumption habits better, allowing them to develop recommendation systems based on algorithms.

This opens a new range of possibilities in content management, although it is necessary to consider that the use that public media makes of algorithmic recommendations should not obey the same interests or dynamics of private media, many of which, like Netflix, place the algorithm at the center of their business model. The personalization of the contents can have consequences in the functions of universality and social cohesion of the public service media, so, although these types of strategies must be considered by the PSM, they must adapt them to their public service mission (Sørensen & Hutchinson, 2019; Van den Buck & Moe, 2018).

All these aspects, which are becoming a trend in the platforms of the main European public operators, are especially interesting for other contexts, such as Latin America. The public media of Latin America, which have not completely defined their functions or have a clear method of funding, must begin to take on the challenges of neotelevision (Eco, 1989), adapting to the diversity demanded by the new digital ecosystem.

CONCLUSIONS

Innovation and online transformation are the most ambitious and immediate competitive challenges faced by European public service broadcasters considering the loss of importance and penetration they register in the digital ecosystem. Between 2016 and 2018, 198 conventional channels of the public service broadcasting of national, regional or abroad broadcasting disappeared in the European Union.

The above is the result of the restriction of their financing systems, of technological changes, of new forms of user access and, consequently, of the migration of broadcasts through conventional DTT, satellite and cable technologies to new Internet platforms. The dominant broadcast systems remain satellite and cable, each with around 65 million primary homes connected, followed by the ADS/IPTV and cable connection, with 38 and 36 million respectively. Only in 10 countries the public service broadcasting as a whole, State and regional, retained its audience share or augmented it, with percentage losses of share between 2009 and 2016 of 50.7% in Romania, 43.29% in Portugal, 48.19% in Greece, 34.52% in Spain, 28.85% in Poland or 23.24% in Ireland.

The response of revitalization and innovation of the public service broadcasting in almost all European countries is their transformation into a multimedia offer, completing digital integration through the creation in recent years of 45 Internet platforms with traditional radio and television offers, but also with new channels for other new target audiences, especially for young people who access content through streaming. They are generalist and thematic platforms, which combine, thanks to geolocation, broadcasting and access to their different contents according to the ownership of their respective emission rights, with the financing model (restricted if it is paid or license fee, and open if it has direct subsidy and advertising).

The most ambitious bet of these platforms is the creation and management of user communities, developed by 23 of them, to foster the audience's loyalty and respond to the challenge of social participation, not sufficiently met by the public service broadcasting, questioned and criticized in some countries for its political-partisan and elites instrumentalization (Hallin & Mancini, 2004, 2011). The participation and management of these communities is still incipient, not very proactive and quite conditioned by the institutional requirements of their public parent organizations. Some of them (BBC, France TV, RTVE and ZDF) have developed editorial management standards for these communities and others (ARD or RAI) are governed by the general regulation of their conventional channels.

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REFERENCES

AETHA .(2014). *Future use of the 470-694 MHz band. Report for Abertis, Arqiva, BBC, BNE, EBU and TDT* (PDF file). Retrieved from https://tech.ebu.ch/docs/news/2014_11/Aetha%20Future%20use%20of%20the%20470-694MHz%20band%20in%20the%20EU%2031%20Oct%202014.pdf

Ala-Fossi, M. & Bonet, M. (2018). Who´s Afraid of a Pan-European Spectrum Policy? The EU and the Battles Over the UHF Broadcast Band. *International Journal of Communication*, *12*, 337-358. Retrieved from https://ijoc.org/index.php/ijoc/article/view/6713

Ala-Fossi, M. & Lax, S. (2016). The short future of public broadcasting: Replacing digital terrestrial television with Internet protocol? *International Communication Gazette*, *78*(4), 365-382. https://doi.org/10.1177/1748048516632171

Beer, D. (2008). Social network(ing) sites, revisiting the story so far: A response to danah boyd & Nicole Ellison. *Journal of Computer-Mediated Communication*, *13*(2), 516-529. https://doi.org/10.1111/j.1083-6101.2008.00408.x

Boyd, D. M. & Ellison, N. B. (2007). Social Network Sites: Definition, History, and Scholarship. *Journal of Computer-Mediated Communication*, *13*(1), 210-230. https://doi.org/10.1111/j.1083-6101.2007.00393.x

Burri, M. (2015). *Public Service Broadcasting 3.0: Legal design for the digital present*. London: Routledge.

Bustamante, E. (2015). *Europa: Un servicio público multimedia para una nueva era. Diagnóstico y propuestas. Síntesis de trabajos 2009-2015* (Europe: A multimedia public service for a new era. Diagnostic and proposals. 2009-2015 works' summary). Italy: Grupo Turín.

Campos-Freire, F. (2016). El valor social de la televisión abierta (The social value of open televisión). In E. Gutiérrez (Coord.), *La TV digital terrestre. Situación actual y tendencias de futuro* (Digital terrestrial TV. Current situation and future trends) (pp. 147-166). Madrid: Colegio Oficial de Ingenieros de Telecomunicaciones de España.

Cunningham, S. (2015). Repositioning the innovation rationale for public service media. *International Journal of Digital Television*, *6*(2), 203-220. https://doi.org/10.1386/jdtv.6.2.203_1

Chesbrough, H. W. (2003). *Open Innovation. The New Imperative for Creating and Profiting from Technology.* Boston: Harvard Business School Press.

Christensen, C. M. (1997). *The Innovator`s Dilemma. When New Technologies Cause Great Firms to Fail.* Boston: Harvard Business School Press.

Christensen, C. M., Raynor, M. E., & McDonald, R. (2015). What is Disruptive Innovation? *Harvard Business Review*, *93*(12), 44-53. Retrieved from https://hbr.org/2015/12/what-is-disruptive-innovation

Debrett, M. (2015). "Tools for Citizenship?" Public Service Media as a Site for Civic Engagement: An Australian Case Study. *Television & New Media, 16*(6), 557-575. https://doi.org/10.1177/1527476414557951

EBU. (2014). *Empowering society. A declaration on the core values of Public Service Media. Media Intelligence Service*. Retrieved from www.ebu.ch.

EBU. (2017, October 12). Licence fee 2017. *European Broadcasting Union*. Retrieved from https://www.ebu.ch/news/2017/10/licence-fee-the-changing-picture-across-europe

Eco, U. (1986). *TV: la transparencia perdida en la estrategia de la ilusión* (TV: the transparency lost in the strategy of illusion). Barcelona: Lumen.

Echraghi, K. (2017, May 2). Réguler GAFAnomics: 5 pistes pour prendre les plateformes à leur propre jeu (Regulate GAFAnomics: 5 ways to tackle over the platforms) (blog article). Retrieved from https://www.fabernovel.com/fr/insights/economie/reguler-gafanomics-5-pistes-pour-prendre-les-plateformes-a-leur-propre-jeu

European Audiovisual Observatory (EAO). (2018). *Yearbook 2017/2018. Key trends. Television, cinema, video and on-demand audiovisual services. The pan-European picture*. Strasbourg: EAO.

Evans, P. (2015). De la deconstrucción a los big data: cómo la tecnología está transformando las empresas (From deconstruction to big data: how technology is tranforming companies). In N. Martínez (Coord.), *Reiventar la empresa en la era digital* (Reinventing the company in the digital age) (pp. 17-37). Madrid: BBVA. Retrieved from https://www.bbvaopenmind.com/articulos/de-la-deconstrucion-a-los-big-data-como-la-tecnologia-esta-transformando-las-empresas/

Ferrel Lowe, G. & Stavitsky, A. G. (2016). Ensuring public service news provision in the era of networked communications. *International Communication Gazette*, *78*(4), 311-329. https://doi.org/10.1177/1748048516632163

Fuchs, C. (2014). Social Media and the Public Sphere. *triple C: Communication, Capitalism & Critique, 12*(1), 57-101. https://doi.org/10.31269/triplec.v12i1.552

Glowacki, M. & Jackson, L. (2013). *Public media management for the twenty-first century: Creativity, innovation, and interaction*. New York, NY: Routledge.

Hallin, D. C. & Mancini, P. (2004). *Comparing Media Systems. Three models of Media and Politics*. Cambridge University Press.

Hallin, D. C. & Mancini, P. (2011). *Comparing Media Systems Beyond the Western World (Communication, Society and Politics).* Cambridge University Press.

Jacobs, S. & Schillemans, T. (2016). Media and public accountability: typology and exploration. *Policy & Politics*, *44*(1), 23-40. https://doi.org/10.1332/030557315X14431855320366

Lamy, P. (2014). Results of The Work of The High Level Group on The Future Use of The UHF Band (470-790 Mhz). Report to The European Commission. Retrieved from https://ec.europa.eu/digital-single-market/en/news/report-results-work-high-level-group-future-use-uhf-band

Lin, Y. (2015). Open data and co-production of public value of BBC backstage. *International Journal of Digital Television*, *6*(2), 145-162. https://doi.org/10.1386/jdtv.6.2.145_1

Manovich, L. (2005). *El lenguaje de los nuevos medios de comunicación: la imagen en la era digital* (The language of the new media: the image in the digital age). Barcelona: Paidós Ibérica.

Martin, F. R. (2016). Mobile public service media in Australia: Ubiquity and its consequences. *International Communication Gazette*, *78*(4), 330-348. https://doi.org/10.1177/1748048516632167

Miguel de Bustos, J. C. & Casado del Río, M. A. (2016). Google, Apple, Facebook y Amazon. Emergencia de los GAFA y cambios en el sistema comunicativo global (Google, Apple, Facebook and Amazon. Emergency of GAFA and changes in the global communication system). *Revista Telos*, *104*, 38-48. Retrieved from https://telos.fundaciontelefonica.com/archivo/numero104/

O'Donnell, G. (2004). Accountability horizontal: la institucionalización legal de la desconfianza política (Horizontal accountability: the legal institutionalization of political distrust). *Revista Española de Ciencia Política*, *11*, 11-31. Retrieved from https://recyt.fecyt.es/index.php/recp/article/view/37355

Osterwalder, A. (2004). *The business model ontology. A proposition in a design science approach* (doctoral dissertation). Retrieved from http://www.hec.unil.ch/aosterwa/PhD/Osterwalder_PhD_BM_Ontology.pdf

Parker, G., Alstyne, M., & Choudary, S.P. (2016). *Platform Revolution. How networket markets are transforming the economy and how to make them work for you.* New York, NY: Norton & Co.

Proulx, S. & Latzko-Toth, G. (2006). Mapping the Virtual in Social Sciences: On the Category of Virtual Community. *The Journal of Community Informatics*, *2*(1), 42-52. Retrieved from http://blog.ci-journal.net/index.php/ciej/article/view/237

Ranaivoson, H., Farchy, J., & Gansemer, M. (2013). Differentiated strategies for digital innovation on television: Traditional channels vs. new entrants. *Observatorio (OBS*) Journal*, *7*(4), 23-44. Retrieved from http://obs.obercom.pt/index.php/obs/article/view/659

Rheingold, H. (1993). *The virtual community: Homesteading on the electronic frontier.* Reading, MA: Addison-Wesley.

Rheingold, H. (1996). *Comunidades virtuales* (Virtual communities). Barcelona: Gedisa.

Rheingold, H. (2004). *Multitudes inteligentes. Las redes sociales y las posibilidades de las tecnologías de cooperación* (Smart Mobs: The Next Social Revolution). Barcelona: Gedisa.

Scolari, C. (2008). Hacia la hipertelevisión. Los primeros síntomas de una nueva configuración del dispositivo televisivo (Towards hypertelevision. The first symptoms of a new configuration of the television device). *Diálogos de la Comunicación*, *77*, 1-9. Retrieved from http://hdl.handle.net/10230/25464

Schedler, A. (2008). *¿Qué es la rendición de cuentas?* (What is accountability?). Mexico: Instituto Federal de Acceso a la Información Pública.

Sørensen, J. K. & Hutchinson, J. (2018). Algorithms and Public Service Media. In G. Ferrell Lowe, H. Van den Bulck, & K. Donders (Eds.), *Public Service Media in the Networked Society RIPE@2017* (pp. 91-106). Retrieved from http://www.nordicom.gu.se/sites/default/files/publikationer-hela-pdf/public_service_media_in_the_networked_society_ripe_2017.pdf

Tambini, D. (2015). Five Theses on Public Media and Digitization: From a 56-Country Study. *International Journal of Comunication, 9*(2015), 1400-1424. Retrieved from https://ijoc.org/index.php/ijoc

Tiwana, A. (2013). *Platform Ecosystems. Aligning Architecture, Governance and Strategy*. Waltham, MA: Morgan Kaufmann.

Toffler, A. (1980). *La tercera ola* (The third wave). Bogota: Plaza & Janes.

Trappel, J. (2016). Taking the public service remit forward across the digital boundary. *International Journal of Digital Television*, *7*(3), 273-295. https://doi.org/10.1386/jdtv.7.3.273_1

Tremblay, G. (2016). Public Service Media in the Age of Digital Networks. *Canadian Journal of Communication, 41*(1). https://doi.org/10.22230/cjc.2016v41n1a3062

Van den Bulck, H. & Moe, H. (2018). Public service media, universality and personalisation through algorithms: mapping strategies and exploring dilemmas. *Media, Culture & Society*, *40*(6), 875-892. https://doi.org/10.1177/0163443717734407

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