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Public Service Broadcasting in the Online Television Environment: The Case for PSB VoD Players and the Role of Policy Focusing on the BBC iPlayer

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Focusing on the case of the BBC iPlayer and placing it within broader national and international developments, this article assesses key challenges that public service broadcasting (PSB) faces in the era of online TV. The advent of subscription video-on-demand (SVoD) and associated market transformations have accentuated preexisting funding, political, and market pressures on PSB. Still, the relationship between PSB and SVoD is not purely antagonistic. The evolution of the BBC iPlayer in this wider context shows that online TV does not (as yet) represent a radical new interpretation of PSB because VoD services are closely linked to linear offerings, and there is evidence of the fluidity between online and broadcast spheres, and the continued relevance of television. Against an increasingly commercial, fragmented, closed, and data-driven environment, the article makes the case for supporting PSB VoD services and explores how online TV might help revive PSB through personalization and public service algorithms. Media policy can play an enabling role by addressing data practices, algorithms, and prominence.

Keywords: public service broadcasting (PSB), BBC iPlayer, video-on-demand (VoD), online TV, media policy, personalization, public service algorithms, prominence

Television is experiencing major transformations: internationalization, platformization, datafication, and growing on-demand consumption (cf. Evens & Donders, 2018). Public service broadcasters (PSBs) remain an integral part of this evolving landscape. One key response to the convergence between television and the Internet has been the launch of video-on-demand (VoD) players, whereby users access editorially selected audiovisual content via an Internet browser or application over the public Internet (over-the-top delivery).

The article focuses on PSBs' VoD players, so-called broadcast VoD (BVoD), which are funded by a license fee or advertisements and remain free at the point of access, in contrast to subscription services such as Netflix. Using the British Broadcasting Corporation (BBC) iPlayer as a case, the article assesses the role of such services in the online TV market. The BBC was chosen for three reasons. First, Britain is a highly developed and competitive media market with many public and commercial options available to users. This allows for an interesting discussion of the relevant issues. Second, the BBC often leads in technological

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innovation, and this was certainly the case with iPlayer. The final reason has to do with research methods: accessibility of relevant documents and professionals for research purposes and insider perspectives.

The BBC remains one of the largest PSBs globally, with programs that sell well internationally. Its size and strength make it somewhat unique and hardly representative of PSB, yet broad changes in the television market and the challenges that the BBC faces also impact other PSBs around the world. Equally, the relevance of PSB values in the online TV era and the role of policy should be pertinent to other countries.

The next section examines the advent of Internet TV and powerful global SVoD players, which has intensified preexisting funding, political, and commercial pressures on PSB. The article discusses the evolution of the BBC iPlayer against this broader context and argues that online TV does not (yet) represent a radical new interpretation of PSB. This is because the BVoD services of the PSBs are closely linked to linear offerings. In addition, there is evidence of the fluidity between online and broadcast spheres, and the continued relevance of television to the fulfilment of public service objectives. The last section assesses the opportunities that online TV might offer to the revival of PSB and its reconnection to audiences through personalization and public service algorithms. It notes the enabling role that media policy can play by, for instance, addressing data practices, algorithms, and prominence. The article ends with a summary of the main points.

Major Transformations in the TV Market: The Evolving Convergence Between Television and the Internet

PSB has a long history informing, educating, and entertaining citizens, and in so doing, enabling participation in civic, economic, and political life. Pressures and challenges are nothing new. PSBs have managed to adapt well overall to past technological and market developments such as commercial (transfrontier) multichannel television, with cable and satellite transmission in the 1980s and digital television from the late 1990s onward. More recently, the convergence between television and the Internet has necessitated a rethink of PSB that is still evolving. At stake has been the transition from public service *broadcasting* to public service *media* (Lowe & Bardoel, 2007).

The first two decades of the 2000s have seen the growing availability of broadband connections and Internet-enabled devices (e.g., connected TV, smartphones), spurring new on-demand TV platforms and services. PSB activity has focused on the development of catch-up over-the-top applications. The launch of catch-up players ushered in the era of online TV, "services that facilitate the viewing of editorially selected audiovisual content through Internet-connected devices and infrastructure" (Johnson, 2019, p. 48).

The online TV market has evolved since its early days. VoD consumption overall, subscription and transactional viewing (buying or renting content), is still marginal. However, subscription VoD (SVoD) is growing at an accelerating rate—108.8% per year since 2009, contrasting with 2.9% for traditional pay-TV—even though it accounts for only 5% of the total audiovisual market in Europe (8% in the United States;

European Audiovisual Observatory [EAO], 2020, p. 36).[1] In Britain, SVoD subscriptions (Netflix, Amazon Prime Video, and Sky/Comcast's Now TV) have overtaken subscriptions to pay-TV (Sky, Virgin Media, and BT) by 4.8 million in 2019, reaching 19.1 million (Office of Communications [Ofcom], 2020, p. 13).

The significance of SVoD services in the European market is likely to grow. Besides the rise of SVoD providers such as Netflix and Amazon, which originate in the United States, traditional U.S.-based audiovisual companies have been expanding in other countries recently, either through acquisitions (e.g., the U.S. cable company Comcast buying Sky's European pay-TV interests in November 2018) or with direct-to-consumer SVoD offers (e.g., Disney's Disney+; EAO, 2020).

The online TV market is becoming crowded. In Britain, following the first wave of SVoD with the entry of Netflix and Amazon during 2012–2014, more services have been launched since 2019: Apple TV+; BritBox, an ITV-controlled venture with the BBC, examined later; and Disney+. Table 1 summarizes the key developments of online TV in Britain.

[1] On-demand consumption and SVoD subscriptions have grown exponentially during the COVID-19 crisis. This article uses the latest data available just before the crisis because it is too early to know if these consumption patterns represent the new normal or a temporary deviation.

Table 1. VoD Services in the UK.[a]

Phase I: Launching BVoD services (2006–2008)		
2006	C4 launches 4oD (ads)	
December 25, 2007	BBC launches iPlayer (license fee)	
June 2008	C5 launches All 5 (ads)	
December 2008	ITV launches ITV Player (ads)	
Phase II: The advent of SVoDs (2012–2014)		
January 2012	Netflix (subscriptions)	
July 2012	Sky launches Now TV (subscriptions and advertising)	
February 2014	Amazon Prime Video (subscriptions)	
Phase III: Transforming VoD services from catch-up to destination (2014–2019)		
March 2015	4oD rebranded as All4	Emphasis on live streaming, exclusive content, premieres, and archives. Additional features and functionalities.
September 2015	ITV Player rebranded as ITV Hub	
2016	New BBC iPlayer version	
February 2016	All 5 rebranded as My5	
Early 2017	Launch of ITV Hub+	Subscription ad-free tier, £3.99 p.m.
2017–2018	Launch of BritBox USA & Canada (ITV & BBC Studios)	Internationalization, subscription
2019	Launch of All4+	Subscription ad-free tier, £3.99 p.m.
Phase IV: Increased competition and Direct-to-consumer offers (2019–2020)		
November 2019	Apple TV (SVoD, £4.99 p.m.)	
	BritBox UK (SVoD, £5.99 p.m.)	
2019	BBC iPlayer "more" phase	
March 2020	Disney + (SVoD, £5.99 p.m.)	

Note. p.m. = per month.
[a] The primary method of funding is in parentheses.

Greater choice of TV services has impacted viewing behavior. In Britain, traditional TV continues to account for the majority of viewing overall, and audiences value PSB (Ofcom, 2020). However, consumption of scheduled TV has declined, especially among younger audiences, in what appears to be a permanent structural trend with the potential to undermine the future sustainability of PSB. Younger audiences are more likely to consume content on YouTube, Netflix, and Amazon or spend time gaming. For this demographic, Netflix and YouTube have higher brand awareness than the BBC (see Ofcom, 2018b). We'll revisit this issue later on.

The increasing penetration of SVoD has economic and sociocultural ramifications for PSB. Big players with almost global footprints and diversified activities dominate online TV. Their size, multiple businesses, and multiterritorial footprint (each characteristic reinforcing the other) make these players formidable competitors to PSBs. Against these big international and diversified players stand the PSBs as dwarfs among giants—significantly smaller, national by definition, and pure audiovisual players. In contrast to their competitors, who can expand and grow across different user bases and/or territories, it is very hard for PSBs to grow outside their core national audience base. As Lobato (2019) notes, there is clearly a tension between the international and the national in the online TV era.

The threat that SVoD poses to PSB is real. The big content budgets of global SVoD players create huge inflationary pressure on national production budgets, especially in drama. Budget spending by PSBs, with their national focus, cannot achieve the scale of the big SVoD players, nor can they justify borrowing for content production, as Netflix does, for instance. The escalating inflation in the cost of TV content comes at a time when PSB budgets, which in the UK account for roughly 35% of all program spending (Ofcom, 2018a), are diminishing because of weakened advertising revenues and reductions in the BBC license fee (a formidable 30% decline in real terms only in the last decade since 2010—see Voice of the Listener & Viewer, 2020). Given the importance of PSBs in content originations, a shortfall in PSB funding is likely to translate into a shortfall in national content.

However, the relationship between PSB and SVoD is not simply antagonistic. SVoD players present serious threats (e.g., loss of viewing, inflationary pressure on production costs), but also opportunities. Overall, multicountry SVoD services have relied heavily on U.S. TV content and have tended to offer very little, or no, local TV content (Grece & Jiménez Pumares, 2019). However, more recently, they have started investing in some local content. The BBC was one of the first PSBs to enter into coproductions with Netflix (Raats, 2019). For broadcasters like the BBC, coproductions with SVoDs have allowed the production of expensive content, such as *The Night Manager* (Far, Bier, le Carré, Hiddleston, & Laurie, 2016), which the broadcaster would not have been in a position to fund on its own. Coproductions eased Netflix's entry into the domestic market, adding to acquired UK content and driving subscriptions through original local content. Importantly, however, coproductions soon paved the way to direct commissions by Netflix, which had gained valuable knowledge about the local scene. Netflix has become a powerful actor in domestic commissioning, a developing "alternative to the entertainment output of the PSBs" (Enders Analysis, 2019, p. 10).

Another aspect of the relationship between PSB and SVoD concerns commercial revenue and potential implications for cultural output. PSBs have been encouraged to mitigate declines in public funding through commercial success. Netflix, for example, is the largest foreign buyer for BBC Studios, the commercial arm of the BBC (Enders Analysis, 2019). BBC Studios (and other domestic producers) may prioritize financial gains and decide to water down local cultural characteristics to appeal to international SVoD players, which generally prefer content that travels easily across national borders. A related issue concerns how much local content to keep to the iPlayer, in order to entice audiences and fulfill public service objectives, and how much to license to SVoD platforms and get much needed commercial revenue. The rise of big global SVoD players highlights the intensifying tension between the public service mission of producing domestic, high-quality content and the commercial value of that content.

In sum, the increasing significance of SVoD players, their economic power, and their multiterritorial scale presents serious economic and sociocultural challenges for PSB and accentuates preexisting funding, political, and market pressures. Yet, the relationship between PSB and SVoD is not straightforwardly antagonistic, as explained. Against this context, we now turn to examining the BBC iPlayer.

The Launch of the BBC iPlayer:
Catch-up of Linear TV and the Fragmentation of PSBs VoD Offerings

Some 10 years after their first Internet moves with the development of websites (such as bbc.co.uk, launched in 1994), PSBs in Britain moved to online TV with the introduction of VoD players. The question has been how to extend and strengthen the public service proposition as technology and viewing habits change.

The BBC was at the forefront of online distribution of television when it launched the iPlayer as a seven-day catch-up service for its linear TV channels in 2007, the same year Netflix started online streaming in the United States. Although it was not the first UK broadcaster to launch a VoD player (Channel 4 launched 4oD in 2006), for the BBC director of future media and technology, the BBC was "the first . . . to get it right" (Huggers, 2010, para. 5). It is worth stressing here that, as Flood Page notes (2015), contra prevailing narratives of "disruptive innovation" from private sector insurgents in the digital era, the iPlayer is a powerful example of innovation from an incumbent player—especially one in the public sector, a point that Mazzucato (2013) forcefully makes. Indeed, Netflix officials have publicly praised the iPlayer for creating a market for on-demand services in the UK (Kanter, 2016).

The pioneering service was conceived during the BBC Charter review between 2002 and 2007, a process that typically encompasses a fundamental debate on the need for PSB. Within this context and in response to concerns about the impact of public service provision on (potential) commercial competitors, in addition to the actual service, the Corporation came up with an innovative regulatory toolkit, the so-called public-value test, which was subsequently adopted in most EU member states (Donders & Moe, 2011). The test applies to new or significantly amended existing services. If public value is greater than market impact, the given service can go ahead. The test can be understood as a defensive, albeit strong, response to the growing forces of marketization of the media; this response, for the first time, made it a legal requirement for PSBs not just to plan new services with their public value contribution in mind but also, significantly, to take into account the potential adverse market impact of such plans. It is also worth noting that originally, a principal regulatory consideration was the degree to which new activities assumed by PSBs linked to their traditional broadcast role (Michalis, 2010). These two elements of the regulatory framework at the time—the public value test and the original view that PSBs' online activities had to relate to their broadcast offers—influenced the original iPlayer and made it a service closely resembling linear television.

The iPlayer was announced as an integrated media player in 2004, in the BBC's *Building Public Value* document. At this time, in the run up to Charter renewal, it recast its public remit as public value, a concept borrowed from public management aimed at introducing performance, efficiency, and accountability indicators from the private sector. The iPlayer idea was controversial inside and outside the Corporation. Flood Page (2015) details the inception of the iPlayer and the tensions between the editorial and creative parts of the Corporation, and those with technological responsibilities. The iPlayer also met external opposition from competitors. It was the first planned service to be put through the public value test, and changes were introduced to minimize market impact (e.g., no more than 15% of the content would be available for series-stacking). The service finally launched on Christmas Day 2007. The BBC director of future media and technology summarized the public value of the iPlayer as "being able to offer our audiences more control (a digital VCR that you don't have to set) and the offer of better value for money (by providing more opportunities to access programmes they've missed)" (Huggers, 2010, para. 3).

Within months, in July 2008, the iPlayer underwent its first major evolution to enhance its functionality:

> In came the integration of live TV and radio, together with a list of the most popular programmes and contextual recommendations . . . the first download manager. . . . A list of recently played items . . . a user-experience that aimed to make all this content easy to find. (Huggers, 2010, para. 12)

In sum, this first phase saw the pioneering and successful launch of the iPlayer in 2007, putting the BBC at the forefront of online TV. The iPlayer was closely linked to the BBC's scheduled program. It was an on-demand, seven-day catch-up service with the slogan, "Making the unmissable, unmissable" (Huggers, 2010, para. 8). Between 2006 and 2008, all PSBs launched VoD players, primarily providing catch-up content (see Table 1). The BVoD market in Britain is fragmented, with four distinct PSB VoD players.

First Transformation of the iPlayer: From Catch-up to Destination (2013–2016)

During this second three-year phase (2013–2016), the iPlayer came to define the BBC's digital strategy (Grainge & Johnson, 2018). In 2013, the newly appointed director general, Tony Hall, outlined the centrality of the iPlayer. The iPlayer was to transform "from being catch-up TV—to online TV" and was to become "the front door to many people to the whole BBC" (Hall, 2013, paras. 43, 38). Hall also made clear references to personalization and public service algorithms, even though he did not use these terms: "People would think—not 'the BBC,' but 'my BBC, our BBC' . . . [and] because we'll know who you are we'll suggest more of what you might like. But also more of what you wouldn't have guessed you'd like" (Hall, 2013, para. 46).

The backdrop to this reinvention was the growing take-up of fast broadband connections and the concomitant penetration of a plethora of Internet-enabled devices, such as smartphones, tablets, and connected TVs. The "new" iPlayer was also a response to increasing competition from national players (Sky, the dominant subscription satellite TV player, launched the SVoD service Now TV in 2012) as well as international players Netflix and Amazon Prime. Finally, the revamp was in line with other PSBs' reconceptualization of their VoD players beyond "catch-up" to destinations of viewing around 2015–2016, when they added more content, archives, online exclusives, and live streaming (Ofcom, 2019a, para. 3.6).

Developments came fast during this period. Since 2013, the BBC has started to premier some new content on the iPlayer, aimed mostly at younger audiences, and to nurture new talent. In 2014, content availability increased to 30 days. A year later, the BBC added live viewing, and in 2016, the Corporation made the world-first ground-breaking decision to take BBC Three, targeting 16–34-year-olds, off traditional free-to-air television and make it online only[2] (Ramsey, 2018). With its license fee frozen in 2010 and the

[2] Similarly, in January 2020, again in response to public funding cuts, Denmark's PSB decided to make its two youth-targeting channels online only.

government top-slicing license fee income for other purposes, the BBC was under severe pressure to make annual savings of £250 million by 2016–2017. The BBC believed that by moving this channel online, it could save money and better reach younger audiences thought to watch more content online. Paradoxically, the savings (ca. £50 million) were to come from its content budget, not from changing distribution means. BBC Three has made some award-winning comedy and drama programs—for example, *Fleabag* (Waller-Bridge et al., 2016–2019). To attract younger audiences, the Corporation has made BBC Three content more prominent on the iPlayer, introduced a dedicated BBC Three "rail" on the landing page, added some programs at a scheduled time each week to help drive its target demographic to the iPlayer, and, in spring 2019, started broadcasting BBC Three programs on its linear BBC One channel late in the evening three nights a week (Ofcom, 2019c).

Making BBC Three an online-only offer again demonstrates the centrality of online delivery in the BBC's strategy. And yet, in what underlines the evolving context of the online TV landscape, the fluidity between the broadcast and online worlds, and the elusiveness of younger audiences for PSBs, in 2020, four years after the channel ceased on-air broadcasting, the Corporation was considering restoring BBC Three in linear television while keeping it as an online destination, in an attempt to better appeal to a wider (younger) audience (BBC, 2020). In hindsight, young audiences were not ready to move to online-only consumption. Thurman and Aquilina (2020) have calculated that the channel's audience has collapsed since it moved online, with weekly reach among its target demographic shrinking by more than 70%. For Woods (2018), it was the content budget cuts, rather than the move online, that endangered the channel's role in building relationships with its intended audience. The BBC Three case highlights the impact of preexisting, albeit intensifying, domestic funding, political and market pressures, and the changing viewing habits of younger audiences in particular in the era of online TV. The pursuit of younger audiences, with whom the future of PSB lies, remains.

In this second phase, the centrality of the iPlayer put Internet distribution on par with the more established terrestrial, cable, and satellite forms of TV distribution, with the ambition to render online the main form in the future. Given that the public purposes set out in the 2007 Charter did not refer to specific media or distribution platforms, Moe (2011) argues that the BBC offers an (unique?) example of a media-neutral definition of public service—an attempt to define public service beyond broadcasting. For Moe (2011), such moves may be problematic given that the legitimacy of public service arrangements has historically rested on a specific form, broadcasting, and he stresses the need to reconceptualize PSB and simultaneously assess public service as a media policy tool, an issue we return to later.

Second Transformation of the iPlayer: The "More" Phase—More Personalization and More Content Available for Longer (2017–)

The iPlayer's second transformation started around 2017. The broader context was one of continuing pressures on BBC funding; growing competition, particularly from the international SVoD players, Netflix and Amazon; fragmentation of the market with the launch of direct-to-consumer offers by Apple and Disney between 2019 and 2020; and the BBC coming under full external regulatory scrutiny by Ofcom with the 2017 Charter.

Let us start with developments in the BVoD services, the VoD services of PSBs funded by the license fee or advertisements. In response to changes in the online TV market, PSBs have been seeking to strengthen their VoD offers. For instance, whereas at launch, the BVoDs relied on the business models of the broadcaster, the two main commercial ad-supported PSBs started to diversify their business models, adding a subscription ad-free tier and adopting more data-led approaches to advertising (Ofcom, 2019a). ITV launched ITV Hub+ in 2017, followed two years later by Channel Four's All4+ (see Table 1). Another ITV strategy was internationalization, with the launch of BritBox in 2017 (with BBC Studios, the Corporation's commercial subsidiary), an ad-free SVoD service offering British content in the United States and, one year later, in Canada.

It is worth stressing another aspect of the relationship between BVoD (PSBs) and SVoD. In addition to commercial relationships between the two noted earlier (e.g., content acquisitions and coproductions), here we see PSBs themselves launching *direct* SVoD offerings (ITV+ and All4+) alongside their free-at-the-point-of-access ad-funded VoD players. Examples of PSBs operating both BVoD and SVoD exist elsewhere too. In the United States, PBS operates a basic BVoD platform alongside extensive SVoD services such as Passport, giving access to an extended content library of on-demand content. BritBox is another example of a SVoD proposition from Britain, this time a joint PSB venture. It will be interesting to see whether, after the end of its current Charter in 2028, the BBC too will independently move in this direction and provide both BVoD and SVoD services. The BVoD–SVoD separation should therefore not be overstated, given the emerging trend of the two working alongside each other. But while such moves by PSBs into *direct* add-on SVoD provision may increase PSB funding, they may endanger their public service mission by undermining universality and making access conditional on payment at the point of access.

In terms of content, all BVoDs offer more British content compared with SVoDs, though there are some variations. Ampere (2019) revealed that C4's All4 content library resembled more that of a typical SVoD player with a large number of box sets; ITV Hub was "the 'purest' catch-up player" (p. 9) with over 85% of the content available for up to one month, while the BBC's iPlayer was primarily "catch-up-focused," with only about 20% of the catalog being box sets and content available for more than six months.

Beyond the BVoDs of the PSBs, the two main international SVoD players, Netflix and Amazon, have been making further inroads into the market to the point where more households now subscribe to their services than to pay-TV services from Sky, Virgin Media, and BT (Ofcom, 2019a).

Responding to these evolving dynamics in the online TV market, the BBC changed the terms of the license fee in 2016, making it a legal requirement to have a license to watch the iPlayer,[3] and adopted a two-pronged plan for the service: more personalization and more content available for longer. The BBC had expressed an interest in personalization as early as 2004 (Ferne, 2004), but it was during this period that it gained centrality. In 2017, the BBC introduced the sign-in facility to the iPlayer, 10 years after its launch, to deliver a "better" "personalized" service that is "more convenient, more relevant, wherever you use it, on

[3] Before 2016, one could legally watch catch-up, but not live, content, which meant that some could avoid paying. Even though users are now asked to register, at this stage, this is used for data collection and personalization, not for policing nonpayment of the license fee.

whatever device" (British Broadcasting Corporation [BBC], n.d.). It explains that the sign-in facility helps the BBC check that it offers something for everyone, hence assisting it in fulfilling its public service remit. In the future, the facility might allow the BBC to monitor whether users are legally entitled to view BBC services.

Personalization is linked to algorithms. In 2017, the notion alluded to by the director general Tony Hall back in 2013, public service algorithm, was publicly used for the first time. The BBC's director of radio and education, James Purnell, explained that "algorithms can be positive" if they aim not to simply entertain, what most algorithms on commercial platforms do, but also inform and educate (Purnell, 2019). He added that a public service algorithm is designed to "pop your bubble," to surprise you, to bring you new information and different points of view (Purnell, 2019).

For the BBC, therefore, personalization based on public service algorithms can assist the better fulfillment of the traditional PSB aims to inform, educate, and entertain. But PSBs need to walk a fine line between ratings and popularity (what audiences want to watch), and paternalism (what audiences should be watching). Tension between ratings and paternalism is not new (e.g., Tracey, 1998). It is rooted deep in the history of PSB, but becomes more challenging in the age of personalization (cf. Sørensen & Hutchinson, 2017).

The second aspect of the BBC's response to the changing dynamics of the online TV market has been once again the "reinvention" of the iPlayer, set as a strategic priority in its 2018–2019 Annual Plan. The Corporation noted the "unique advantages" of the iPlayer, referring to key features that to an extent differentiate all BVoD players from the international SVoD services:

> iPlayer remains the best place to find new British content. We have the broadest and most distinctive genre mix, with unique depth in factual programmes, news and current affairs, and British comedy and drama. We have a world-leading offer for children and are a trusted family brand. (BBC, 2018, p. 6)

But it went on to warn that "despite its reputation for quality and the strength of its brand, BBC iPlayer is not keeping up with audience expectations" who felt "frustrated" and "confused" by the limited availability of programs and the limited range of content, and concluded that the iPlayer "[was] falling behind" (BBC, 2019a, p. 7). The BBC pointed out that whereas between 2014 and 2018, the combined market share of Netflix and Amazon had grown from 36% to 54%, the iPlayer's share had more than halved, to below 20% (BBC, 2019b, p. 7).

The BBC proposed three main changes: have content for longer by increasing the iPlayer window for all content to at least 12 months, with all BBC commissioned children's programs available for five years; have complete series box sets for selected titles; and offer more archive content.

In 2018, the BBC Board approved these plans on the basis that they were not material and would not require a formal public value test. But Ofcom disagreed and opined that the plans constituted a major change to the service and thus were material, and directed the BBC to carry out a public interest test while Ofcom launched a consultation to examine potential market impact.

Ofcom's consultation revealed concerns about the actual plans and about the process that the BBC had followed. Concerns about the process focused on the way the BBC developed its proposals and assessed their public value without engaging with stakeholders (Ofcom, 2019c). Regarding concerns about the actual plans, Ofcom acknowledged the risk that the substantial additional content that would be available on the iPlayer free at the point of access, coupled with the potential increase in viewing, could adversely affect its competitors and potential new entrants and, in turn, result in a less varied VoD market and disadvantage audiences. But it concluded that overall, the evolution of the service was in line with audiences' expectations and broader market developments, and could generate significant public value; hence, Ofcom approved the plans, but with conditions (Ofcom, 2019b). These aim to ensure that the BBC delivers the identified public value and to mitigate risks to market competition. The conditions are primarily procedural and include regular reviews and monitoring of the ways in which the revamped iPlayer contributes to the fulfilment of the BBC public service mission. These, for the first time specific, iPlayer measures can increase transparency and accountability by clarifying and thereby strengthening the delivery of PSB purposes by online distribution.

A final response in this period has been the BritBox UK joint venture led by ITV with participation from the BBC and, subsequently, C4 and C5. Launched in 2019, it offers ad-free access to content from its partners for £5.99 per month. The PSBs seem to follow the "collaborate to compete" call by the ex-chief executive of Ofcom (White, 2018). Similar responses are taking place in other parts of Europe (such as Salto in France, a joint venture among TF1, M6, and the PSB group France Télévisions) but, with many being public–private partnerships, they raise questions about the safeguarding of PSB objectives.

PSB in the Online TV Era and the Role of Policy

Against a progressively commercial, fragmented, closed, and data-driven environment, the article makes the case for the significance of PSB VoD services. It explores how online TV might help revive PSB through personalization and public service algorithms.

First, PSBs' VoD players are a direct-to-consumer service. This direct relationship between PSBs and audiences remains crucial for the legitimacy of PSB and facilitates the fulfilment of key public service objectives. The absence or marginalization of PSB players is likely to increase dependency on the handful of transnational technology and media giants in ways that challenge, and even risk undermining, PSB as one core media policy intervention and associated public policy benefits (Michalis, 2018).

In Britain, with the exception of the PSBs, all other market players offer subscription VoD services—hence, the terms of accessing public service content change fundamentally from free access to paying at the point of access. Conditionality of access on payment risks aggravating social inequalities and exclusion. Moreover, the market on its own will undersupply merit goods, content that advances "socially desirable goals other than efficiency, e.g., preserving democracy and social cohesion" (Doyle, 2013, p. 92). Finally, when PSB content is consumed via third-party platforms, PSBs cannot control the viewing context and experience because they have no responsibility for the interface (the landing page and navigation categories) and editorial curation. By extension, they have no means to cultivate serendipitous discovery of other public service content. In the absence of PSB VoDs, "circulatory power" (Hesmondhalgh & Lotz, 2020) rests with commercial third parties whose business models and strategies work to advance their own narrow commercial interests, not the public interest for an informed and engaged society. This "profound dispute about private gain versus public benefit" characterizes the "platform society" (van Dijck, Poell, & de Waal, 2018, p. 2) more generally.

VoD players have for the first time allowed PSBs to learn more about their audiences. Such data are critical for the online TV market. Commercial SVoD players are reluctant to share audience data, and certainly not the granular detail that they have access to. Audience data, however, are important for broadcasters, producers, and future content investment decisions.

The online TV era promises significant benefits for viewers and strong user agency. Gone are the days when viewers were constrained by terrestrial broadcasters' scheduling decisions. Viewers, now empowered and in control of their viewing, enjoy a wide choice over how, when, and what to watch—or so it would appear. Two main issues turn the proposition of abundance and user control on its head.

To start with, the abundance of content is imagined rather than real. We agree with Johnson (2019), who argues that "online tv interfaces create an illusion of abundance" (pp. 113–114); they show the viewer only a selection of content available along predefined categories, which, moreover, has to fit in the finite screen space, and that selection is prioritized at the expense of user search functions. The limited scope for interactivity and user control implies that broadcast thinking remains dominant, what Bennett and Strange (2014) call "linear legacies." This applies to all VoD services, PSB and commercial alike. VoD services, like traditional TV channels, act as gatekeepers, offering editorially selected content and controlling the visual layout of how that appears on screen—elements that shape viewers' preferences and experience.

Personalization tends to rely on algorithms making recommendations based on past user data (implicit personalization) rather than on active involvement by users when they themselves tailor their online experience. On the one hand, algorithms and personalization may help users navigate the complex digital environment, but on the other hand, they might restrict choice of and exposure to diverse content (cf. European Commission, 2013), with potentially serious implications for democracy and social cohesion. It is for this reason that Irion and Helberger (2017) argue that personalization, monitoring, tracking, and targeted advertisements need to form an integral part of media policy and not be treated as solely data protection issues. Indeed, personalization can be used to promote exposure to diversity, "a means of bringing people into contact with content and information which they otherwise might not have looked for, or may not even have been aware that it existed" (Irion & Helberger, 2017, p. 179). This is precisely the notion of public service algorithms, and it differs from algorithms that promote personalization to satisfy the surveillance business models of commercial services (see also Bennett, 2017; Zuboff, 2018). Kelly (2019) goes a step further and proposes, in addition, public service interfaces. These would aim at encouraging, even enforcing, consumption of diverse content by limiting viewer control further. Based on research by Netflix which concludes that viewers "will choose the path of least resistance [fewer clicks possible]" when choosing what to watch, concentrating on the first couple of rows on the interface (Garu, 2018, p. 3), Kelly (2019) explains that, for example, due prominence of public service content on the landing page of the VoD player might help in this regard (p. 4).

Indeed, with the shift of viewing online, access to content often moves away from electronic program guides, where in the UK PSBs are guaranteed prominence, to more complex user interfaces with advanced search and recommendation functions, making it harder to find or encounter PSB content. This may have serious consequences because it may "reduce the benefits that PSB delivers to individuals and society, as well as the sustainability of PSB" (Ofcom, 2019d, para. 5.36).

The PSB purposes and associated societal benefits rest with PSB players and the prominence of PSB content on significantly important platforms. This can be achieved through, for instance, the prominence of PSB players (e.g., all grouped in a single PSB portal—"tile"—on the homepage of connected TV sets) or of individual PSB programs, disaggregated PSB content, presented via recommendations and search results. It is for this reason that Ofcom is seeking new powers to allow it to adopt measures for the prominence of PSB content in online and on-demand environments (Ofcom, 2019e).

Caution is required. Any regulatory intervention needs to be proportionate and not totally inhibit personalization that may benefit audiences. To start with, greater transparency is needed. For instance, when personalization and content prominence are based on commercial agreements between platform and content providers, this should be indicated as such, like it is for Web search and social media feeds. In addition, VoD services need to provide (more) details about the workings of their algorithms in simple language to inform their audiences. Increased transparency about data practices can strengthen accountability to the public, especially important for PSBs (cf. Just, Büchi, & Latzer, 2017; Sørensen & Hutchinson, 2018; van Es, 2017). But online TV also presents an opportunity for accountability to be bottom-up and not just top-down—from audiences to PSBs, not just from PSBs to audiences—so that responsibility and accountability become cooperative and distributed (Helberger, Pierson, & Poell, 2017).

The extent to which PSBs' data practices can respect citizens' rights is circumscribed by the fact that PSBs are not islands, but parts of a broader ecology premised on strong commercial principles. The tension between public service goals and the increasingly commercial framework becomes more complicated in the age of online TV. For instance, expanding reach, when PSBs follow their audiences and offer their content on whatever platforms and devices these prefer, entails the further entanglement of PSB in the agendas of a few transnational technological giants and the structures of informational capitalism (Martin, 2016). Even within the narrower parameters of PSB VoD players, as in the case of the BBC, which accepts no advertisements, it is impossible to escape from the broader commercial context (Sørensen & Van den Bulck, 2020). This raises questions around privacy and, more important, challenges the notion of PSB as a trusted provider of media content (Sørensen & Van den Bulck, 2020). Trust is a key, though complex, concept in media, and PSB in particular. Streedman, Kennedy, and Jones (2020) report that most of their respondents distrusted the broader commercial data ecosystem within which PSB data practices take place by default, and they call for changes to the macro level of the data ecosystem, including better regulation.

Let us now turn to the second point, which explains why the promise of content abundance and user sovereignty in the age of online TV is illusory. It is not just that VoD players discourage interactivity and user control; it is also the case that choice is additionally constrained by artificial scarcity, limited material resources, and associated literacies. Mansell (2012) rightly notes that promises of abundance tend to overlook "the paradox of information scarcity." Even if more audiovisual content is being produced as a result of more players in the VoD market, it is still the case that companies' profits "depend on their ability to maintain some element of control over digital information, that is, its scarcity" (Mansell, 2012, p. 15).

Scarcity, if not real, has to be manufactured by the market players who stand to benefit commercially from it, which is precisely the aim of recent direct-to-consumer strategies. It is common for VoD players to offer "unique" titles, content that is—at least for a defined period of time, preferably at launch—exclusive to a platform, and hence artificially scarce. Although such exclusiveness (scarcity) might make commercial sense, it works at the expense of viewers, who are pushed to use and pay (via subscriptions and their data) for as many platforms as possible to have access to more content. Access to online TV, then, is conditioned on material resources (e.g., affordability of devices, broadband Internet, and subscription to the services) and associated literacies (e.g., knowing how to use the various proprietary online TV services). Borrowing from Garnham's application of Amartya Sen's "capabilities" approach to communications, in evaluating online TV services, "we need to take into account both the range of communication options made available—and these must be real options . . . and the ability of people actually to make use of these options" (Garnham, 1999, p. 121). Indeed, a recent study in the UK found that, even after accounting for Internet access, the propensity to consume audiovisual content digitally varies strongly with demographic and social class factors (Leung, Kretschemer, & Meletti, 2020).

Conclusion

The advent of online TV and SVoD coincided with preexisting and escalating funding, political, and commercial pressures for PSB and served to accentuate them. Online TV and associated market transformations—which include increased competition, powerful global SVoD players, changing viewing habits with personalized consumption, fragmentation of audiences, and the younger demographic in particular (the future payers of the license fee, if applicable) consuming substantially less PSB—are reshaping broadcasting. These changes, felt most keenly in their impacts on younger audiences, endanger the sustainability of PSB.

However, this article argued that it would be wrong to see the relationship between PSB and SVoD as purely antagonistic, and mapped some of the complexities and interdependencies of their relationship, as in the case of coproductions. A recent development in this relationship is the move into direct SVoD provision by PSBs themselves (such as ITV+, All4+, and the ITV-led joint venture BritBox), in an attempt to mitigate declines in their traditional sources of finance through commercial revenue.

Online TV does not (as yet) represent a radical new interpretation of PSB. There has been plenty of discussion about the transfer from PSB to PSM in academic and industry circles, but this seems more like a political argument about the right of PSBs to move beyond the traditional form of broadcasting, their historical area of activity. The VoD players, although central to PSB digital strategies, draw closely on the broadcasters' TV products, practices, and thinking. The evolution of the BBC iPlayer showed the stubborn link between VoD services and linear offerings. Note how the BBC has tried to create shared moments online by scheduling a program at the same time each week, while recent discussions about restoring BBC Three as an on-air TV channel is another example that illustrates the continued relevance of television to the fulfilment of public service goals as well as the fluidity between the online and broadcast spheres.[4]

[4] The fluidity between the online and broadcast spheres is also illustrated by Netflix's decision in November 2020 to, for the first time, trial a linear channel in France.

PSB VoD players are a core element of the evolving online TV landscape. PSBs are competing with national and a handful of mighty international commercial players not just for market shares but, more significantly, for the future media landscape and the principles this will be premised on. Online TV shares strong continuities with previous eras of technological innovation (cable and satellite): the (false) promises of content abundance and user sovereignty set against increased commercialization and market concentration. Will the online TV market be solely commercial, or can PSBs transfer, preferably enhance, their public service purposes online?

In general, to the extent that PSBs have one comprehensive strategy for online TV, this has been articulated as a vision with references to traditional PSB principles, like the notion that public service algorithms should inform, educate, and entertain. However, as examined in the last part of this article, elements in the evolving online TV landscape might contribute to the evolution and sustainability of PSB. An emerging area that deserves future research concerns content personalization by PSBs on the basis of public service algorithms alongside their traditional strong editorial and curatory role. We saw that PSBs can use personalization practices in novel, transparent, and starkly different ways from commercial players—ways that can promote the discovery of public service content. At the same time, such practices can help PSBs assess and improve the fulfilment of their public service remit, contributing to a reconnection with audiences, allowing them to give greater value to more users. Of course, tensions and strong ongoing political, financial, and commercial pressures exist. This broader hostile context circumscribes PSBs' room for maneuver. PSBs need to openly explain the dilemmas they face and the trade-offs they make in navigating these challenges, moves that will in turn make them more transparent and, importantly, enhance their accountability to audiences.

Policy might assist PSBs in articulating how their online mission relates to public service objectives. Policy might enable such developments by addressing data collection, algorithms, and prominence as core media policy interventions. The conditions attached to the latest revision of the iPlayer in 2019 are a pertinent example. Ofcom places the onus on the BBC to monitor and explain how its public purposes relate, for the first time specifically, to the iPlayer. Such procedural, monitoring, and auditing mechanisms can increase transparency, strengthen accountability, and ultimately enhance legitimacy. However, they may also, at the same time, open the BBC activities to fresh scrutiny from political and commercial forces. However, to the extent that such mechanisms have the potential to push PSBs to reflect on their online TV activities, reconnect with their audiences (shared accountability), and consider whether these principles or activities need refining and updating, they will contribute substantially to the sustainability of PSB. Online TV has not yet revolutionized PSB, but can PSB revolutionize itself and online TV in the process?

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