

Innovation analysis of national scale public media in the Iberian Peninsula: strategic, technological and youth audience engagement vision in RTVE and RTP

Radiografía de innovación de los medios públicos de escala nacional de la península Ibérica: visión estratégica, tecnológica, y de captación de audiencias jóvenes en RTVE y RTP

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This article is part of the activities of the project “Public audiovisual media in the face of the platform ecosystem: management models and evaluation of the public value of reference for Spain” (PID2021-122386OB-I00), funded by the Ministry of Science and Innovation (Micin, Spain), Agencia Estatal de Investigación (AEI, Spain), and European Regional Development Fund (EU). In addition to being integrated in the activities of the ‘RTVE-USC Chair on Public Service Media in Europe’.

How to reference this article / Standard reference.

Feiras Ceide, C., Túñez López, M., & Pedro Sousa, J. (2023). Innovation analysis of national scale public media in the Iberian Peninsula: strategic, technological and youth audience engagement vision in RTVE and RTP. *Revista Latina de Comunicación Social*, 81, 353-374. <https://www.doi.org/10.4185/RLCS-2023-1957>

ABSTRACT

Introduction: The multiplication on the offer of current news and audiovisual entertainment content in the renewed digital context, motivates public and broadcasting corporations to implement and internalise innovative processes that allow them to be relevant in people's lives. These processes are not only limited to the development and integration of sophisticated technological prototypes, but are closely linked to a philosophy of constant change and renewal of ideas and ways of thinking. This research project offers a complete deep insights of the innovative proposals of the state-owned public service media from the Iberian Peninsula, Radiotelevisión Española and Rádio e Televisão de Portugal, with a particular focus on the strategic, technological and young audience engagement prism. **Methodology:** In-depth interviews were conducted with the directors of the innovation and technology departments of the corporations, as well as with the heads of their main youth content projects, PlayZ and RTP Arena, respectively, complemented by a review of the online products and social networks of both groups. **Results:** It was identified that RTVE's proposal has a greater disruptive component, with initiatives aimed at optimising the user's experience, mobile first or technologies such as AI, 5G or 4K; while RTP's approach has a greater cultural cut, trying to renew the language and routines of creation of its traditional and native contents. **Conclusions:** The innovation strategies of both corporations start from a central objective of updating, with cautious approaches to new technologies. The recent creation of a bubble department in RTP contrasts with the reality of RTVE, with the intention of blurring the limits of this section in its structure in order to achieve a fully transversal innovation.

Keywords: Innovation; Media; Public service media; Public broadcasters; Technology; Strategy; Young audiences; RTVE; RTP.

RESUMEN

Introducción: La multiplicación de la oferta de contenidos audiovisuales de actualidad y entretenimiento en el renovado contexto digital motiva a las corporaciones de radiotelevisión pública a ejecutar e interiorizar procesos innovadores que les permitan ser relevantes en la vida de las personas. Estos procesos no solo se limitan al desarrollo e integración de sofisticados prototipos tecnológicos, sino que se vinculan estrechamente con una filosofía de cambio constante y renovación de ideas y formas de pensar. En este proyecto de investigación se ofrece una radiografía completa de las propuestas innovadoras de los medios de servicio público nacionales de la península ibérica, Radiotelevisión Española y Rádio e Televisão de Portugal, con un enfoque particular en el prisma estratégico, tecnológico y de captación de nuevas audiencias. **Metodología:** Para ello se realizan entrevistas en profundidad a los directores de los departamentos de innovación y tecnología de las corporaciones, así como a los responsables de sus principales proyectos de contenidos juveniles, PlayZ y RTP Arena, respectivamente, lo que se complementa con una revisión de los productos online y redes sociales de ambos grupos. **Resultados:** Se identifica que la propuesta de RTVE tiene un mayor componente disruptivo, con iniciativas destinadas a optimizar la experiencia de usuario, el *mobile first* o tecnologías como la IA, 5G o 4K; mientras que el enfoque de la RTP tiene un mayor corte cultural, tratando de renovar el lenguaje y rutinas de creación de sus contenidos tradicionales y nativos. **Conclusiones:** Las estrategias de innovación de ambas corporaciones parten de un objetivo central de actualización, con cautelosas aproximaciones a las nuevas tecnologías. La reciente creación de un departamento burbuja en la RTP se contrapone a la realidad de RTVE, con la intención de difuminar los límites de esta sección en su estructura para alcanzar una innovación plenamente transversal.

Palabras clave: Innovación; Medios de comunicación; *Public service media*; Radiotelevisión pública; Tecnología; Estrategia; Audiencias jóvenes; RTVE; RTP.

1. Introduction

European public service media have undergone significant changes in recent years due to social and technological transformations in their respective regions, as well as the global media environment.

These changes in regulation, governance, financing, and the implementation of new technologies (Tambini, 2015; Khajeheian and Tadayoni, 2016; Van den Bulck et al., 2017) respond to a need for corporations to adapt to communicative demands of a digital society (Van den Bulck et al., 2017) and can be framed in the context of the debate on updating public service values and fulfilling their commitments to society.

The European Broadcasting Union (EBU) also considered, internalized and structured these transformations. With its 73 members in 53 countries, the EBU agreed at its General Assembly on the six fundamental values that public broadcasting entities must have in order to fulfill their commitment to public service: universality, independence, excellence, diversity, responsibility and innovation (EBU, 2014), becoming the reference attributes that today mark the roadmap of these radio-television companies..

Strategic innovation in traditional media has often been limited to the mere adoption of new technologies, without truly identifying opportunities for substantial changes to their business model (Mitchelstein and Boczkowski, 2009; Ostertag and Tuchman, 2012; Schmitz and Domingo, 2010; Spyridou et al., 2012). Economist Schumpeter (1975) was the first to explore the concept of innovation as a fundamental factor for companies. Meanwhile, Fagerberg (2003) notes that innovation affects both "technology and the organization of production processes," thus it can manifest in both the product itself and its preparation.

To renew and update public media, a combination of public service, creativity, innovation, and interaction will be essential (Glowacki and Jackson, 2013), along with relevant experiences that have emotional impact for educational and public content. As for information, the goal is to preserve journalism in terms of diversity and quality (Ferrell-Lowe and Stavitsky, 2016).

Social networks have become a fundamental space for establishing conversations between European public service media and their audiences. All European corporations have a presence on these platforms with multiple profiles and a large number of followers, demonstrating that these broadcasters understand the importance of these tools in fostering a stable dialogue with their users (López-Golán et al., 2019). Through this close relationship, media can learn from the concerns and preferences of their audiences and approach the typical scenarios of young users to offer more personalized and relevant services to them.

European public broadcasters must prioritize innovation to trigger an evolution of their corporate culture, renew their content production and distribution processes, business communication, and recapture young audiences who have turned to privately-owned digital communication offerings (Ranaivoson et al., 2013). Despite financial, structural, and political challenges, these media outlets are seeking to respond to the impact and emergence of new technologies and platforms through strategic innovation. They seek greater interaction and forms of social conversation, particularly with young audiences who are farthest from the content grid of public broadcasters (López-Golán et al., 2019).

The public service media face a situation in which the majority of adolescents use their mobile phones as their usual device, consume information and the main news through publications on social networks (Reuters Institute, 2016) and in which these audiences go to digital platforms to satisfy their intermittent and short periods of entertainment time.



"In the realm of technological innovation, public broadcasters are increasingly adopting solutions based on Artificial Intelligence (AI) prototypes, Ultra High Definition (4K) video, and virtual reality technologies. RTVE was one of the pioneering broadcasters in Europe to produce a television program in 4K. In 2013, the channel collaborated with the EBU, Sony, and production companies Apuntolapospo and Ovide to create a short film about Barcelona (RTVE, 2013). Later, in 2017, the channel broadcast the first live event in 4K - the changing of the Royal Guard at the Royal Palace of Madrid (RTVE, 2017).

Currently, Radiotelevisión Española is increasingly incorporating this technology into its production and broadcasting, as demonstrated by the standardization of documentaries in 4K and the free-to-air UHK-4K broadcast of the World Cup in Qatar (RTVE, 2022). RTP started broadcasting in Ultra High Definition in June 2018 for the World Cup in Russia, during which a total of 28 matches were broadcast. However, this was a one-time initiative in the Portuguese case and has not been continued since (Real et al., 2020).

Regarding artificial intelligence, the European Commission recommended in its 2020 White Paper on AI that member states review their national plans on the matter by the end of that year (p. 6). In line with this recommendation, Spain launched its National Strategy on Artificial Intelligence (ENIA) in November 2020, which aims to provide "a framework for the development of inclusive, sustainable, and citizen-focused AI." Similarly, the Portuguese Government presented its own strategy in 2019, which seeks to "mobilize citizens towards the construction of intensive knowledge with a strong community of cutting-edge companies." (European Commission, 2020; Portugal, 2019; Spain, 2020).

According to the Global Artificial Intelligence Index, compiled by Tortoise Media (2022), which analyzes various parameters related to artificial intelligence, such as talent, infrastructure, operational environment, research and development, government strategy, and commercial viability, Spain is ranked 21st globally. The United States occupies the first place in the ranking, while Spain's government strategy is considered the fourth best in the world. Portugal, on the other hand, is positioned at number 35 on the scale (Figure 1). aunque esta personalización en los medios de servicio público debe atender a objetivos diferentes que los de las operadoras comerciales (López-Golán *et al*, 2019).

Figure 1: Position of Spain and Portugal in Tortoise Media's Global AI Ranking (2022).

| Country | Talent | Infrastructure | Operating Environment | Research | Development | Government Strategy | Commercial | Total rank |
|--|--------|----------------|-----------------------|----------|-------------|---------------------|------------|------------|
|  Spain | 21 | 19 | 23 | 26 | 29 | 4 | 28 | 21 |
|  Portugal | 32 | 36 | 16 | 38 | 40 | 22 | 35 | 35 |

Source: Author's own work.

European public broadcasters prioritize the establishment of stable communities of followers that generate valuable interactions by providing relevant services such as creating playlists, marking content, and enabling downloads. This connection also provides the broadcasters with the necessary data to establish algorithmic recommender systems, which offers new possibilities in terms of content management. However, personalization in public service media must meet different objectives than those of commercial operators (López-Golán et al., 2019).

The strategic and technological innovation priorities of each broadcasting company are significantly influenced by their own historical background and the prevailing political and social circumstances in their respective countries. In the case of RTVE, the company is facing a profound crisis of reputation and audience loss, which has led to a questioning of its credibility by its followers (Costa-Sánchez, 2018). This situation is mainly fueled by a debate regarding its independence from political power (Villafane et al., 2020). On the other hand, RTP faces limitations in the digitization of its proposals and the testing of its tools due to the country's culture, which is closely linked to traditional channels and a historical interest in local news and Portuguese musical entertainment content (Ortiz and Lopez, 2012).

While it is possible to identify common ideas and practices among all European public service media, it is essential to conduct an individual analysis of their activities and structures to gain a precise understanding of their motivations, goals, and innovative approaches. The purpose of this study, as outlined in section 2, is to conduct a detailed comparison of the innovative activities of Radiotelevisión Española and Rádio e Televisão de Portugal. Through this analysis, we aim to gain insights into their distinct approaches and strategies related to innovation.

2. Methodology and Objectives

This article aims to critically review and compare the innovation strategies of two major national public broadcasters, namely Radiotelevisión Española (RTVE) and Rádio e Televisão de Portugal (RTP), based on their respective strategic visions, technological proposals, and plans to attract young audiences. In order to achieve this goal, the study aims to define a clear strategy and identify a set of priorities for each of these key areas. As such, the research objectives are as follows:

Objective 1: Conduct an analysis and establish a comprehensive list of the strategic innovation priorities for both corporations.

Objective 2: Investigate the primary technological initiatives currently in progress and identify future intentions concerning digitization and emerging technologies.

Objective 3: Examine their plans/strategies to attract new audiences and increase relevance to them.

The research is proposed in an exploratory and descriptive manner with a null hypothesis. In-depth qualitative interviews were conducted with the directors of strategic and technological innovation, as well as with the individuals in charge of the primary project aimed at attracting young audiences in each of the companies: Playz for RTVE and the RTP Arena esports platform for Portuguese television. The Delphi method was used in two rounds. The final panel of six interviewees is specified in Table 1:

Table 1. *Intentional convenience sample.*

| Abbreviation | Name | Corporation | Position |
|--------------|------------------|---------------|--|
| (GM/RTP) | Gonzalo Madail | RTP | Innovation manager |
| (CB/RTP) | Carlos Barrocas | RTP | Technology Directorate |
| (DR/RTP) | Daniel Rodrigues | RTP/RTP Arena | RTP Arena Director |
| (UG/RTVE) | Urbano García | RTVE | Director de Innovación y Digital |
| (PV/RTVE) | Pere Vila | RTVE | Director of Technology, Innovation and Systems |
| (PA/RTVE) | Patricia Alonso | RTVE/PlayZ | PlayZ Executive Producer |

Source: Author's own work.

The video meetings were conducted between September 15 and November 20, 2022, via video conferencing, with an average duration of 35 minutes. A semi-structured questionnaire was used that included specific questions for each interviewee based on the subject being analyzed (strategy/technology/attraction of young audiences). Nevertheless, the questionnaire also consisted of common blocks such as the innovation priorities in their respective departments, common practices developed, and future challenges and forecasts.

Prior to conducting the interviews, a thorough analysis of the corporate communications and social media publications of the broadcasting corporations was carried out, along with an examination of the digital products that had the greatest impact on their various platforms. This allowed for the development of the questionnaires and the identification of topics of interest for discussion during the meetings. Additionally, an analysis of the PlayZ and RTP Arena channels was conducted, including an evaluation of their usual formats, social media following, distribution channels, and cutting-edge content.

3. Results

The subsequent sections provide a comprehensive description of the innovation strategies of both corporations from the perspectives of strategy, technology, and youth engagement. The results presented in this section are derived from the inputs provided by the responsible personnel of the respective departments of the broadcasters, as well as from the monitoring and analysis of their digital footprints. Additionally, the section also highlights the plans, priorities, and forecasts of the corporations in the short and medium term.

3.1. Analysis of the strategic innovation process in RTVE and RTP

The public service media corporations Radiotelevisión Española and Rádio e Televisão de Portugal have integrated innovative processes transversally into their content creation and distribution proposals. They view innovation as a strategic concept that must be diffused throughout their structures, sections, and actions. This strategic approach to innovation is reflected in the constant updating of work routines, structures, and ideas to remain relevant to their audiences in an ever-changing, highly competitive, and unpredictable context.

The following Table 2 specifies the priorities for strategic innovation of both corporations, which are subsequently explored individually.

Table 2. *Strategic innovation priorities in RTVE.*

| Strategic innovation priorities in RTVE | |
|---|---|
| Radiotelevisión Española | They differentiate two perspectives: existential innovation and ordinary innovation. |
| | Priority: optimizing the user experience, innovating in storytelling, mobile First approach. |
| | Independence from political power, reverse crisis of reputation and credibility. |
| | Innovation path aimed at establishing an innovative and fully transversal ecosystem. |
| | Three innovative structures: Innovation Center, Innovation Lab and New Media Section. |
| Rádio e Televisão de Portugal | Priorities: development of new formats and production routines. |
| | Recent creation of an innovation bubble department. |
| | Renewal of the language of the television channel, renew the presenters, and strategic revolution led by an active presence in social networks. |

Source: Author's own work.

3.1.1. Strategic and conceptual innovation at RTVE

In the case of *Radiotelevisión Española*, their strategic innovation proposal is divided into two perspectives: an existential one, focused on defining their role and position in the new content creator ecosystem; and what they call ordinary innovation, which includes a set of tools and actions aimed at modernizing and digitizing processes and structures.

As a strategic priority, *Radiotelevisión Española* focuses on optimizing the user experience and innovating in content creation and storytelling, with special attention given to the mobile-first approach, as the smartphone is the most commonly used device by its audience. Independence from political power, credibility, and competition with private media are also key issues that contribute to gaining relevance among its audience by offering them "not only what they want, but also what they need."

The Director of Innovation at RTVE, Urbano García, notes that for this broadcasting corporation, innovation means the need for change in order to survive, since their presence in people's lives is not guaranteed in the new digital context, with such a wide range of platforms and content on offer.

(UG/RTVE): "While in other media, innovation takes the form of a particular tool or technology, in our case, before talking about AI, Metaverse, or virtual reality, we must establish a radical change in our model and determine what type of media we should really be."

At RTVE, they define incremental or structural innovation as a process in which they continue to carry out the same actions, but through new processes; whereas disruptive innovation consists of carrying out "radically different" activities from what they have always done. However, they emphasize that their path towards innovation aims to establish and internalize an innovative and transversal ecosystem within their structure, rather than having an innovation department that acts on the rest of the sections.

(UG/RTVE): My objective as the head of the department is for my role to become redundant in 4 years, essentially because it would mean that innovation and digitalization have become so embedded within the company that no one will need to oversee them. This is the direction of our innovation efforts.

The corporate culture shift that the corporation envisions will be based on incorporating an innovative gene into the company's ADR (Learn, Unlearn, and Relearn). This will involve placing the user at the center of processes, adopting a product and service mindset, implementing effective leadership, and building strategy based on big data and analytics rather than relying on gut feeling.

At RTVE, there are two types of innovation processes: ascending processes from journalists to managers, and descending processes from managers to communication professionals. To support these processes, RTVE has established three structures: the Innovation Center, which is responsible for building relationships with university chairs, companies, startups, and other external processes. The Innovation Center has the Innova website, which allows employees to propose topics internally. The Innovation Lab is where new narratives, products, and formats are tested. Finally, the New Media section determines their line of action on new platforms such as Twitch and TikTok. These structures aim to incorporate innovation in a transversal way within the company, going beyond having a specific innovation department.

In this corporation, professional profiles that will settle in the short and medium term are expected to have a greater emphasis on soft skills rather than specialization in specific tools or technologies. Adaptability to change, emotional intelligence, versatility, and teamwork will be essential in a constantly evolving context where routines are always at risk of becoming obsolete. These soft skills will be crucial for professionals to keep pace with the latest technological advancements and maintain relevance in the industry.

(UG/RTVE): A good communicator must be able to fulfill each of the tasks that are presented to him. Before, the work ended when we published a piece of news, now it starts there, we have to maintain a social community based on that and analyze the results.

In regards to the challenges that RTVE expects to face, they aim to cover all communication needs of citizens, including information, education, and entertainment, while also providing a tool for media literacy to help young people learn how to deal with problems related to misinformation and fake news. Additionally, they believe that public media should no longer differentiate between what people need versus what they want, and instead offer a combination of both to reinforce their reputation and value.

3.1.2. Strategic innovation in RTP

At Radio e Televisão de Portugal (RTP), a specific team for audiovisual creativity, new formats, and production models was created in 2015. This innovation department operates independently from the rest of the corporation, and the number of professionals involved has progressively expanded from 10 to around 20 communicators. However, the strategic decision has been made not to continue expanding the innovation lab.

Gonzalo Madail, the head of this department and the director of the RTP Memoria channel, decided to link both spaces to promote broadcasts related to the corporation's archive. This move was prompted by a deficit of equipment, resources, and personnel. They undertook a revolution in which they renewed the production team, and the youngest management of RTP took charge of the oldest channel.

In general terms, RTP has focused on renewing the language of its television channels, providing opportunities to young communicators and content creators, and generating high-quality content adapted to social media platforms, where they plan to actively engage with their audience on a daily basis.

This line of action involves the way they communicate with their audience, placing special emphasis on aesthetics, graphics, and music, elements that compose dynamic narratives with which they aim to move away from the traditional creation model that defined them. They have rejuvenated this model by incorporating ideas from the new team.

(GM/RTP): This team operates as a true "bubble" within the company, utilizing some corporate resources but striving to be self-sufficient in order to avoid becoming a production-line factory. This isolated team model has been successful and has even won awards, as it remains unaffected by external processes.

In relation to the development and implementation process of this innovation bubble, Radio e Televisao de Portugal encountered typical difficulties associated with any renewal process. The mentality and culture of the corporation's personnel did not initially conceive the launch of a new, more creative department focused on the qualitative improvement of products, but this changed from the first positive results.

At present, RTP notes an opposite situation in the department, as different workers within the corporation are requesting to join the team en masse, attracted by the production dynamics and initiatives promoted. The management's idea is to allow for new progressive adhesions while maintaining coherence and the bubble's boundaries, covering emerging needs without diluting the innovation lab's focus.

(GM/RTP): Right now we live in limbo, at the opposite peak, which means that half the company wants to come work on innovation. It is important to always maintain the bubble of this team, although it has already grown, but it has grown very slowly case by case, person by person, because if it gains size it will become a small factory. It is a bit like a gastronomic restaurant, which should not have more than 10 tables. From then on, it will no longer be a boutique, but a factory.

Regarding the professional profiles sought by RTP to join their innovation laboratory, they are looking for journalists who are versatile, possess technological skills and are adaptable to any situation that may arise. Additionally, they emphasize the need for each team member to specialize after passing through various creative and production phases, in order to optimize processes and utilize the full potential of each creator.

3.2. Technological innovation proposals on RTVE and RTP

Both corporations are investing in the progressive digitalization of their infrastructures, while also exploring disruptive technologies such as artificial intelligence, 5G implementation, and ultra-high definition (4K) to improve their offerings. However, their efforts are often limited by cultural barriers within their organizations, as well as their responsibilities as public service media, which may slow down the integration of new technologies to safeguard their interests and traditional values. The following 'Table 3' provides a summary of the technological innovation priorities of RTVE and RTP:

Table 3. *Technological innovation priorities in RTVE and RTP.*

| Technological innovation priorities in RTVE and RTP | |
|---|---|
| Radiotelevisión Española | Migration and renovation of your IT infrastructures (Information Technology). |
| | Three processes or pillars of technological innovation: ultra high definition (4K); 5G and permanent audiovisual connectivity; AI. |
| | AI innovation: simple automatic realization, file metadata, automatic text generation, subtitling, user recognition and conversation personalization, automatic video production, disinformation control, social media monitoring or verification. |
| Rádio e Televisão de Portugal | Native audio and video broadcast. |
| | Development of algorithmic personalization. For editorial time. |
| | Automated content verification. |
| | Digitization of its structure, tools and productive routines. Optimization of customer service. |
| | Renewal of work teams towards technological profiles. |

Source: Author's own work.

3.2.1. Technological innovation priorities in RTVE

One of the technological innovation priorities of RTVE is the migration and renewal of its IT infrastructures, including software, cameras, computers, and other tools. The corporation has allocated approximately 450 million euros for the replacement of technological support assets, with an estimated completion time of every 10 years, resulting in a 10% annual renewal rate.

Furthermore, three pillars of disruptive innovation in Radiotelevisión Española have been identified in relation to technology. The first of these is ultra-high definition, which involves producing content of the highest quality to ensure that audiences do not associate lower-level productions with the public broadcasting system, and to dispel any perception that 4k resolution is only available on private platforms.

(PV/RTVE): We won't do a 4K newscast, but we have to do it in a documentary that lasts over time. The scriptwriter costs you the same, and the cameras are already 4K. It is true that the jump to this dimension has a cultural prism, since it implies managing next-generation audio, more creative and artistic possibilities with colors or the adaptation of editing rooms. It is an innovation process that can take years.

The second aspect worked on by the corporation is permanent audiovisual connectivity linked to 5G. RTVE's claim is to keep the cameras connected 24 hours a day to share the material with colleagues remotely and for them to format, prepare and distribute it. With 5G it is possible to send this signal to the cloud from smaller and more powerful backpacks so that the production team can work with it directly. Likewise, it is also an interesting technology to bring content closer to places where the connection was historically limited, and that now it is possible to stabilize.

(PV/RTVE): There are very interesting mixer models in the cloud. I don't know if it works for a big game at the moment, but it will admit the use of 5/10 inputs, which will greatly reduce production costs compared to a mobile unit. 5G is also interesting for bringing public service content to areas or towns where the FM radio signal did not reach.

RTVE has been recognized for its advances in 5G technology with the Technology & Innovation Award from the European Broadcasting Union (EBU) in June 2022. The award acknowledges and supports outstanding technical solutions developed by corporations within the organization. The award-winning candidacy, known as 'RTVE-5G and beyond', was presented for the advancements in the new generation of mobile networks for public media. According to Pere Vila, director of Technology, Innovation and Systems at RTVE, this progress "provides more bandwidth, lower latency, more security, and less energy consumption within the framework of this digital transition".

In addition, innovation in AI is the third fundamental pillar of the technological development proposal of Radiotelevisión Española in the production section. AI is used in various ways such as simple automatic production, file metadata, automatic text generation, subtitling, user recognition and conversation personalization, automatic video production, disinformation control, social media monitoring, and verification.

(PV/RTVE): In the application of AI we must add human control in each process, in the same way that a control is carried out there must be feedback that allows the machine to continue learning and improving. In the same way, the algorithm must learn with the user, get to know him. Not just recommend content, but personalize the conversation and make the experience enjoyable. Let him tell you: "Welcome, do you want to see what happened the other day again, or something similar? Are you still interested?"

Another tool that the corporation is developing is dedicated to voice synthesis linked to an automated locution. After around seven hours of narration by an announcer, the system is capable of capturing and emulating his way of narrating, counting numbers, pauses, breathing rate and tone. They already have active prototypes on RTVE that they intend to progressively incorporate, tools that, based on the data received, write a headline that can be adapted depending on the recipient, a lead, photos, graphics, as well as the subsequent locution, and insertion of cuts with the corresponding edition.

The integration of these applications poses a challenge for RTVE due to the cultural barriers inherent to the organization, even though the purpose of this technology is to streamline the work of related professionals and enhance and specialize coverage, providing customized pieces to different audience groups, and even to individual users.

3.2.2. Technology development in RTP

The technological priorities of Rádio e Televisão de Portugal (RTP) include the optimization and maintenance of its audio and video broadcasts, the development of an algorithmic personalization system to enhance its editorial recommendations, the digitization of its infrastructure, tools, and production workflows, and the recruitment of young professionals with a technological background to strengthen its internal teams responsible for managing and launching various applications.

From a practical standpoint, Rádio e Televisão de Portugal (RTP) envisions innovation in radio broadcasting, which includes the routines of production, realization, and cloud distribution. They aim to conduct all operations within their facilities natively, while maintaining the traditional model of the corporation and the internal culture that characterizes the country's leading public service medium.

Regarding content recommendations, RTP currently lacks a personalization system and an active technique to identify users who visit its platform. They are working on implementing a registration system to personalize different areas while adhering to the values of public communication services, which require offering a selection and linking of content based on impartiality and plurality.

(CB/RTP): The next phase of multimedia is that the time on the site, everything that is multimedia, will have a personalization and will have indexing tools, personalization, around the user himself.

Radio e Televisao de Portugal believes that the combination of partiality and personalization is the key factor that differentiates public service from other commercial broadcasters. Their goal is to encourage audiences to seek out and receive diverse content, avoiding isolation or filter bubbles caused by algorithms that aim to attract and retain users for as long as possible on their platforms.

(CB/RTP): On Netflix, for example, I choose a content and all the pieces that are offered to me below are dangerously related. He will never recommend a content that I rejected at first or for which I did not show interest. This isolates the user, makes them view the same story over and over again.

Regarding the use of artificial intelligence, RTP applies it to different self-learning multimedia tools, but not purely from a practical AI perspective. The instruments based on this technology will be placed at the top of the recommendation process for tracking and managing information that comes from the algorithm, outlining an operational and quality operation complemented by automation to increase efficiency.

In the short and medium term, the company hopes to promote actions related to content verification, ensuring veracity and preventing "copy-paste" of information. Additionally, they propose a progressive innovation that affects customer service, such as expanding the website to televisions by embedding a button in the controls that redirects the audience directly to the digital section of RTP.

Regarding the challenges expected from Radio e Televisao de Portugal in the coming years, they anticipate a radical change in roles, where most physical or traditional tasks will become virtual, on the web or in the Cloud. They will gradually shift focus from physical maintenance to software and artificial intelligence.

(CB/RTP): The change is going to be brutal from a labor point of view. We are going to switch to machine learning tools, software development and customization software to completely abandon what is called electronic technology. Computer technology will lead to a radical change in the profile of people who work in these areas.

Even so, at RTP they are clear that these changes and advancements will be carried out gradually, at a safe pace, and without compromising or disrupting the central values and objectives of the public broadcasting service. Many of these actions will be progressively implemented and subjected to continuous testing and monitoring.

3.3. Strategy to attract young audiences on RTVE and RTP

The progressive aging of the audiences of traditional television channels, in this case RTVE and RTP, motivated corporations to articulate a new way of attracting, attracting and generating value for the youth audience group (18-24), which crystallized in the structure of Radiotelevisión Española in a native digital channel for young content, PlayZ, destined to cover the gap between its children's channel 'Clan' and the rest of the adult content proposals.

In this regard, Rádio e Televisão de Portugal has made a deliberate strategic decision to prioritize electronic sports and has successfully established RTP Arena as the preeminent digital platform in the

country for this genre. Through RTP Arena, the organization disseminates informative and entertaining content related to electronic sports, experiments with co-creative formats in collaboration with their audiences, and has expanded into new frontiers such as Twitch, where they have achieved the highest number of followers in the country.

The origin of these projects, as well as the formats developed, distribution channels, creation routines, work teams, professional profiles, and objectives are analyzed in the following sections and summarized in the following Table 4.

Table 4. *Projects to attract young audiences on RTVE and RTP.*

| Projects to attract young audiences on RTVE and RTP | |
|---|--|
| PlayZ | RTP Arena |
| Year of creation | |
| 2017 | 2015 |
| Theme | |
| Youth generalist | Electronic sports |
| Formats | |
| Fiction series; debates or focus groups on current affairs; varied factual: science, urban music, comics, etc.; documentaries. | Live streaming of gaming events, comprehensive coverage and transmission of national and international competitions, talk shows, and linear broadcasts dedicated to gaming-related topics constitute the range of offerings provided by the broadcaster. |
| Distribution channels | |
| Website dependent on the parent website RTVE Play. Social networks, mainly: Instagram, TikTok, YouTube, Twitch. | RTP Arena website, independent from the corporation's parent website. Networks: Twitch as a reference, small pills on Twitter, Facebook and Instagram. Weekly broadcast on linear TV. |
| Work Team | |
| 12 full-time people; assistance from colleagues from other sections. | 12 full-time people; assistance by colleagues from other sections and freelance at large events. |
| Professional profiles | |
| Journalists, audiovisual communicators or publicists with multidisciplinary knowledge, digital natives and with an average age of less than 30 years. | Journalists and audiovisual communicators with knowledge in digital content creation, editing and live broadcasting. |

Source: Author's own work.

3.3.1. RTVE digital channel for young content

PlayZ was launched in 2017 by RTVE's digital and content management team in response to the aging audience of traditional television channels. Recognizing that the youth audience segment aged 18-24 was being underserved by the gap between the children's channel 'Clan' and the rest of the broadcaster's offerings, a decision was made to create a dedicated digital channel for this demographic. While successful formats such as the music competition *Operación Triunfo*, which integrated a strong digital strategy, attracted young viewers, they remained disconnected from the broadcaster's traditional programming. PlayZ aimed to address this gap and provide tailored content to the youth audience.

Fiction series are the hallmark of PlayZ, as well as the Gen PlayZ format, oriented towards coverage and debate on current issues for young people, with a youthful and humorous style. Factuals are frequent on the channel (programs based on real events), such as Cam On, the first photography talent show in Spain, others on science, urban music or comics, and documentaries.

At PlayZ they are committed to continuous experimentation in formats, spaces and distribution channels, as well as in audiovisual language and aesthetics. In addition to broadcasting on their website, linked to the RTVE Play parent page, they maintain an active presence on the main social media outlets browsed by their target audience: Instagram (164,000 followers), Twitch (27,700 followers), YouTube (838,000 subscribers) or TikTok (776,000 followers), with progressive growth that has been on the rise since the pandemic.

Patricia Alonso, executive producer of PlayZ, explains that their strong network strategy allows them to be closer to their audience and increase participation rates, with surprising quantitative results as reflected in the growth of their profiles, as well as the qualitative ones, with constant value conversations established from the contents. The learning and feedback originated from these contributions is one of the main values and pillars of RTVE's digital channel for young content.

PlayZ's production strategy is based on the creation of native digital content, betting on interactive transmedia series and productions in vertical format designed to be distributed on Instagram Stories, as in the case of "Circular" (Figure 2). They also have a line focused on urban content, with a close relationship with freestyle or improvised rap, numerous documentaries and current formats, such as the aforementioned Gen de Playz.

Figure 2: *Vertical cover for Instagram Stories from PlayZ's 'Circular' series.*



Source: RTVE.

The work team of this space is made up of 12 professionals dedicated exclusively to the channel, in addition to the participation of colleagues from other sections who actively collaborate, such as the

network team. The PlayZ organization chart is based on the supervision of the content manager of the digital area of RTVE Play, and the contributions of two executive producers, one more dedicated to current events and the other focused on entertainment. The rest of the team is made up of journalists, filmmakers or producers with experience in digital environments and social media.

The professional profiles correspond to young communicators with multidisciplinary knowledge, with an understanding of digital languages and an average age of less than 30 years. These creators come from degrees in Journalism, Audiovisual Communication or Advertising, and combine more journalistic knowledge with other more technical ones such as editing, production or post-production.

(PA/RTVE): For us, social networks are not a showcase where we sell content, they are distribution spaces that we almost conceive of as channels with their own entity. We create specific content for these channels in vertical format and short duration, which is how our audience consumes it. TikTok is the one that has grown the fastest, it is a very powerful network with unimaginable possibilities.

PlayZ's short and medium-term objectives consist of continuing to resolve and cover the concerns of young audiences, in a modern and innovative way and placing this content in the spaces frequented by this audience segment at all times, being agile in migrations and being attentive to new trends.

(PA/RTVE): It's not just that we make content for young people, but that they themselves are part of the creation process, both by being on staff and introducing them as sources or as featured artists. We have served as a showcase for new creators who later made the leap to large productions or international brands.

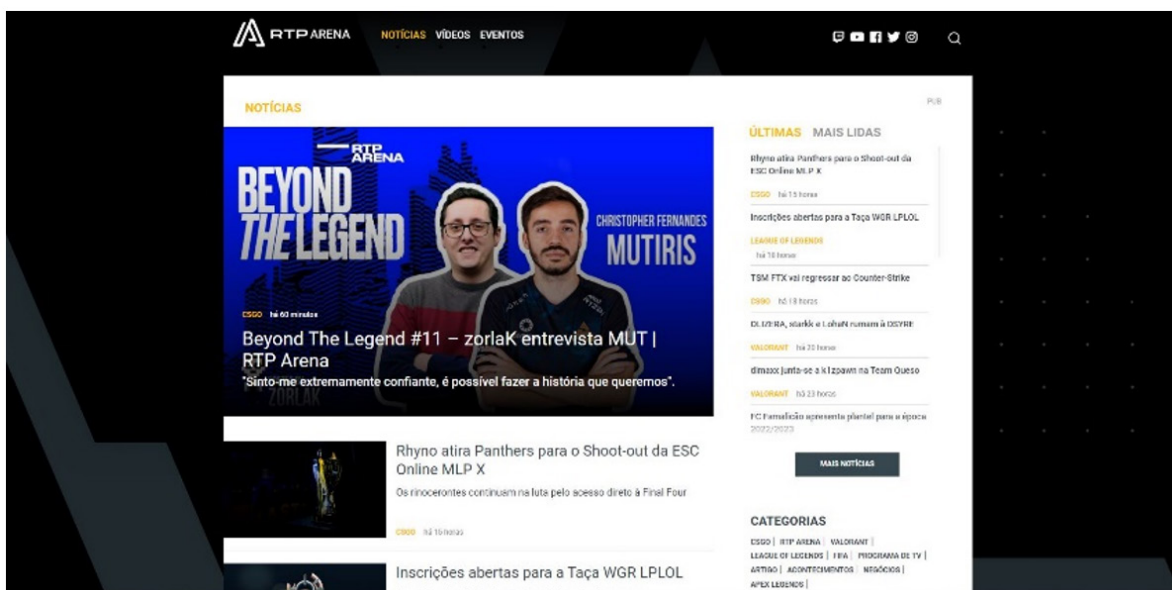
Regarding the results obtained in these first five years of the channel's life, they have received two Ondas Awards, the first in 2019 for their series "Boca Norte" and in 2021 another for the best entertainment content, which was the recognition to the PlayZ path. Another example of success is his series "Si fueras tú", published 4 years ago and which has already accumulated more than 35 million views.

3.3.2. Digital electronic sports platform: RTP Arena

Portugal's public television has directed its efforts towards attracting young audiences through the inclusion of gaming and esports in its programming strategy. To this end, the broadcaster has established a comprehensive 360° platform called RTP Arena, which is dedicated to providing informative coverage of electronic sports, broadcasting national and international live events, and featuring talk show and analysis formats specifically tailored for linear broadcasts.

The content produced by Portugal's public television for its gaming and esports audience is distributed through a dedicated web page, which is independent from its news portal (see Figure 3). Additionally, the broadcaster maintains a strong presence on social media platforms, particularly Twitch, where its RTP Arena CS:GO channel has been the most followed in Portugal for the past three years. As of December 2022, the channel had amassed 209,312 followers. On other social media platforms such as Facebook, Instagram, and Twitter, the broadcaster uses short and engaging content to entice users to visit its dedicated web page.

Figure 3: Home interface of the RTP Arena parent website.



Source: RTP.

In linear broadcasts, they project a weekly format every Friday during prime time in which they conduct interviews with well-known personalities from the world of cyber sports, as well as specialists who offer value judgments and recommendations for followers of this discipline. With this, they managed to move part of the frequent users of their digital sites to conventional television, an unprecedented success in the corporation.

(DR/RTP): On traditional television we broadcast 35 times a year, and at powerful schedules on the grid. The show started out as a rundown of the week's top gaming news, but we realized it was too superficial and turned it into a talk show with industry professionals. They give clues to their methodology, and even play live games explaining some tricks.

Figure 4: Game methodology program at RTP Arena with gaming professionals.



Source: RTP Arena.

RTP Arena's primary tool for fostering a community around its various formats is the interaction and active two-way conversation between content creators and consumers. By doing so, they maintain a loyal and stable audience that grows in a structured manner. This audience is drawn to a gaming proposal associated with the values of a public service medium. These values are represented in the diverse selection of video games used, the coverage of local content and competitions, and the promotion of national identity. RTP Arena prioritizes the participation of young local players in its programs to reinforce this identity.

The professionals involved in this project have clear objectives. Their primary focus is to continue to be a reference platform in the country's esports ecosystem while also expanding their presence internationally. Their medium-term goal is to become a space where users from all over the world can come to watch the broadcast and organization of major events and competitions.

(DR/RTP): As project coordinator I try to give as many opportunities as possible to all creators, as well as options for making decisions and contributing ideas. We do not want this project to be an isolated initiative, we want it to continue to grow, with more and more content, and of higher quality, to create a powerful community. The forecast for the coming years is optimistic, we want to be a platform where the competitions want to be broadcast.

The work team responsible for this platform consists of 12 dedicated professionals who focus entirely on the project. They occasionally collaborate with colleagues from the sports, audiovisual, or technology departments, and hire freelancers to cover major events. The team operates under a horizontal hierarchy, with coordination provided by Daniel Rodríguez, who serves as both the person in charge of RTP Arena and the product manager.

4. Discussion and Conclusions

The political, budgetary and technological pressures to which European public media have been exposed since the first decade of this century (Iosifidis, 2010), as well as other pressures triggered by the loss of audience, the need to innovate, or editorial independence (Bonini and Pais, 2017), makes the exploration of strategic innovation policies, and the analysis of the fit of technologies in the current media context, a necessary task to project the value of public service media into the future.

On the preceding pages, a descriptive analysis was conducted of the innovation proposals put forward by the national public broadcasting entities of the Iberian Peninsula, RTVE and RTP. The analysis covered three main sections: strategy, technology, and attracting young audiences. Based on the results obtained, it is possible to conclude that both companies prioritize an incremental or evolutionary update in the strategic innovation section, while remaining true to their public service values. In this regard, they challenge the conventional mindset and embrace open or disruptive innovation (Chesbrough, 2003) to support the development of new digital platforms.

The proposed conceptual innovation, aimed at fully and progressively renewing public broadcasters in a transversal manner, will be crucial in the media's next stage to address the five main issues identified by Tambini (2015) in relation to public service media. These issues include declining audiences, reduced funding, contested missions, the impact of digitization on traditional proposals, and aggressive competition from private operators.

Radiotelevisión Española (RTVE) has adopted an innovative philosophy focused on optimizing the user experience, reinventing narratives, and adopting a mobile-first approach. Meanwhile, at Rádio e Televisão de Portugal (RTP), efforts are focused on renewing the language and modernizing its

traditional content creation model. This includes incorporating new communicators with revitalized ideas adapted to social networks.

Innovation laboratories, also known as medialabs or labs, have been expanding globally and consolidating as a phenomenon since 2010 in leading international media (Salaverría, 2015). These labs are internal units within journalistic companies, equipped with a certain degree of operational autonomy and a dedicated team, with the mission of devising and promoting technological innovations. In this context, RTP recently established a bubble department to manage and execute innovation, while RTVE has taken a different approach with three different structures: the Innovation Center, Innovation Lab, and space for New Media. Furthermore, RTVE seeks to blur the boundaries of innovation to enable its instinctive flow throughout the entire organization. It will be interesting to analyze over the next few years whether innovation will finally be internalized within the television staff or whether departments for accelerating and promoting innovation processes will continue to exist and consolidate.

In the technological section, both corporations agree on the need to progressively digitize their IT infrastructures (information technology), which includes audiovisual resources, systems, or software. In this sense, RTVE has consolidated a greater commitment to disruptive initiatives based on artificial intelligence, permanent audiovisual connectivity or ultra-high definition, while RTP gives preference to a greater cultural component, such as the optimization and maintenance of its broadcasts. native audio and video.

The professionals involved in these aspects of production and distribution begin with specialized profiles native to digital environments, possessing multidisciplinary skills where adaptability to change stands as the most valuable skill in a constantly changing context. Nonetheless, the corporations agree that the traditional journalist's classic values and skills must be preserved since technology alone "does not improve the skills or abilities of the communicator". Therefore, university training must reinforce and preserve both facets (López-García et al., 2017).

Since the emergence of social media in 2006, public television's experiences in digital environments have focused on testing new formats and transmedia content for both information and entertainment sections (Azurmendi, 2018). In line with this, RTVE's need to capture and consolidate itself as an attractive alternative for young audiences is embodied in PlayZ, a general-purpose digital-native youth channel with modern news and entertainment formats. Meanwhile, Rádio e Televisão de Portugal's RTP Arena platform is exclusively focused on electronic sports and is more geared towards live broadcasts. They have successfully transferred this format to their linear broadcasts, resulting in a significant transfer of users from online to traditional television.

The content of RTP Arena is projected on a website independent from the RTP parent website, with Twitch as the reference social platform for the project. This contrasts with the situation of PlayZ, which has a website dependent on RTVE Play, and where it has been most difficult to penetrate Twitch, in contrast to TikTok where they have experienced exponential growth in the last period.

The limitations that these corporations encounter in their innovative work are related to cultural barriers within their own structures, the reputational crisis that affects the public television system, and which often conditions the development of risky proposals, disinformation, and competition with the proposals of private operators, making it difficult to have a real and relevant presence in people's lives. The ultimate objective of all the efforts of RTVE and RTP is to regain the trust of their audiences because, in their view, a public service medium that does not have an audience loses its reason for existence.

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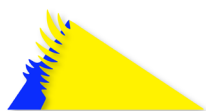
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