

Public Service Media and the Internet: Two Decades in Review

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Since the beginning of the 21st century, public service broadcasters (PSBs) have been confronted with the rise of the Internet as a mainstream medium of communication. This has sparked a debate on the transition from PSB to public service media (PSM). In this article, we present a review of the academic literature on PSM and the Internet produced from 2000 to 2021. We focus on contributions interrogating the implications of PSM's online activities for the delivery of public service values. We identify seven streams of research and show how, as a whole, this body of work has highlighted the main tensions and dilemmas that PSM organizations have faced, given their special nature, when engaging with the technological affordances of the Internet. Researchers have also shown how the delivery of public value can be enhanced via PSM's online services. Arguing for the continued relevance of PSM, they have reasserted traditional values while also identifying new roles that PSM are called to play in the context of today's digital communications.

Keywords: public service broadcasting, public service media, Internet, literature review

The proliferation of broadcasting in the 20th century brought about different institutional configurations, including publicly funded but editorially independent public service broadcasters (PSBs). The variations of this broadcasting model, generally characterized by values such as universality of access, diversity of content, quality programming, and accountability (see, e.g., European Broadcasting Union, 2012), can be found in several dozen democratic nations, especially in Western Europe (e.g., Lowe & Martin, 2014). Since the beginning of the 21st century, PSBs have been confronted with the rise of the Internet as a mainstream medium of communication—a second and arguably far more powerful

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driver of change following the arrival of cable, satellite, and digital broadcasting in the 1980s and 1990s. In asking where the Internet fits “into the traditional public service broadcasting model of universally available information, education and entertainment,” Jill Hills and Maria Michalis (2000), in an early survey of PSBs’ online activities published in 2000, framed the terms of the debate that scholars would engage in over the ensuing 20 years as “public service broadcasting beyond broadcasting” (p. 477). In the ensuing 20 years, academic research has examined this transition from PSB to public service media (PSM).² The aim of this article is to take stock of the insights produced by this body of literature, focusing on those contributions concerned with the relationship between the online activities of PSM organizations and their public service mission.

Unlike other traditional media organizations primarily driven by commercial considerations, PSM must ensure that their online activities align with their core public service values. With digitalization, PSBs are facing an uncertain future everywhere, including mounting pressures from political actors and commercial competitors alike who claim that the Internet now offers access and diversity and that PSM have an unfair advantage within shrinking national media markets (e.g., Tambini, 2015). Fundamental issues arise, then, about whether and how PSM organizations can transfer various public service values online.

This article presents a review of scholarly work published since 2000 addressing these issues, both empirically and normatively, highlighting major contributions and insights. Although a few scholars have attempted to map the field of PSM studies (Lestón-Huerta, Goyanes, & Mazza, 2021; Moe & Syvertsen, 2009), the literature review presented here is different in that its analytical focus is on work primarily concerned with the online activities of PSM and with the implications of the transition from PSB to PSM for the delivery of public service values.

Methods

To take stock of the field, we reviewed studies published between 2000 and 2021, a 22-year period during which the Internet became an area of growing strategic priority for PSM organizations. We included only full-length, English-language articles published in peer-reviewed journals. An exception was made for the chapters in the biannual RIPE readers, whose timespan at the time of writing (2003–2020) closely matches with the period covered in this review.³ Now in their ninth edition, the RIPE series, in the words of the founder of RIPE, constitute “the most comprehensive library of

² Historically, contemporary PSM institutions began as PSBs, continue to broadcast television and/or radio, and have been referred to as PSBs. In scholarship, “PSM” began to be used interchangeably with “PSB” at the turn of the century, and “PSM” has been used more often than “PSB” since 2017 (based on the results of a keyword query in communications journals conducted on Web of Science on November 29, 2023). The term “PSM” will be used here because this review considers issues that will continue to be relevant in the future, when presumably “PSM” will continue to grow more prevalent compared with “PSB.”

³ The acronym RIPE stands for Re-Visionary Interpretations of the Public Enterprise in media. The first RIPE reader was published in 2003 (Lowe & Hujanen, 2003). The most recent one, at the time of writing, appeared in 2020 (Savage, Medina, & Lowe, 2020).

contemporary research on the digital transformation of PSB in the complex transition to become PSM" (Lowe, 2020, p. 248).

In selecting relevant literature, we followed a qualitative, multistep sampling process (Fawzi et al., 2021), consisting of the following steps: First, we drew an initial list of the most significant English-language scholarly works known to us published in scholarly journals since 2000. Second, we searched for additional literature through scholarly databases (Web of Science and Google Scholar). We used two sets of keywords to be found in either the title or abstract relating respectively to PSB/PSM and Internet/digitalization. Third, to rule out the possibility of omitting relevant work, we used a backward snowball method to identify additional literature from the reference list of every new article added to the corpus.

This initial screening returned around 200 journal articles plus all the 137 chapters published in the RIPE collections. All the publications thus retrieved were subjected to content analysis using a standardized template encompassing various categories, including "main topic," "technology," "research questions," "genre," "public service value(s) at stake," and "findings/argument." The literature review presented here is a focused review (Strömbäck et al., 2020, p. 152): After systematically retrieving relevant literature based on the predetermined inclusion criteria described earlier, we focused only on those publications that, upon closer analysis, were found to address the core research questions of interest: What is the relationship between the Internet (and their associated practices) and PSM values? Which values become less or more prominent, and have new values emerged? Ultimately, what are the normative foundations for a distinctive role for PSM in the Internet age? Publications that were excluded from the corpus in this second step tended to fall into one of the following categories: studies of government policy on PSM, as opposed to PSM strategy and praxis (e.g., Storsul & Syvertsen, 2007); empirical studies on PSM audience/users (e.g., Sehl, 2020); articles focusing on non-Internet-related technologies such as digital/interactive television (e.g., Bennett, 2006); studies generally about innovation management at PSM organizations (e.g., Fernández-Quijada, Suárez Candel, & Arboledas, 2015); and case studies of PSM organizations approached from the lens of other fields such as journalism studies (e.g., Wallace, 2013). The exclusions made at this stage resulted in a smaller corpus ($n = 111$) comprising 84 journal articles and 27 RIPE chapters. The thematic mapping of the field presented here is based upon this smaller corpus. Figure 1 offers a diagrammatic depiction of the three stages in the selection and analysis of this corpus of literature (see <https://www.dropbox.com/s/wsdqrqskzm1zyedm/Public%20Service%20Media%20and%20the%20Internet%20-%20Appendix%201.docx?dl=0> for full bibliographic details of our corpus).

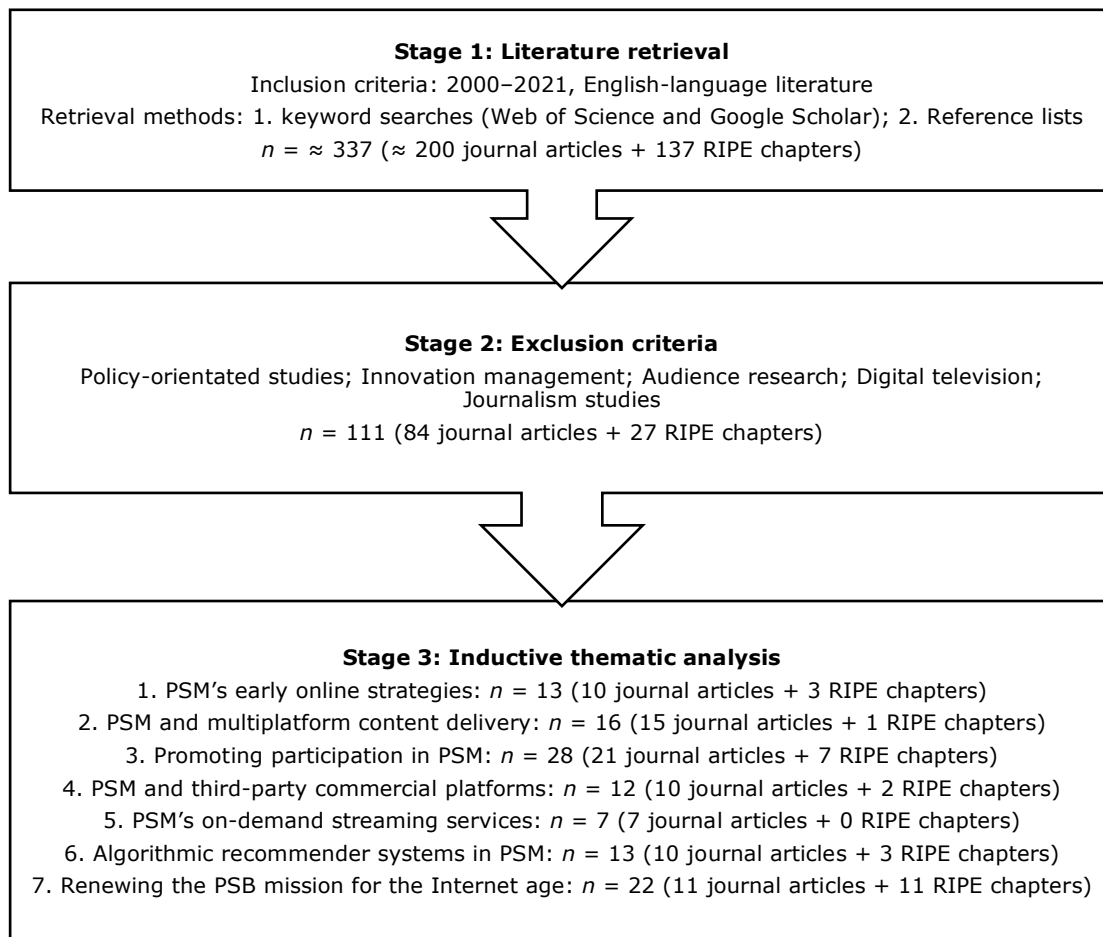


Figure 1. Literature search strategy and inductive thematic analysis.

Mapping the Field

A bird's-eye view of this body of literature revealed three main features. First is the high proportion of contributions that are normative, as opposed to empirical in character: Around 20% of our corpus was classified as being primarily normative. This is perhaps unsurprising given that PSB is a normative concept as much as a descriptive one; it is about a set of principles as much as a set of real-world institutions. This suggests that scholars view the ideal of PSM as more important than the set of real-world institutions and praxis that make it up, which justifies our approach to consider how research has considered PSM's online activities in relation to public service values. Our observation about the normativity of PSM research is in keeping with a recent meta-analysis of communication studies, which found media policy (under which PSM research falls) to be the most highly normative subfield along with journalism studies (Geise et al., 2022, p. 541).

The second feature is that empirical studies often concentrate on a limited set of countries/PSM organizations, primarily the United Kingdom/BBC, followed by the Nordic countries, Australia, and continental Europe. Fewer studies cover other regions, including countries with a robust PSM tradition like Southern European countries, Japan, and Canada, or countries with a less prominent PSB system, notably the United States. In relation at least to the issues of concern here, there is hardly any literature examining PSM in the Global South.

The third and final feature is the prevalence of single or small-*n* comparative case studies as research design, and qualitative interviews and document analysis as methods of data collection. A few studies also employ quantitative or qualitative content analysis. These include innovative techniques for analyzing new “texts” such as the interfaces and design features of PSM streaming services (Kelly, 2021). The prevalence of either organizational case studies or case studies of specific PSM services/content is justifiable since the objects of study are complex organizations. Questions revolving around the relationship between PSM practice and values are arguably best explored through in-depth, qualitative approaches. In addition, it is also worth noting the substantial growth in the volume of pertinent literature over time. More than 70% of the work within the analyzed corpus was published between 2011 and 2022, in the second half of the 22-year period covered in our study, coinciding with the rise of the Internet as a predominant mode of communication.

Moving beyond a general characterization of the field, the following thematic strands emerged from an inductive analysis of our corpus using the standardized template described in the Methods section:

1. PSBs' initial Internet forays and their legitimacy
2. PSM's multiplatform strategies
3. Utilization of the Internet by PSM organizations to promote user participation
4. Relationships between PSM and third-party digital platforms
5. Analysis of PSM's on-demand streaming services
6. Approaches to algorithmic-driven personalization
7. Normative perspectives on PSM online

In what follows, we offer a discussion of each of these strands of literature in turn. Our mapping of the field is primarily thematic, but to some extent, it is also chronological because some themes are associated with a particular period of time—either the first decade of the 21st century (Theme 1) or more recent years (Themes 4, 5, and 6). It should also be noted that there is some overlapping between themes and that some of the studies in our corpus could fit into more than one.

Beyond Broadcasting: PSM's Early Online Strategies

Work in this first strand of literature, mostly appearing in the first decade of the 21st century, examined PSM's early online strategies. This work often adopted a comparative approach and considered the impact of national regulatory frameworks on PSM's fledgling Internet activities.

In one of the earliest contributions, Jill Hills and Maria Michalis (2000) found variety in the range of content and interactivity features offered on the then recently launched websites of PSM organizations in the United Kingdom, United States, France, and Germany. The authors noted how PSM's new Internet activities, initially a defensive move, had resulted in PSM facing a growing number of competitors, from commercial broadcasters to newspapers, Internet portal providers and new content providers, and they concluded the Internet was "set to increase the commercial challenge to the legitimacy of public service broadcasting" (p. 477). Hallvard Moe (2008a) argued that national regulatory frameworks were exerting a strong impact on PSM's early online strategies. Moe (2008a) contrasted the case of ARD in Germany, whose online ambitions were constrained by a restrictive regulatory regime, with the cases of NRK in Norway and the BBC in the United Kingdom—both organizations already involved in a wide, and expanding range of online services as a consequence of a more enabling policy framework. Examining the "legitimation strategies" deployed by PSBs in Norway and Sweden in the context of digitalization, Håkon Larsen (2010) contrasted the rhetoric deployed by SVT in Sweden, still largely framed around traditional arguments rooted in serving citizenship and democracy, with the more technology-driven and forward-looking arguments of NRK emphasizing its transition from a PSB to a PSM institution and positioning itself "a content deliverer in a digital media environment" (p. 280).

Some authors in this stream of research argued that the values of noncommercialism, open access and universality risked being compromised in the transition from PSB to PSM. Moe (2007), for instance, observed how a number of PSM entities were pursuing commercial revenue and "enclosure" strategies "to support otherwise insufficient funding derived from licence fees" (p. 55). Similarly, Mary Debrett (2009) identified the temptation of pursuing new commercial revenue streams as one of the problems associated with PSM "riding the wave" of the Internet to reach fragmenting audiences.

In the context of mounting opposition from commercial rivals to PSM online expansion and a policy approach at EU-level driven by concerns over PSM's market distortion, scholars also argued for PSM's legitimate interest in developing an Internet presence. Christian Berg, Greg Lowe, and Anker Brink Lund (2014) considered the market failure argument, contending that it is "mainly based on ensuring ample provision of meritorious public goods, and this enjoys legitimacy irrespective of the platform for delivery" (p. 118). Placing the analytical focus on PSM's "online marginal activities" (an online discussion forum, a web-based game, and a virtual game), Moe (2008b) put forward the case for an expansive and multipurpose public service remit in online communication.

Beyond Mono-Media Textualities: PSM and Multiplatform Content Delivery

Work in this thematic strand, mostly published in the first half of the 2010s, typically offers case-study analyses of PSM's multiplatform projects, paying attention to both texts and strategy. Few exceptions aside, the regional focus is on the heartlands of PSM: the United Kingdom (e.g., Bennett & Strange, 2008; Sørensen, 2013), Australia (e.g., Martin, 2016; Murray, 2009), and the Nordic countries (e.g., Andersen & Sundet, 2019; Hokka, 2019). The multiplatform projects analyzed span the full range of PSM genres: from factual programming such as documentaries (Sørensen, 2013) and live events (Bennett, 2008) to drama and entertainment (e.g., Klein-Shagrir & Keinonen, 2014); and from news (e.g., Hokka, 2019) to children's and youth programming (e.g., Andersen & Sundet, 2019).

Multiplatform is understood in this context as "the shift 'beyond broadcast' textualities" (Bennett & Strange, 2008, p. 107), or as put by Simone Murray (2009), the "decoupling of [PSB] content from any particular delivery platform" (p. 203). Cross-media production and 360-degree commissioning are among the alternative terms employed in the literature to refer to the same set of practices.

The majority of authors see the multiplatform initiatives of PSM as instrumental in fulfilling the PSM universalistic mission in the context of fragmenting audiences while also acknowledging some potential pitfalls. For instance, James Bennett and Niki Strange (2008) argued that the multiplatform projects run by the BBC at the time of their research demonstrated "attempts to negotiate the transition . . . to postbroadcast [public service] 'content provider,' being ubiquitously present through an aggregated portfolio of niche provisions" (p. 114). Analyzing the process leading to the development of a "concept bible" for online news production and distribution at the Finnish PSM YLE, Jenni Hokka (2019) coined the term "nuanced universality" to refer to "a new kind of approach to audiences that utilizes audience segmentation techniques but also remains true to PSM principles" (p. 75), by catering to the informational needs of different groups.

Offering a critical perspective, Fiona Martin (2016) questioned the ideology driving the "digital ubiquity" mobile media strategy of Australian PSM organizations ABC and SBS. Far from being isomorphic with PSBs' founding principle of universality, "a concept rooted in fostering social equity and national cohesion," the author contended that digital ubiquity "assumes rather than guarantees opportunity" (Martin, 2016, p. 344). Karen Donders (2019) reached the conclusion that although multiplatform content was now widespread among PSM, aside from a few exceptions (BBC), strategic priority was still given to the linear broadcasting of radio and television programs rather than digital-only content.

Beyond One-Way Communication: Promoting Participation in PSM

Interactivity is the defining attribute of the Internet, so it is perhaps unsurprising that the largest group of studies in our corpus addresses the question of the extent to which PSM organizations have embraced the opportunities that the Internet offers to promote user participation. There is some overlapping here with the previous theme, in that such opportunities are realized by PSM organizations through multiplatform content delivery. However, work in this strand is primarily concerned with how, as part of a multiplatform strategy, PSM organizations "are incorporating audience participation as an important aspect of their mandated activities" (Hutchinson, 2014, p. 225). Tellingly, more than half of the publications categorized under this theme have the terms "interactivity," "participation," or "participatory" in their title. This body of literature, most of which published in the 2010s, looks at different forms of participation: from co-creation of fictional content (Hutchinson, 2015; Stollfuß, 2018) to online deliberation (Debrett, 2014; Ramsey, 2013), and from audience involvement in news gathering (Vanhaeght, 2019) to PSM's use of social media to foster dialogue with audiences (Bonini & Sellas, 2014).

Some of the earliest contributions call for "connect" (Martin, 2002) or "participate" (Enli, 2008) to be added as a core PSM function to the Reithian triad to inform, educate, and entertain. For authors like Fiona Martin and Gunn Enli, participation is an end in itself, a core value of PSM rooted in their historic remit to empower citizenship. For others, it is a means to achieve other traditional public service goals such as

social inclusion and diversity (Aslama, 2010; Vanhaeght & Donders, 2016). In an ethnographic study at ABC (Australia), Jonathan Hutchinson (2015) considered ABC's participatory projects from an innovation perspective, arguing that such experimentations demonstrated ABC's role as "cultural and participatory media innovator" (p. 94).

PSM's efforts to promote user participation are considered to have the potential to strengthen the public service mission. However, this stream of research also typically highlights the challenges and limitations of PSM's participatory practices. Tracing the development of participation as a "strategy for institutional legitimacy and platform expansion," Enli (2008) questioned what she saw as the main motive behind the participatory formats she studied: to retain audiences on PSM platforms, instead of promoting forms of democratic participation (p. 105). Developing this line of critique, Anne-Sophie Vanhaeght (2019) called for a shift from a (still prevalent) "media-centric" approach to audience participation to one that is "society-centric."

A common critique in analyses of PSM's co-creation projects is that they feature a top-down culture, resulting in "the expert knowledge of the media professionals ultimately [trumping] the insights, expertise, and skills" of ordinary members of the public (Vanhaeght & Donders, 2016, p. 303). Analyzing BBC policy on online engagement, Phil Ramsey (2013) concluded that services such as "Have Your Say" were "limited in their efficacy with regard to the development of deliberative democracy" and there remained significant obstacles to the full realization of civic commons online (p. 876). Studying how PSM organizations in the United Kingdom and United States were approaching the idea of participating in public, Lizzie Jackson (2010), found evidence of "broadcast-led thinking" and highlighted the twofold challenge for PSM entities of "how to confront the considerable ambivalence of producers toward engaging with the public, and how to ensure shared spaces are run in a high quality, ethical, manner for mutual benefit" (p. 185). In relation to the latter, but specifically in the realm of journalism, Eeva Mäntymäki (2010) similarly argued that the "unresolved question" is "whether and in which way it is possible to assimilate new collaborative practices . . . without losing essential professional values" (pp. 83–84). Meanwhile, analyzing the use of Twitter by Italian and Spanish public service radio stations, Tiziano Bonini and Toni Sellas (2014) showed that Twitter was mostly used as a promotional tool rather than to connect and engage with listeners. A similar conclusion was reached in two studies of how PSM organizations in Norway and Sweden used Twitter (and Facebook) at national election times (Larsson & Christensen, 2017; Larsson, Kalsnes, & Christensen, 2017).

In short, this body of research demonstrates how PSM organizations have been walking a difficult path in seeking "to enhance their citizenship remit by opening up to the more participatory media cultures that social media is enabling" (Flew, 2011, p. 228). An underlying issue, as noted by Vanhaeght and Donders (2015), is that both in academic discussions and at policy/strategy level, there remains ambiguity as to the end goals of audience involvement (p. 58).

The Dependency-Versus-Reach Dilemma: PSM and Third-Party Commercial Platforms

Over the past decade, new PSM research has emerged to explore the issues arising from PSM's increasing dependence on platforms such as Google, Facebook, YouTube, and Twitter, and more recently Instagram and TikTok, to reach audiences, especially young people, whose use of PSM services has declined

in recent years (Lowe & Maijanen, 2019). Platform Power (Martin, 2021), platformization (van Es & Poell, 2020), and social media logic (Van Dijck & Poell, 2015) are among the theoretical concepts informing this research. Universality (Martin, 2021), noncommercialism (Moe, 2013), and trust (Sørensen, Van den Bulck, & Kosta, 2020) are the core public service values seen as at risk.

Making one of the first interventions in this debate, Hallvard Moe (2013) looked at the case of Norwegian PSM organization NRK's use of Facebook. Moe (2013) rejects a "knee-jerk dismissal" (p. 114) of PSM's engagement with commercial platforms noting that PSB has always involved "combining commercial and public activities and funding sources in hybrid arrangements" (p. 114). However, he concedes that PSM organizations' involvement with social media platforms has more profound implications than PSM's past commercial encounters. Patrick Burkart and Susanna Leijonhufvud (2019) discussed how music streaming service Spotify was being incorporated into the website of the Swedish public radio organization SR, taking on distribution and archival functions traditionally performed by the National Phonograph Archive. The authors highlighted the tension arising from "the prioritization of digital distribution over cultural preservation" (Burkart & Leijonhufvud, 2019, p. 173). The "Spotification" of SR demonstrated, they argued, the risk for PSM to capitalize on new technological opportunities "at the expense of a social democratic model of cultural policy" (Burkart & Leijonhufvud, 2019, p. 181).

Examining how PSM entities in the United States and United Kingdom are responding to the rise to dominance of digital platforms, Erik Martin (2021) identified three main challenges: First, the dilemma of "balancing the core principle of universality with the ethical considerations of reaching the public via commercial platforms, which have different objectives and values" (Martin, 2021, p. 9); second, the loss of direct access to audiences; and, third, the financial challenges of "getting stretched thin in terms of resources and capacities across constantly evolving platforms" (Martin, 2021, p. 9). In their analysis of how senior employees at Dutch PSM NPO think about platform power, Karin van Es and Thomas Poell (2020) identified similar dilemmas as those highlighted by E.M. Martin, concluding that although PSM (and policy makers) "are thoroughly aware of the challenges posed by platformization," they "are not yet able to develop a powerful and coherent public service strategy in response to the dominance of these commercial platforms" (p. 8). Agreeing with this conclusion, Martin (2021) argues that PSM survival requires a confrontational strategy.

From Scheduling to Curation: PSM's On-Demand Streaming Services

In recent years, a growing number of PSM entities have started to elevate their Video-on-Demand (VoD) streaming platforms as the primary gateway to their content offerings (see Grainge & Johnson, 2018). In parallel to this strategic shift, a still small but set-to-grow body of research has examined, from different perspectives, PSM's VoD services.

From a strategy perspective, researchers have examined how PSM strategies have evolved over time, competition and collaboration with transnational streaming services as well as the wider policy context and the discursive strategies deployed by PSM organizations. This includes Paul Grainge and Catherine Johnson's (2018) case study of the strategic repositioning of the BBC iPlayer from a catch-up service to online TV; Alessandro D'Arma, Tim Raats, and Jeanette Steemers' (2021) analysis of the strategic responses of three European PSM organizations to the entry of Netflix in Europe since 2012; and Hanne Bruun's (2021)

study of the integration of linear channels and nonlinear services at the Danish PSM TV 2. Other researchers have offered more granular textual analyses of the interface design of PSM VoD services and their catalogs, including JP Kelly's (2021) "distant reading" of BBC iPlayer, and JP Kelly and Jannick Sørensen's (2021) "longitudinal analysis of the publishing strategies" (p. 66) of the PSM VoD services in the United Kingdom and in Denmark.

D'Arma et al. (2021) found that the responses of the BBC (UK), RAI (Italy), and VRT (Flanders) followed a similar trajectory, "starting with different levels of complacency and resistance before settling into more coherent strategies revolving around efforts to differentiate PSM offerings, while also diversifying into activities, primarily across new platforms" (p. 695). Beyond these similarities, however, the authors also observed "nuances in strategic responses" (D'Arma et al., 2021, p. 695) that could be explained by variation in contextual factors (including funding, market size, language, policy regimes, and industry formations). The authors noted PSM's efforts to differentiate themselves from the international streamers by emphasizing their distinctive features as "national public service providers" (D'Arma et al., 2021, p. 689), namely universality and breadth of service, as well as their commitment to domestic content and national culture. They also argued that PSM's engagement in international coproductions with Netflix and other streaming services was potentially in tension with their public service remit because it could lead to increased demands for producing content with a stronger commercial and global appeal.

On a more granular level, PSM scholars have started to explore "the practice of PSB online curation" (Lassen & Sørensen, 2021, p. 6). Although still limited to a very narrow range of PSM organizations, this new stream of research examines the extent to which PSM values are inscribed into the design features of PSM's on-demand interfaces and through the prioritization of content. Lassen and Sørensen (2021) concluded that the curation strategies of the Danish DR reflected "a traditional channel-oriented public service agenda-setting" approach (p. 27) and promoted content with a strong association with DR public service obligations relating to promoting national culture and language. Examining the BBC's iPlayer interface over a three-year period, Kelly (2021) provided contrasting findings to those of Lassen and Sørensen (2021, in relation to DR), namely: (1) the visibility of BBC channels had declined significantly over time, (2) the number of "box-sets" has steadily grown, and (3) factual genres (history, news, etc.) tended to be the least prominently positioned. The study found that approximately 30% of content on the default page of the BBC iPlayer consisted of box sets (Kelly, 2021, p. 278). This trend was considered problematic by the author, given the BBC's commitment to fostering exposure diversity. Finally, adopting a comparative approach, Kelly and Sørensen (2021) highlighted significant differences in how public service goals were expressed in the composition of the interfaces of BBC and DR's streaming services: the BBC iPlayer's front page offered "a smaller but more intensively marketed selection of programmes" (p. 83), resembling traditional scheduling; by contrast, offering a much larger selection of unique content items and deploying granular micro-genres to a much greater extent than the BBC, DR's approach resembled "other (commercial) VoD services, and more generally the content exposure strategies of browsing-based E-commerce" (p. 83).

The Personalization Conundrum: Algorithmic Recommender Systems in PSM

Algorithmic-aided recommendation systems are a central feature of digital platforms. In addition to being increasingly entangled in the algorithmic environments of third-party commercial platforms, PSM

organizations have also started to deploy algorithmic recommender systems in their on-demand services and news apps. The move to algorithmic personalization in PSM has sparked a new line of inquiry in PSM research addressing both empirical and normative questions. Empirically, scholars have explored how PSM organizations are engaging in algorithmic-driven personalization, and what risks and opportunities their deployment presents for these organizations and their employees (Jones & Jones, 2019; Schwartz, 2016; Sørensen, 2020a; Van den Bulck & Moe, 2018). The normative debate revolves around whether the algorithmic practices of PSM organizations enhance or undermine core public service values, and whether a distinctive approach is possible (Burri, 2015; Helberger, 2015; Sørensen, 2020b).

The move to automated personalization in PSM organizations is seen by some as inherently in tension with their universalistic mission. In particular, it seems antithetical to fostering societal cohesion through shared media experiences. For others, however, as long as these new approaches are informed by normative goals, they offer an opportunity for PSM to better fulfill their public service mission and create an alternative to the algorithmic practices of commercial platforms. In particular, instead of being optimized to maximize users' "stickiness," the algorithms adopted by PSM organizations should be designed to promote exposure diversity.

In one of the first contributions to this stream of research, Hilde Van den Bulck and Hallvard Moe (2018) found that algorithmic personalization was "increasingly becoming part and parcel of the (planned) policies of PSM" (p. 890) and that most PSM strategists considered algorithmic-based approaches to personalization a means for PSM organizations to better fulfill their universalistic mission. More recent research, however, suggests that PSM are moving cautiously toward algorithmic personalization. In a case study on the implementation of recommender systems at Danish PSM entity DR, Jannick Sørensen (2020a) found that as of September 2020, only a small part of its VoD interface was personalized. The obstacles encountered by DR along its path, Sørensen contended, were an expression of tensions inherent in the concept. Based on interviews with informants from eight PSM organizations in Europe, Jockum Hildén (2021) found that many organizations were still in the early stages of adopting personalization services, especially news recommenders. The interviewees were aware of PSM's special obligations but were still grappling with thorny issues around exposure diversity. Experimentations underway tended to focus on genre diversity (given the complexity of operationalizing viewpoint diversity) and to adopt a hybrid approach (one that relies on human curators to provide content lists). An important question raised in the study was the extent to which in their deployment of recommended systems "PSM are willing to forego commercial metrics to promote diversity" (Hildén, 2021, p. 791).

Visions: Renewing the PSB Mission for the Internet Age

The last thematic strand identified in this study includes contributions that are primarily normative in character. It is important to emphasize that the demarcations we are drawing are far from clear-cut. The work reviewed in previous sections is also often normatively driven with authors reflecting on the normative implications of their findings. In this section, however, we consider contributions where either no original research is presented or where the empirical data merely offers a springboard for normative discussion. Half of the contributions in this group are chapters in the RIPE books (the largest proportion among all seven themes). Given what RIPE stands for, "Re-visionary Interpretations of the

Public Enterprise in Media," it is unsurprising that many of its chapters have a strong normative orientation. Some efforts could indeed be called visionary (Andrejevic, 2013; Fuchs, 2021; Murdock, 2005). Typically, authors in this strand start by recognizing the profound media, political, and social transformations impacting PSM, and then move on to reaffirm its vital role in addressing society's key informational and cultural needs. Authors often propose to recast the key rationale for PSM in the Internet age by highlighting a new (or reconfigured) core function. This literature is mostly rooted, whether implicitly or explicitly, within the tradition of political economy of communication. In arguing for the democratic importance of PSM, a deliberative democracy framework is often assumed. It is also worth noting that whereas some scholars articulate a vision for existing PSB institutions in their transition to PSM (e.g., Jakubowicz, 2007; Murdock, 2005), others advocate for the application of the general principles of public service to the realm of Internet (e.g., Andrejevic, 2013; Fuchs, 2021).

The most influential statement is probably Graham Murdock's call for PSM to play a central role in "building the digital commons" (Murdock, 2005, p. 213). Murdock's chapter is widely cited, and his idea was taken up in subsequent academic work (Ramsey, 2013; Schweizer, 2016). To Murdock (2005), because "the core rationale for public service broadcasting lies in its commitment to providing the cultural resources required for full citizenship," (p. 214) and these resources are now most naturally provided on the Internet, PSB is "a project whose time has finally come both philosophically and practically" (p. 213). The digital commons would require a paradigmatic change in copyright law, theorized as the "creative commons." Murdock (2005) retains a prominent place for (reformed) PSM organizations "as the central node in a new network of public and civil institutions" (p. 227). This network is characterized by Murdock (2005) by "its shared refusal of commercial enclosure and its commitment to free and universal access, reciprocity, and collaborative activity (p. 227). Dismissing efforts to regulate commercial platforms as public utilities, Mark Andrejevic (2013) calls for "the development of a robust public service media sector for the digital era" (p. 123), broadening "the scope of public service beyond content production and distribution to include social media, search and other information-sorting and communication utilities" (p. 123). In the same vein, Christian Fuchs (2021) theorizes "public service internet platforms" run by PSM organizations as part of a project to counter the dominant political economy of digital capitalism.

Other contributions to redefining the role of PSB in the Internet age connect closely with specific aspects of the public service mission. Hallvard Moe (2008c) argues that the case for PSM online needs to acknowledge that "there is a potential in online communication . . . not only for dialogue, but also for dissemination" of information that "counters processes of enclosure and balkanization in the public sphere" (p. 332). Mira Burri (2015), Natali Helberger (2015) and Christian Pieter Hoffman, Christoph Lutz, Miriam Meckel, and Giulia Ranzini (2015) consider PSM as a tool of advancing exposure diversity in the digital space, with Burri (2015) putting forward the idea of a "public service navigator" as "a mechanism for influencing the conditions of access to content, particularly its visibility, discoverability, and usability" (p. 1349). Stuart Cunningham (2015) argues that PSM organizations' "facilitative role of performing experimental R&D" for their respective national media systems is key to "repositioning the innovation rationale for PSM" (p. 203).

A common thread in all of the visions and theorizations of a public service mission fit for the Internet age is the idea that PSM organizations need to reach beyond their institutional boundaries to other public

institutions, civil society groups, and the national media industry, to counterbalance the growing commercialization of the Internet and the dominant profit-driven model of digital platforms.

Conclusion

In this article, we have offered a review of the main streams of research around PSM and the Internet. PSM are not-for-profit organizations driven by a specific public service mission. The transition from PSB to PSM has profound implications for public service values such as universality and diversity. During the 22-year period covered in this study, a substantial literature has developed on the topic of PSM's Internet activities. PSM scholars have closely followed PSM's long journey from the launch of text-based websites and early experimentations with interactive services through the current era of video streaming platforms and automated personalization services. As a whole, this body of work has highlighted the main tensions and dilemmas that PSM organizations have faced, given their special nature, when engaging with the technological affordances of the Internet. However, researchers have also shown how the delivery of public value can be enhanced via PSM's online services. They argue for the continued relevance of PSM and have reasserted traditional values while also identifying new roles that PSM are called to play in the context of today's digital communications.

An obvious limitation of this literature is its narrow geographical scope. PSM in the UK, Australia, and the Nordic countries are by far the most researched organizations because of their strong legacy and their greater resources and opportunities for digital innovations. The reliance on small-*n* case studies is another notable feature. Although we subscribe to Paolo Mancini and Daniel Hallin's view (2012) that "smaller-scale studies, including single case studies, can contribute substantially to comparative research," we maintain, with regard to both the geographical and methodological focus of the literature we have reviewed, that greater engagement with one another's findings and arguments would be beneficial for advancing knowledge in the field (p. 516). Notable exceptions aside (Lowe & Yamamoto, 2016), there have been very few efforts to foster cross-pollination between disciplines, methodological approaches, and countries.

Perhaps the fundamental value of the research is to establish at an academic level the evidence-based argumentation for the role of PSM and its core value in the digital era, in the absence, in public policy terms, of a unified set of values or a standardized definition for PSM. PSM's remit, the relevance and validity of its values, and even their very existence, have come increasingly under fire in recent times. Insofar as this trend is likely to continue, our study should lay a foundation for further research, which synthesizes evidence and argumentation regarding PSM to address broader media trends.

In synthesizing a wide range of literature over a 20-year period, our contribution lies not only in showing how all PSM core values—from independence to universality and from diversity to participation—have been considered by scholars in relation to PSM's Internet presence but also how scholarly emphasis on those values has shifted over time. In particular, we have shown that an earlier prevalent focus in the literature on the interactive affordances of the Internet to promote user participation in PSM has given way in more recent years to debates over the contested interpretation of core values such as universality and diversity in the context of growing platform power, media

fragmentation, and algorithmic-driven personalization. We call for PSM researchers to continue to address empirical and normative questions interrogating the nexus between PSM praxis and values against the backdrop of a challenging political environment.

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