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OTT opportunities for public broadcasters: A review and cross-country analysis in European countries

Abstract

This analysis examines the opportunities and challenges presented by Over-The-Top (OTT) platforms for public service broadcasters in different European countries. Through a cross-country analysis of several EU countries, namely: France, Germany, Greece, Italy, the Netherlands, Romania, and Sweden, this paper provides a comprehensive perspective on the topic. The analysis includes revenue trends, subscriber numbers, and other indicators to evaluate the performance of public broadcaster-owned OTT platforms. The findings suggest that while OTT platforms present challenges for public broadcasters, they also offer opportunities for these broadcasters to compete and attract viewers in a rapidly changing media landscape.

Keywords

OTT platforms, Public Service Broadcasting, media competition

1. Introduction

The rise of Over-the-Top (OTT) services has had a significant impact on the consumption of media. With technological advancements in smart devices and applications, users can now access content anywhere and at any time. Furthermore, the increasing bandwidth, as well as the development of 5G and fiber technology provided by telecommunication networks for broadcasting purposes, have played a crucial role in the growth of the OTT market, which is gradually replacing the existing cable one (Johnson, 2020; Kwak et al., 2021; Park, 2019). Streaming platforms provide users with the convenience of accessing a vast array of content and personalized recommendations. Traditional broadcasting systems, such as cable or satellite TV, which have dominated the pay-TV subscription market in recent years, have become outdated, with streaming services like Netflix and Amazon Prime on the rise (Kwak et al., 2021). Technological advancements and the enhanced user experience that OTT services offer have compelled cable companies to adapt their business models and enter to the new streaming market. It is estimated that these companies have missed out on approximately 6 billion US dollars of business due to the restructuring of the broadcast industry (Burroughs, 2019).

The phenomenon of video streaming is pervasive globally and is available in diverse formats. There exist three main categories of Video-On-Demand (VOD) systems for distributing content, including (a) Subscription-Based Video-On-Demand (SVOD) models, which require a predetermined fixed amount of fees to be paid monthly to gain access to a wide range of content; (b) Advertisement-Based Video-On-Demand (AVOD), which offers consumers free access to content, but the content is primarily funded through advertising revenue; (c) Transactional Video-On-Demand (TVOD), which enables consumers to procure content on a pay-per-view basis; and lastly (d) free Video-On-Demand (VOD) services available that offer access to a wide

range of content without requiring a subscription or payment. Major streaming firms, namely Netflix, Hulu, Amazon Prime, Disney+, and HBO, all employ the Subscription-Based Video-On-Demand (SVOD) model (Allam & Chan-Olmsted, 2020).

In the United States, the conventional cable television industry has experienced a drop in its customer base, as only 74% of households out of an estimated 127 million subscribed to cable TV in 2018. This trend is particularly notable among the younger generation (aged 18-34) who show a higher preference for alternative video delivery services (Park, 2019). Furthermore according to another survey conducted by PwC (PwC, 2021) also in the US in 2020, cable TV subscriptions were maintained by over two-thirds (68%) of households, which was the same percentage as in the previous year. However, these same households also spent significant time watching streaming videos, with SVOD's content being almost twice as popular as ad supported (AVOD) content (62% versus 32%). The average number of streaming services used by survey respondents was slightly over 6 in 2019, which increased to almost 8 in 2020. Among pay TV subscribers, those aged between 35-49 exhibited the highest tendency to use additional streaming services. In Europe, the level of pay-TV penetration varies from 24% to 97%, with declines not as steep as those in the US. However, the Subscription Video on Demand (SVOD) services are contributing significantly to new revenue growth (Park, 2019).

The significant rise in the popularity of Over-the-Top (OTT) services in the following years, highlights the importance for media organizations to adopt new strategies to capture viewers' attention, particularly among younger generations. It is evident that various forms of OTT streaming services have emerged victorious in the broadcasting industry. As a result, media organizations need to prioritize the development of innovative content and services that meet the ever-changing needs of viewers. To remain competitive in this rapidly evolving landscape, companies must stay alert of the latest technological advancements and trends to effectively engage their target audience (González-Neira et al., 2022).

In this context, it is important to consider the response of public broadcasters, who by default provide their content to the public for free, to the rise of Over-the-Top (OTT) services. Public broadcasters in different countries face the challenge of responding to this changing landscape while maintaining their role as providers of public service media. In this study, the aim is to present quantitative statistics from different sources by large databases, in where OTT services operated by public operators in seven different European countries, to show how the OTT market landscape looks in each of these countries. This study aims to describe how public broadcasters are responding to the evolution of TV and streaming as well as launching OTT platforms is the way of survival for public TV in general in the era of the undisputed dominance of OTT platforms. Our analysis also aims to insight into the strategies adopted by public broadcasters to remain competitive and relevant in the rapidly changing media landscape.

2. Background Information

2.1 The Impact of Global OTT Platforms on Local Broadcast Markets

The popularity of over-the-top (OTT) services has led providers to explore new ideas of content, business models and strategies. For example, a successful ad-supported model is YouTube, which has leveraged a vast amount of user-generated content. Conversely, subscription-based services such as Netflix and Amazon Prime have heavily invested in producing original content. As a result, the OTT landscape has become increasingly competitive and dynamic, with providers seeking to differentiate themselves and capture a share of the growing market (Park, 2019). Over the past decade, Europe has seen a significant increase in Video on Demand (VOD) revenues, with figures rising from 388.8 million EUR in 2010 to 11.6 billion EUR in 2020. This surge can be attributed to a substantial rise in Subscription Video on Demand (SVOD) revenues, which increased from a modest 12.1 million EUR in 2010 to 9.7 billion in 2020 EUR (European Audiovisual Observatory, 2021).

In Germany, the consumption of online videos has become an essential component of the daily routine. A representative study conducted among the German population aged 14 years and above, revealed that 61% of individuals access online videos on a weekly basis. Furthermore, the study highlights that 37% of the population utilize video streaming services such as Netflix and Amazon Prime at least once a week. Comparatively, the percentage of individuals who watch time-shifted TV programs on a weekly basis is lower, standing at 35% (Rahe et al., 2021).

Even in smaller countries with less rich media markets OTT and streaming platforms have been at the rise. For instance, in Greece, OTT platforms have surpassed TV in popularity due to their ability to offer greater convenience and relaxation (Papathanasopoulos & Varoutas, 2022). Similarly, a study conducted in Belgium (Evens et al., 2023) in 2023 examined the impact of platform technology on young people aged between 20 and 25, and found that, in addition to other factors, the use of platforms creates a sense of community amongst users. The study further revealed that users derive a similar level of satisfaction from watching programs on these platforms as they do from watching television. Moreover, browsing and searching for content on these platforms provide users with a sense of gaming satisfaction. These findings suggest that the OTT landscape is becoming increasingly relevant and attractive to users, who are drawn to the communal aspects and engaging experiences it offers.

Due to the surge in popularity of global streaming giants like Netflix, and the corresponding trend towards streaming platforms, local markets have been compelled to adapt to provide content that aligns with the prevailing market trend. In most countries, there are both local and international streaming platforms, which compete with one another as well as with television in general. For instance, in Greece, there are streaming video-on-demand (SVOD) platforms such as Cosmote TV and EON TV, while in Egypt, Watch IT, a local streaming platform launched by the Egyptian Media Group in 2017, serves as an integral part of the company's efforts to expand its media offerings. To increase their audience shares and subscriptions, local platforms have been resorting to broadcasting sports events, particularly live events.

But even in this scenario, platforms such as Amazon Prime have started to broadcast sports events, too. (Allam & Chan-Olmsted, 2020; Hutchins et al., 2019; Papathanasopoulos & Varoutas, 2022)

In another market such as Germany, which ranked second in terms of television content broadcasters after the United States of America in 2013, local OTT operators like Maxdome or Sky (a pan-European media and entertainment company) have a significant presence in the market, but they have a smaller role in comparison to Netflix and Amazon Prime. Despite this, these local operators have established themselves as solid players in the market (Rahe et al., 2021).

Competition in the streaming platform market around the world is characterized by local operators aiming to survive and increase revenue while retaining or grow their subscribers. For example, in Spain and Israel, local subscription platforms have formed partnerships with Netflix to recover their market share, with deals that benefit both parties. In Israel, the media industry is relatively small and heavily regulated, with only four multichannel providers operating within its borders. Each of these providers has multiple business arrangements with Netflix, spanning various industrial contexts. Netflix's internationalization strategy involves a hybrid approach that combines a direct-to-consumer model with partnerships with local players. These partnerships enable Netflix to expand its subscriber base, although the nature of the collaborations varies depending on factors such as exclusivity and consumer promotions (Wayne, 2020; Wayne & Castro, 2021). Furthermore, another effective strategy for local subscription platforms to enhance their chances of survival and success is exemplified by Shahid VIP in Egypt, where investment in the production and broadcasting of local content has proven to be instrumental in attracting audiences in smaller markets (Allam & Chan-Olmsted, 2020).

The emergence of digital technology has brought about significant changes in national markets, prompting global streaming video-on-demand (SVOD) providers to invest more in international content to augment their libraries. As a result, industry executives must balance meeting domestic consumer demand with capitalizing on new global opportunities. As such, analyzing industrial practices across multiple sites can provide valuable insights into the broader implications of the interplay between local and global television industries. The concept of a definitive form of television no longer applies, as every TV market undergoes continuous transformations driven by technological advancements, social practices, cultural forms, industries, institutions, and conceptual frameworks. These transformations often result in new shapes that incorporate elements of past forms (Given, 2016; Kawashima, 2022).

2.2 The response of Public Broadcasters

As noted, the shift in media towards platformisation has compelled many PSB organizations to venture into the digital markets, with a strong online presence through social media platforms, hybrid television, on-demand programs, and the launch of their own over-the-top (OTT) streaming platforms, providing free access to their services without subscription fees.

The younger generation's preference for digital platforms over conventional television and radio has led to public service broadcaster (PSB) organizations facing intense competition from international streaming services (Barwise, 2022). In response, PSB organizations have launched their own streaming platforms that provide content produced or copyrighted by the public service media without subscription fees. However, these platforms typically do not invest in new, exclusive content (Direito-Rebollal & Donders, 2023; Donders, 2019). In 2018, the European Union introduced legislation (European Parliament, 2018) that mandates streaming services such as Netflix and Amazon Prime to “dedicate 30% of their catalog to European content and invest in local European series and movies”, which took effect in 2020. This regulation has increased competition for viewer attention between local operators and PSBs, who typically operate with smaller budgets compared to international giants (D’Arma et al., 2021; Van Es & Poell, 2020).

In addition to meeting societal expectations, public broadcasters face pressure to uphold a set of fundamental principles that include inclusivity, diversity, originality, and progressiveness. Furthermore, these organizations are required to shift their broadcasting systems to the OTT streaming model, which compels them to cater to a mass audience and particularly to younger generations who are not typically part of their core viewership (Direito-Rebollal & Donders, 2023; Jöesaar & Köuts-Klemm, 2019).

On the other hand, besides those challenges there also opportunities. PSBs across Europe are adapting to the changing media landscape by launching their own digital platforms, leveraging the latest technologies to expand their reach and engage with a wider audience. In this effort, many platforms have adopted personalized recommendation systems that suggest customized content to individual users, a move aimed at increasing user engagement and platform popularity. Additionally, in response to the decline of traditional TV advertising revenue, PSBs are exploring new revenue streams such as digital advertising through these new platforms (Barwise, 2022; Direito-Rebollal & Donders, 2023).

However, the response of each European country to these developments is not homogeneous. To gain a broader perspective, it is important to consider specific factors related to the operation of public media in each country. Barwise identifies three categories that determine the power of public broadcasters (Barwise, 2022). Firstly, in countries like the UK, Germany, or Nordics, where public media were relatively speaking independent from the government, they hold a strong position. Secondly, in countries like Greece or Italy, public television was under the influence of the government. Finally, in countries like Russia, where the operation and practice of public broadcasting are completely dependent on the state for funding, and their revenues are derived solely from the government budget.

In response to the changing media landscape, public broadcasters have adopted varying strategies. For instance, in Germany, the ARD and ZDF networks have launched online platforms that are increasingly gaining popularity. But additionally, ARD and ZDF created "*funk*," a public service media network targeting younger audiences. This platform, established in 2016, is a joint venture between those two

major public broadcasters (Stollfuß, 2022). Similarly, in Spain, the national broadcaster RTVE has invested in technological innovation through the introduction of RTVE Playz, an online streaming platform. This platform delivers personalized content to users and offers 4K video quality, while also exploring cutting-edge technologies such as augmented reality and 360-degree videos. RTVE Playz has even formed partnerships with various sectors, including businesses and universities, to further its innovative pursuits. It is worth noting that 57% of the Spanish population consumes content from at least one streaming platform (Campos-Rueda & Goyanes, 2022; Direito-Rebollal & Donders, 2023).

In a similar vein, the national broadcaster VRT has launched an OTT platform in Belgium called VRT NU, offering a diverse range of content, including live streaming of TV and radio channels, as well as video-on-demand TV programs, series, and films. This platform is accessible on various devices, such as smartphones, tablets, smart TVs, and desktops, making it easily accessible to a wide audience (Direito-Rebollal & Donders, 2023). In Greece, the Greek National Broadcaster, ERT, launched its ERTFLIX streaming platform in 2020, following the standards of Netflix. ERTFLIX provides a vast array of new and older content, while simultaneously allowing users to watch the public broadcaster's TV channels online through this platform. During its initial two years of operation, ERTFLIX garnered over 50 million hits, and 2.2 million smart TVs connected to the platform at least once (Katsoulakis, 2022).

In line with other countries, Ireland's national public broadcaster, RTÉ, has established its own on-demand video platform called RTÉ Player. However, it faces stiff competition from international streaming giant Netflix, which had similar levels of traffic in Ireland at the beginning of 2017, at approximately 24%, but Netflix has since grown to 42% within a year (Direito-Rebollal & Donders, 2023; Raats et al., 2022). Similarly, in the Netherlands, public broadcasters are required by law to have 75% of their television content in Dutch. To meet this requirement, the national public broadcaster, NPO, has collaborated with Netflix to co-produce content that is shown on both platforms. Meanwhile, the corresponding broadcaster in Norway, NRK, has chosen not to enter such partnerships. In contrast, the BBC in England has its own studios and produces its own content, without the need for such collaborations (D'Arma et al., 2021).

In Italy, there is a growing trend of collaborative agreements between public broadcasters and streaming services, like other countries. However, it is important to recognize the potential risks of such partnerships, which may result in public broadcasters becoming minority partners and being excluded from high-quality content. This could undermine their unique contribution to their national culture and tradition, so they must thoughtfully consider the long-term consequences of those collaborations, ensuring that they preserve their distinctiveness and values (D'Arma et al., 2021).

Throughout history, public broadcasters have occupied a prominent position in European countries, serving as a trustworthy source of information, delivering quality entertainment, and providing educational programs. Nonetheless, the changing dynamics in media consumption, technological advancements, and other

factors have led to mounting pressure on them (Jõesaar & Kõuts-Klemm, 2019). Therefore, it is imperative for them to re-examine their position and significance in contemporary society. As the era of traditional broadcasting recedes, PBS organizations must innovate and adapt to changing consumption patterns. To remain relevant, they must leverage the opportunities afforded by interactive platforms to enhance audience engagement. At the same time, they must remain true to their public service remit and uphold core values like democracy (Direito-Rebollal & Donders, 2023).

In addition to the challenges of navigating changes in the digital economy, Public Broadcasters must also contend with the financial costs and distribution of their content. Funding, innovation, and regulation are all key factors in sustaining PSBs, and must be carefully managed to ensure their continued success. Moreover, they must balance the needs of different audiences, while also navigating competition from other media entities. These challenges are compounded by the deliberate influence of commercial and political vested interests, which are often reinforced by free-market ideology. As such, Public Broadcasters must be strategic and flexible in their approach to managing these complex issues. This requires a deep understanding of the rapidly changing media landscape, as well as a commitment to delivering high-quality content that meets the needs of diverse audiences (Barwise, 2022; Jõesaar & Kõuts-Klemm, 2019).

3. Methodology

The methodology employed in this study involves analyzing quantitative data from several sources, namely Statista, Flixpatrol, Similarweb, and the European Audiovisual Observatory. The study seeks to address two research questions: (a) whether over-the-top (OTT) platforms present an opportunity for public service broadcasters in markets with limited financial resources to compete with international platforms in a fragmented field, and (b) whether the streaming platforms offered by public broadcaster services can serve as a means for their survival the future.

To achieve the research objectives, this study employs a cross-country analysis of several European countries, including France, Germany, Greece, Italy, the Netherlands, Romania, and Sweden. In all these countries, public operators have launched OTT platforms, which operate without subscription fees. The analysis aims to provide a comprehensive perspective on the topic and contributes to the academic discourse and practical implications for Public Broadcasters.

The data collected from Statista (Statista, 2021, 2023a, 2023b) were accessed via the National and Kapodistrian University of Athens, while the data from Flixpatrol (*FlixPatrol*, 2023), Similarweb (*SimilarWeb*, 2023), and the European Audiovisual Observatory (European Audiovisual Observatory, 2021) were derived from their respective websites or organizations. Those countries were selected because they include both big and smaller markets with different frameworks of how public broadcasters operate. Additionally, Barwise's categorization of public broadcasters in different countries as mentioned above, was used to guide the selection of countries

for analysis, to gain a broader perspective. In conclusion, this paper provides valuable insights into the opportunities and challenges that OTT platforms present for public service broadcasters, and it contributes to the academic discourse on this topic.

4. Analysis

4.1 An Overview of SVOD and TVoD Markets in Selected European Countries

This section provides an overview of the market landscape for selected European countries: France, Germany, Greece, Italy, the Netherlands, Romania and Sweden. The aim of this chapter is to have a boarder view of how the OTT market performed in those countries. The report presents data on the revenues generated by Subscription Video on Demand (SVOD) services, the number of subscribers to SVOD and Transactional Video on Demand (TVoD) platforms, and the number of major streaming services in each country.

According to data provided by the *Table 1.*, France had the highest number of subscribers to both SVOD and TVoD platforms, with 34 and 27 respectively. Germany had the second highest number of subscribers to SVOD platforms with 26, and the third highest number of TVoD subscribers with 23. Furthermore, the average number of SVOD subscribers across all EU (28) countries was 16, while the average number of TVoD subscribers was 12. Greece had the lowest number of subscribers to both SVOD and TVoD platforms, with 10 and 7 respectively.

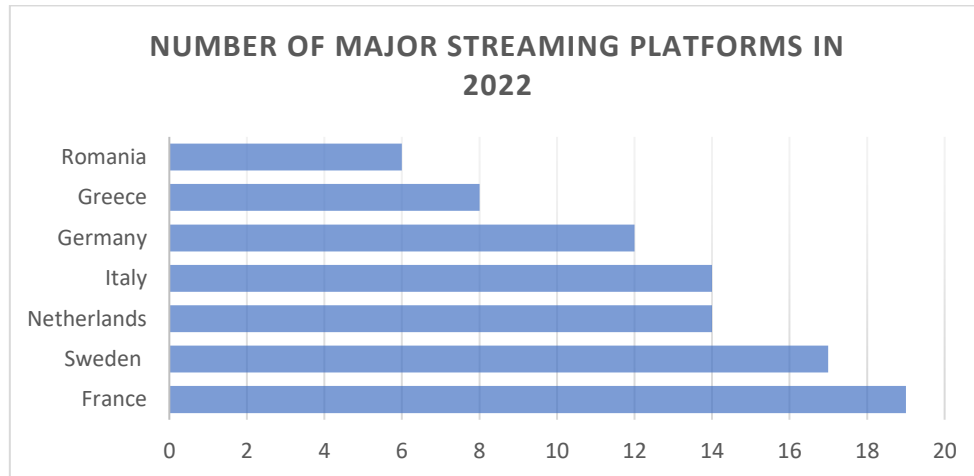
Graph 1. shows how many major streaming services operate in all the selected European countries. France has the highest number of platforms with 19, followed by Sweden with 17. Romania and Greece have the lowest numbers of major streaming platforms, with 10 and 6, respectively. This is understandable since Romania and Greece represent smaller media markets in size and financial sustainability. The remaining countries have similar numbers of streaming platforms. In general, major streaming platforms can be defined as the most widely recognized and popular streaming services in each market or region. These platforms typically have many subscribers, offer a diverse selection of content, and have a significant impact on the streaming industry. Examples of major streaming platforms include Netflix, Amazon Prime Video, Disney+, Hulu and Apple TV.

Table 1: “**Number of subscribers to SVOD and TVoD platforms in 2020**”, Source: Statista & European Audiovisual Observatory¹, Compilation by the Authors

Number of subscribers to SVOD and TVoD platforms in 2020		
Countries	SVOD Services	TVoD Services
France	34	27
Germany	26	23
Greece	10	7
Italy	14	12

Netherlands	19	14
Romania	16	6
Sweden	23	16
Average EU (28)	16	12

Graph 1: “Number of Major Streaming Platforms in 2022”, Source: FlixPatrol, Compilation by the Authors



Due to variations in the availability of major streaming platforms across different countries, *Table 2.* provides a more detailed picture of the number of subscribers in each country. The table shows that all major streaming platforms are operational in the listed countries, with differing numbers of subscribers for each platform, in 2022, along with the population of the corresponding countries.

Data reveal that Germany have the highest number of subscribers relative to their population, with approximately 37.4% of their total population subscribed to the three largest SVOD services, respectively. In contrast, countries such as Greece and Romania have a significantly lower percentage of their population subscribed to these services, at approximately 6.5% each. The data also indicates that Netflix is the most popular SVOD service across most countries, followed by Amazon Prime and Disney+.

The provided data in *Table 3.* shows that the SVOD industry has experienced consistent growth in most of the countries mentioned. France and Germany both had upward trends in SVOD revenues, which slightly dropped in 2022. Greece had a moderate growth, while Italy and Romania experienced significant growth in revenues. The Netherlands had a steady increase, and Sweden had the highest SVOD revenues among the countries listed. Although the SVOD industry has been growing steadily, there were slight decreases in revenues in some countries in 2022 compared to 2021. In conclusion, the data suggests that the SVOD industry is a lucrative market, and it is expected to continue growing in the upcoming years. The fluctuations in revenues in some countries in 2022 may be attributed to various factors, but the overall trend indicates that SVOD services are still gaining popularity among consumers worldwide. As competition in the market increases, SVOD services will

need to continue to innovate and adapt to remain successful.

Table 2: **Number of Subscribers in selected SVOD Services in 2022**, Source: Flixpatrol & Statista, Compilation by the Authors

Number of Subscribers in Selected SVOD Services in 2022				
Countries	Netflix	Amazon Prime	Disney+	Population
France	10.100.000	3.500.000	2.600.000	64.560.542
Germany	13.200.000	13.000.000	5.000.000	83.426.789
Greece	500.000	75.000	100.000	10.409.612
Italy	4.100.000	1.500.000	1.500.000	59.119.400
Netherlands	3.200.000	1.000.000	800.000	17.536.553
Romania	1.000.000	100.000	150.000	19.262.773
Sweden	1.800.000	300.000	1.000.000	10.517.669
Worldwide	230.930.000	200.000.000	161.800.000	

Table 3: **SVOD's Revenues in Millions (€)**, Source: Statista, Compilation by the Authors

SVOD's Revenues in Millions (€)				
Countries	2019	2020	2021	2022
France	19,6	25,0	29,5	29,3
Germany	24,5	30,6	35,4	34,5
Greece	13,9	15,9	16,8	15,0
Italy	9,6	13,6	17,4	18,3
Netherlands	15,0	17,5	19,3	18,1
Romania	8,0	14,4	21,3	19,0
Sweden	30,4	36,0	39,3	35,6

4.2 How Public OTT Streaming Platforms performing.

According to the data provided in *Table 4.*, it can be observed how users access the content on OTT platforms launched by the Public Broadcasters of each selected country. Ertflix in Greece had the highest desktop distribution at 69.85%, while Romania's TvR+ had the lowest with only 37.99%. On the other hand, Sweden's SVT Play had the lowest mobile distribution with only 24.05%, while France.tv in France had the highest at 49.71%.

Furthermore, the majority of OTT platforms are performing well within the industry. The most highly ranked platform is ARD in Germany, while Romania's TvR+ is ranked very poorly. The Countries' rank refers to the general popularity of the platform, based on user traffic compared to all other websites in the respective countries. As can be seen, most of the platforms are performing well in this area. Finally, the category rank indicates the popularity of the public service broadcaster's platform relative to other OTT platforms in the same country. In this case, ARD in

Germany has the best rank, while TvR+ has the lowest, too.

Table 4: **General Data about OTT platforms from Public Broadcasters** Source: SimilarWeb, Compilation by the Authors

General Data about OTT platforms from Public Broadcasters						
OTT Platforms	Countries	Desktop Distribution	Mobile Distribution	Country Rank	Industry Rank	Category Rank
Ertflix	Greece	69.85%	30,15%	119	-	6
France Tv	France	50.29%	49,71%	140	183	10
ARD	Germany	52,9%	47,07%	66	60	4
RaiPlay	Italy	48,01%	51,99%	50	70	6
NPO Start	Netherlands	68,56%	31,44%	65	264	6
TvR +	Romania	37,99%	62,01%	1597	5931	84
SVT Play	Sweden	75,95%	24,05%	16	88	4

Based on the data provided in *Table 5*, we can observe the gender distribution for each of the listed OTT platforms in the mentioned countries between November 2022 and January 2023. Overall, we can conclude that the gender distribution for each of the platforms varies by country. While some countries have higher male viewership, others have a higher female viewership. However, in general, except for France and the Netherlands, most of the viewership belongs to male audiences.

According to data from *Table 6*, the age distribution of OTT platform viewers varies across different countries. However, overall, most viewers fall within the age range of 18-44, with a slightly lower percentage of viewers in the 45-64 age range. The percentage of viewers over 65 is generally the lowest across all countries. There are significant differences in the age distribution of viewers across different countries. For instance, the proportion of viewers in the 18-24 age group is highest Italy (19.81%) and lowest in Sweden (11.50%). Similarly, the proportion of viewers in the 25-34 age group is highest in Greece (26.50%) and lowest in Sweden (21.85%).

Among the listed OTT platforms, the most popular ones seem to be France TV, ARD, RaiPlay, and NPO Start, which have the highest overall percentages of viewers across all age groups. SVT Play has comparatively lower overall percentages of viewers, although they still have a significant viewership in certain age groups and countries. Finally, it appears that the target audience for OTT platforms varies across different countries. For instance, in Greece, the platform Ertflix seems to have a higher percentage of viewers in the 25-44 age range, whereas in Sweden, SVT Play appears to be more popular among viewers in the 45-64 age range.

Finally, according to *Table 7*, there is another factor to measure the popularity of OTT platforms, which varies significantly across different countries. RaiPlay in Italy has the highest number of unique user visits in all three months, followed by ARD in Germany. There are significant monthly variations in the number of unique user visits for some platforms. For instance, ARD in Germany had the highest number of unique

user visits in December but had a significant decrease in January. RaiPlay in Italy had a significant decrease in January compared to the previous two months.

Ertflix in Greece has the lowest number of unique user visits among all listed platforms, but it has shown some growth in January compared to November and December. TVR+ in Romania had a very low number of unique user visits in November and December but saw a significant decrease to 296.5 thousand unique user visits in January.

Table.5: Gender Distribution from November 2022 to January 2023 for OTT platforms from Public Broadcasters, Source: SimilarWeb, Compilation by the Authors

Gender Distribution from November 2022 to January 2023			
OTT Platforms	Countries	Male	Female
Ertflix	Greece	59.91%	40.09%
France.tv	France	48.11%	51.89%
ARD	Germany	62.37%	37.63%
RaiPlay	Italy	56.38%	43.62%
NPO Start	Netherlands	45.58%	54.12%
TvR +	Romania	51.73%	42.87%
SVT Play	Sweden	52.07%	47.93%

Table.6: Age Distribution from November 2022 to January 2023 for OTT platforms from Public Broadcasters, Source: SimilarWeb, Compilation by the Authors

Age Distribution from November 2022 to January 2023							
OTT Platforms	Countries	Age Groups					
		18-24	25-34	35-44	45-54	55-64	65+
France Tv	France	18.62%	24.07%	18.19%	14.56%	12.72%	11.84%
ARD	Germany	17.78%	24.33%	18.63%	16.90%	11.89%	10.47%
Ertflix	Greece	17.43%	26.50%	23.45%	15.53%	10.25%	6.84%
NPO Start	Netherlands	15.92%	24.48%	19.16%	17.35%	13.10%	10.0%
RaiPlay	Italy	19.81%	24.51%	19.65%	15.39%	11.80%	8.84%
TVR +	Romania	18.90%	25.72%	19.72%	14.70%	12.77%	8.20%
SVT Play	Sweden	11.50%	21.85%	18.11%	18.29%	16.47%	13.79%

Table.7: Number of unique user's visits (In Millions) from November 2022 to January 2023 for OTT platforms from Public Broadcasters, Source: SimilarWeb, Compilation by the Authors

Number of unique user's visits (In Millions)				
OTT Platforms	Countries	November 2022	December 2022	January 2023
Ertflix	Greece	4.9	4.2	4.5
France.tv	France	17.7	15.2	17.5
ARD	Germany	45.8	54.3	41.9
RaiPlay	Italy	51.3	59.2	34.6
NPO Start	Netherlands	15.0	14.5	12.7
TvR +	Romania	1.7	2.5	296.5K
SVT Play	Sweden	26.9	31.8	23.

5. Discussions

Based on the above analysis, it is evident that Over-The-Top (OTT) platforms are increasingly gaining popularity in the countries under consideration. This is further reflected in their revenue growth from 2019 to 2022. The rise in demand for these platforms can also be attributed to the COVID-19 pandemic, where all countries experienced a significant surge in this industry. For instance, in France, the revenue grew from 19.6 million Euros in 2022 to 29 million Euros. Similar growth trends were observed in all countries, with Italy recording the highest growth rate and Greece and the Netherlands reporting the lowest. However, all countries, except Italy, experienced a significant increase in 2021 followed by a slight decline in 2022. This can be attributed to people gradually starting to spend more time outside their homes engaging in various forms of recreation after the end of the pandemic, unlike before when they were confined to their homes.

The popularity of these platforms is further evidenced by the emergence of more major platforms in these countries. Additionally, the number of subscribers to the three leading international platforms (Netflix, Amazon Prime and Disney+) present in all countries is also significantly large. For example, in the Germany, 37.4% as a proportion of the total population, is subscribed to these platforms. However, this situation is not universal across all countries, with Greece, for instance, recording lower numbers. Nevertheless, as a general conclusion, it is safe to say that the OTT market is flourishing to some extent in all countries analyzed.

In this context, it is notable that platforms launched by Public Broadcasters are not only present in the OTT space but are also competing with major players and often receive significant publicity. For example, ARD in Germany ranks fourth in popularity among the three international platforms. However, in Romania, the platform is not as popular and ranks 84th.

It is evident that most of these platforms are performing well in industry rankings. Furthermore, during the three months of study, there was a balance in the distribution of viewership by gender, with both men and women sharing similar percentages, although males had a slight predominance. In terms of age, the majority of the audience on public broadcasters' platforms is young, with fewer older viewers.

However, it is worth noting that in all cases, many platform consumers belong to the 25-35 age range, which is the millennial generation. It appears that these platforms have yet to convince younger generations to consume their content, and therefore, public broadcasters must win the loyalty of Generation Z in the coming years.

Moreover, these platforms seem to realize the need to keep up with technological developments in order to compete with the rest of the market. It is legitimate to say that this shift in approach is necessary, given the high rate of consumption from mobile devices, including smartphones. For instance, in Romania, the percentage of connections from PCs or laptops is surpassed by that of mobile devices. However, in Sweden, the percentage of connections from mobile devices is significantly low, standing at 24.05%. This can also be explained by the fact that, in the demographic data analyzed, Sweden has the oldest audience compared to other countries that consume content from public broadcasters. It should not be forgotten, as mentioned in the background information, that the older population is also the primary audience for public service broadcasters.

Based on this overall analysis, we can conclude that the statistics from the platforms in each of these countries largely confirm Barwise's separation, which was the basis for selecting these countries. For example, in Germany, Sweden, and the Netherlands, the data shows a high degree of platform dynamism, and these countries are also in the first category divided by Barwise, where PSBs remain relatively strong. In the second category, which includes Greece, France, and Italy, we observe a stable trend with moderate popularity. The difference between these categories can also be explained by the example of Sweden and Greece, which have similar population sizes and are similar small markets, but in this case, Sweden performs better than Greece. Finally, in the case of Romania, which also belongs to the third category, where PSBs operate under absolute state control with pathologies, it appears that the popularity of the PSB platform there is not as high as in the other countries analyzed.

5. Conclusions and Future Research

This paper aimed to address the opportunities and challenges that Over-the-Top (OTT) platforms present for public service broadcasters in markets with limited financial resources, and whether the streaming platforms offered by public broadcaster services can serve as a means for public television to survive. Through a cross-country analysis of several European countries, including France, Germany, Greece, Italy, the Netherlands, Romania and Sweden this paper provided a comprehensive perspective on the topic.

Analysis of the SVOD and TVOD markets in the selected European countries revealed that the SVOD industry has been growing steadily, with Netflix being the most popular SVOD service across most countries, followed by Amazon Prime and Disney+. The data also revealed that Germany have the highest number of subscribers relative to their population, while Greece and Romania have a significantly lower percentage of their population subscribed to these services. The fluctuations in revenues in some countries in 2022 may be attributed to various factors, but the overall trend indicates that SVOD services are still gaining popularity among

consumers worldwide.

In addition, data on the number of major streaming platforms and subscribers, revenue trends, and other indicators suggest that the OTT platforms present both challenges and opportunities for public service broadcasters. Public broadcasters in some countries have launched their own OTT platforms, which operate without subscription fees, allowing them to compete with international platforms in a fragmented field. The analysis suggests that public service broadcasters must continue to adapt to the changing media landscape and invest in their streaming services to remain relevant and competitive.

In conclusion, this paper provides valuable insights into the opportunities and challenges that OTT platforms present for public service broadcasters, and it contributes to the academic discourse on this topic. The analysis shows that public broadcasters' OTT platforms are increasingly popular in the majority of countries analyzed, and in many cases, they compete with big international platforms while receiving significant publicity. Most of these platforms perform well in the industry rankings, and the audience is predominantly young with the 25-35 age range being the most prominent. However, these platforms must win the bet of Generation Z in the coming years. The study also indicates that these platforms are keeping up with technological developments to remain competitive. Public broadcasters must continue to innovate and invest in their streaming services to remain competitive in the growing and dynamic streaming industry.

While this study provides valuable insights into the OTT market, there is a limitation to consider, that a part of the dataset for PBS's platforms only includes data from November 2022 to January 2023, which may not be representative of longer-term trends in media consumption. Even if we can gain a picture of the popularity of the services and how they perform, a bigger dataset may offer a wider analysis. For future research, it would be also beneficial to replicate this study with more countries in Europe or all over the world.

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