Video-on-demand services in the context of public service media.
How TV viewing modes shape content popularity

Raul Lobanov, PhD student, Baltic Film, Media, and Arts School of Tallinn University

The paper addresses current developments related to audiovisual media and television viewing. The challenges in understanding TV audiences due to the multiplicity of screens and platforms—in other words, the various ways televisual content can be viewed—must be highlighted first. Audiences are increasingly fragmented in terms of the content they consume, where and when they consume it, and the platforms and devices they use. All of these changes have presented a challenge for counting, but more importantly, understanding TV audiences in the multiplatform era.

At the same time, enforced by the digitised and converging TV landscape, most of the public broadcasters have introduced their video-on-demand platforms (VOD) over the past decade. While the viewership on these platforms is on the rise, traditional linear TV viewership is declining. Such a shift in consumption of TV content may pose challenges for public service media (PSM) in balancing their content viewing in terms of diversity i.e. fulfilling their public objectives.

However, in parallel, the digitization and datafication of media industries has also led to an increased ability to collect and analyse user data and content. This shift enhances audience measurement, reception evaluation, and popularity forecasting through digital footprints and data from social media, service servers, and set-top boxes, presenting new solutions to challenges in traditional TV audience metrics (Kim 2018; Mytton et al. 2016; Portilla 2015). However, applying different measurement techniques across various viewing platforms often yields inconsistent results. A comparative analysis of platforms and methods is essential to accurately understand modern TV audiences, taking into account these variations to provide a more holistic view. Multidimensional or hybrid studies, i.e., combined use of data, can lead to new kinds of research questions that bring to the fore the relations between audiences, content types, functions of platforms, and content popularity (Napoli 2012).

Objectives and method

This paper provides insights into VOD analytics from the industry's perspective, essentially from inside the black box. The paper examines whether comparative analysis across several TV viewing modes, all somewhat distinct in terms of their technical features, can enhance the understanding of contemporary TV audiences by integrating data from multiple sources, i.e., conducting a multidimensional TV audience study. To this end, a unique dataset of viewing data of audiovisual programmes of Estonian Public Broadcasting (ERR) covering the entire year of 2023 was developed.

The analysis combines three aspects:

- four viewing modes (scheduled live viewing on TV, scheduled live viewing on the web, time-shifted viewing on TV and viewing on ERR's VOD platform),
- 2023 weekly viewership data of each viewing mode,
- categories characterising the viewed content (content type, country of origin, production year, channel of release).

This kind of approach using a long annual time period and broad categories characterising content allows to discover if the technical features of viewing modes may cause potential differences in viewed content, including differences in the levels of content diversity and balance, which are important indicators in this case set in the context of PSM.

The distributions of content characteristics of viewed content across viewing modes was compared in two ways. First, the distributions of content categories without considering viewer numbers, using the count of distinct viewed titles was examined. Then, viewing modes by taking viewership numbers into account, i.e., comparing the distributions of content categories that represent the sum of viewers were compared. The first approach represents more of the structure of TV programming and VOD's content catalogue, while the second one indicates viewers' preferences within the list of available content. For example, I first identified that, among all the viewed titles in VOD viewing, scripted series constituted 11%. I then identified that, among all VOD viewers, 35% watched scripted series.

Case of ERR

ERR is operating three TV channels, five radio channels, and several applications and websites, including a VOD platform. The study focuses on the content broadcasted in three ERR's TV channels (one mainstream and two niche channels) and published on ERR's VOD platform. The audiovisual programme of ERR can be viewed through various viewing modes. The list includes live viewing on TV, live viewing on the web, time-shifted viewing on TV and VOD viewing.

Viewing live TV by using TV sets is mostly living-room-centric practice formulated by scheduled programming. Viewing live TV on the web expands the range of usable devices and therefore liberates from the site-specificity of the living room, but still follows the logic of scheduled programming. Time-shifted viewing on TV is also formulated by TV programmes but affords the selection of particular titles and viewing of the selection at any convenient time within a certain time frame. In the case of Estonia, this time frame is typically a 14-day period. VOD is a streaming service offering a wide range of thematically organised and presented content which is available for a longer period of time and which can be consumed on various different devices, therefore liberating viewers from time- as well as site-specificity.

It is important to note that all four viewing modes differ somewhat in terms of their viewers' gender and age structures. As shown in Table 1, the most significant difference is that TV

Viewing mode	**Gender**			**Age groups**						
	Female	**Male**	**Total**	**15-24**	**25-34**	**35-44**	**45-54**	**55-64**	**65+**	**Total**
LIVE TV	56%	44%	100%	4%	10%	17%	23%	22%	24%	100%
LIVE WEB	48%	52%	100%	11%	17%	18%	20%	20%	14%	100%
TIME-SHIFTED TV	55%	45%	100%	4%	11%	23%	24%	21%	17%	100%
VOD	66%	34%	100%	11%	15%	20%	22%	20%	12%	100%

Table 1. Average gender and age distributions across viewing modes in 2023

viewers (live and time-shifted) are older than online viewers (live on the web and VOD). In addition to the slight age difference, it is noteworthy that the gender balance is reversed between live viewing on TV and on the web - the share of women is higher among live TV viewers whereas among live web viewers the share of men is greater. Gender-wise, VOD viewing is the least balanced, with the highest proportion of female users compared to other viewing modes. Therefore, the somewhat different socio-demographic profiles of viewing mode need to be taken into account when interpreting the potential differences across viewing modes.

Results and conclusions

Summarising the results of analysis, it can be stated that the distribution structures of viewed titles across viewing modes are similar in terms of all observed categories characterising the viewed content i.e. the overall content offer for all of the viewing modes is rather similar (see figures 1, 3, 5 and 7 below). However, viewing modes differ significantly when considering the viewership numbers, especially when comparing live and VOD viewing modes (see figures 2, 4, 6 and 8 below). VOD viewing seems to support a higher level of consumed diversity in terms of production years and countries of origin, pointing to VOD's ability to promote niche content and archival traits. On the other hand, topical and factual content seems to rank lower than scripted content for VOD, raising a question of how information disorders can be avoided and societal coherence be achieved as linear TV viewing is declining and the viewership on VOD platforms is on the rise. There are no major differences between live viewing on TV and the web, whereas time-shifted viewing falls between live viewing and VOD.

The significant differences between live TV and VOD viewing in their popular content ascertained in the study can be partly explained through the somewhat minor differences between live and time-shifted TV viewing. It is important to note that the list of titles available is exactly the same for both latter viewing modes. Therefore, the time-shifted viewing's sliding away from the traits characterising live viewing towards those characterising VOD can be explained by the viewers' increased ability to watch more preferable content at a suitable time, the latter ensured by the longer availability. Taking the even longer availability, greater content selection, and ability to binge-watch, the popular content of VOD viewing tends to result in significantly different content characteristics. Another finding of the study that supports this argument is the

lack of major differences between two live viewing modes (TV vs the web). This indicates that distinct results in popular content are not determined by the device or screen used, but rather, by the freedom or its absence in choosing viewing time and the quantity of available content.

However, the varying popularity of content may, to some extent, be influenced by the somewhat different gender and age structures of viewing modes. While different viewer profiles did not affect content popularity for two live viewing modes, this does not apply to VOD. The proportion of women among VOD viewers is higher than in other viewing modes, and the popular content on VOD is also the most distinct, with scripted content dominating. Although this cannot be confirmed in this study, it can be hypothesised that the socio-demographic profiles and the technical features of viewing modes are somewhat related - different viewer segments tend to prefer certain technical features (highlighting certain types of content) that allow them to consume TV content according to their preferences.

Further, an important finding was that content that was not afforded prime time slots gained often more popularity via time-shifted and VOD viewing modes. Additionally, content from smaller niche channels stands out in both schedule-free viewing modes. I argue similarly to Fagerjord and Küng (2019) that it is probably facilitated by the ability of VOD to gather a dedicated audience interested in specific content over time. Hence, VOD seems to play an important role in making niche, thematic or more specific content more watched.

The analysis suggests that the more additional viewing modes a TV institution employs, the more viewership specific content from non-prime-time slots and niche channels gains. However, content placed in prime time slots targeting a wide audience does not necessarily attract a lot of additional viewers through other schedule-free viewing modes. Both of these revealed aspects could serve as useful insights for the planners of cross-media strategies. When evaluating the audience for scripted and especially niche content, it is therefore necessary to establish a multidimensional measurement approach across various viewing modes. In the context of PSM, more attention should also be paid to evaluate diversity and balance across all viewing modes. The analysis suggested that VOD can have both a balancing (geographical and temporal aspect) and a disruptive effect (discursive/thematic aspect). Regarding the latter, VOD platforms may

favour the consumption of scripted content, but also bring audiences to niche content otherwise less visible in linear programmes. That is, VOD platforms may have a potential to improve the public value provision by PSMs.

This study is not without weaknesses. In addition to the need to assess the perceptions that audiences can have towards different viewing modes, the structure of both TV programmes as well as VOD catalogues needs to be taken into account. Content prominence could be a crucial factor shaping content popularity on VOD platforms (Evens & Donders, 2018; Lüders & Sundet, 2022). Therefore, future studies should measure and analyse the different aspects of exposure and discoverability across viewing modes. Characteristics such as prime vs non-prime-time slots for linear TV, or prime shelves vs searchable only for VOD should be taken into account. In the case of VOD, the relations between content catalogue composition and viewership and correlation between content prominence and viewership should be calculated. Additionally, AI-supported analysis of presentation visuals (such as posters, images, promo texts, and badges), and network analysis of content creators should be also considered.

Figures - content types

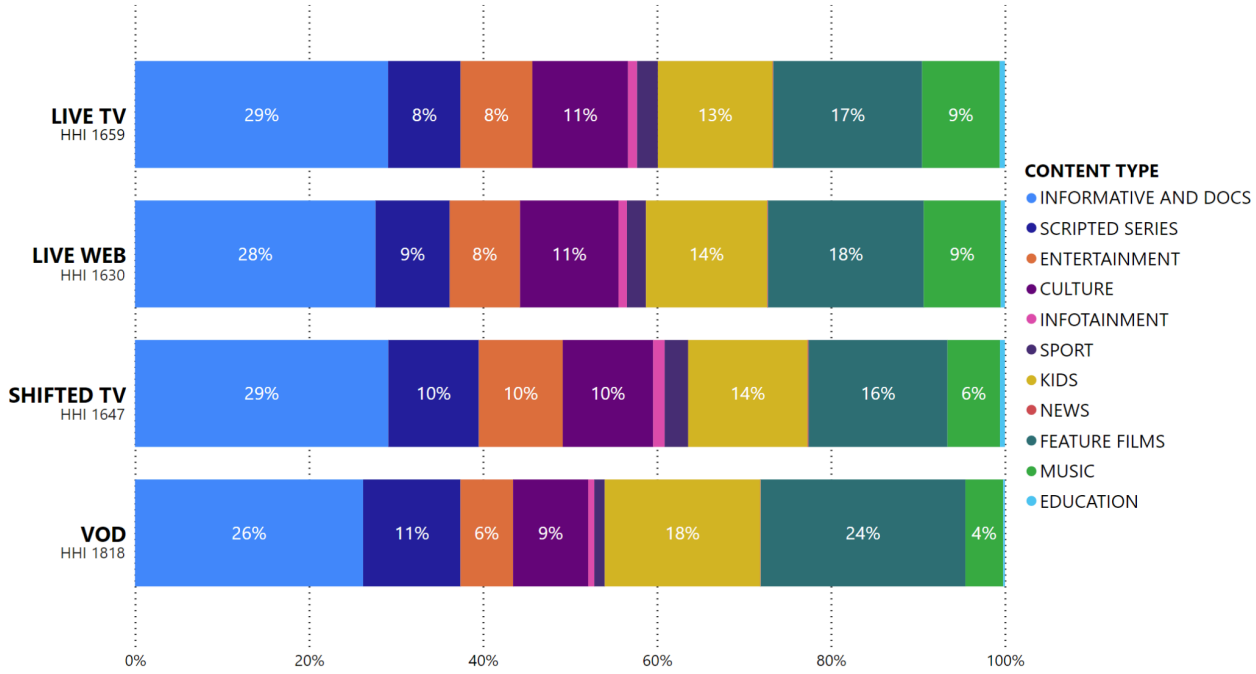

Figure 1. Shares of content types in the weekly rankings of 2023 by viewing modes, based on count of viewed titles

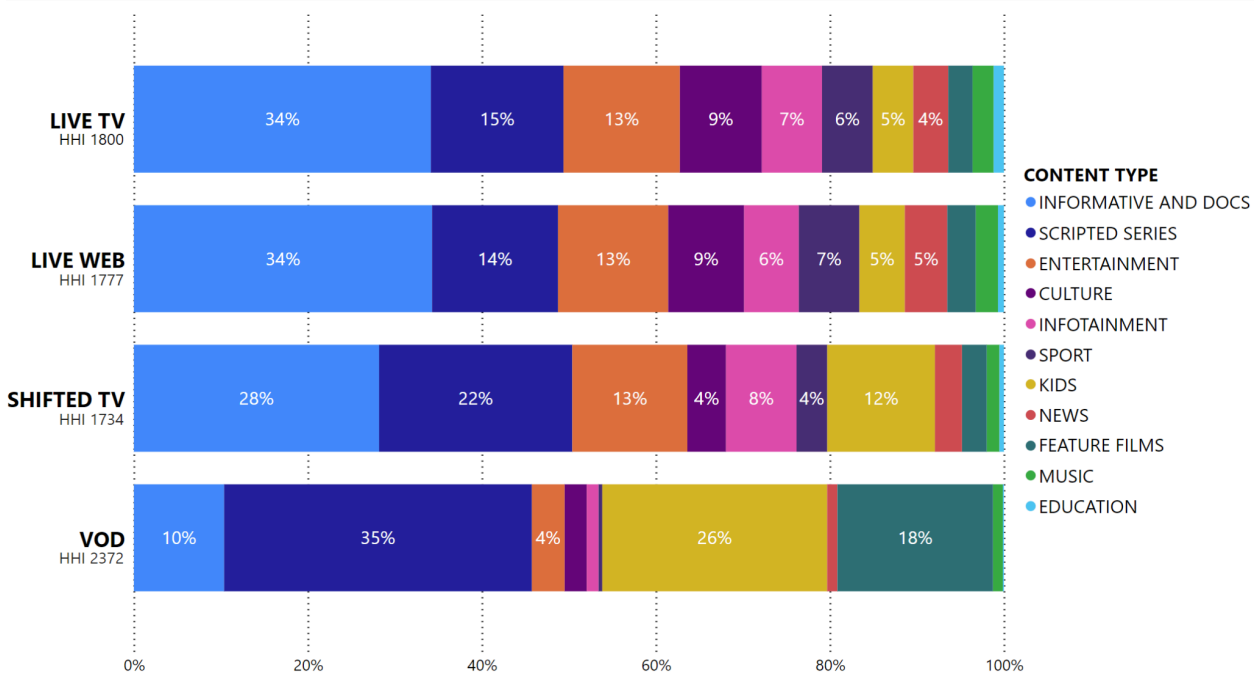

Figure 2. Shares of content types in the weekly rankings of 2023 by viewing modes, based on sum of viewers

Figures - origins

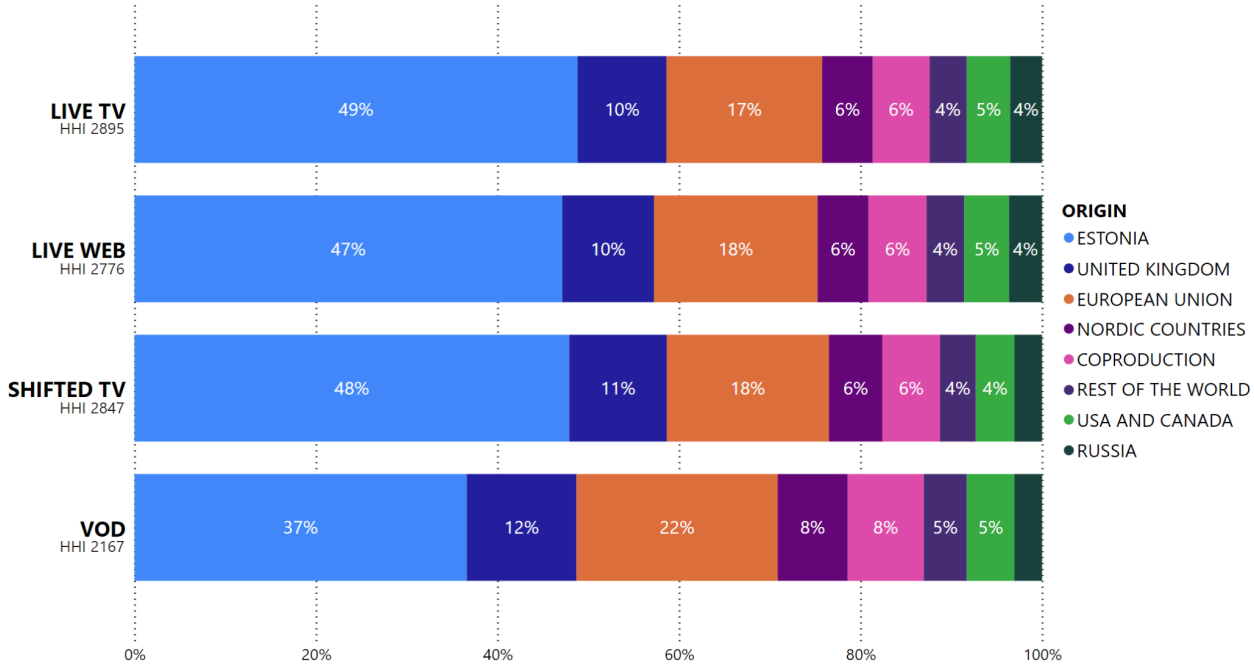

Figure 3. Shares of content origins in the weekly rankings of 2023 by viewing modes, based on count of viewed titles

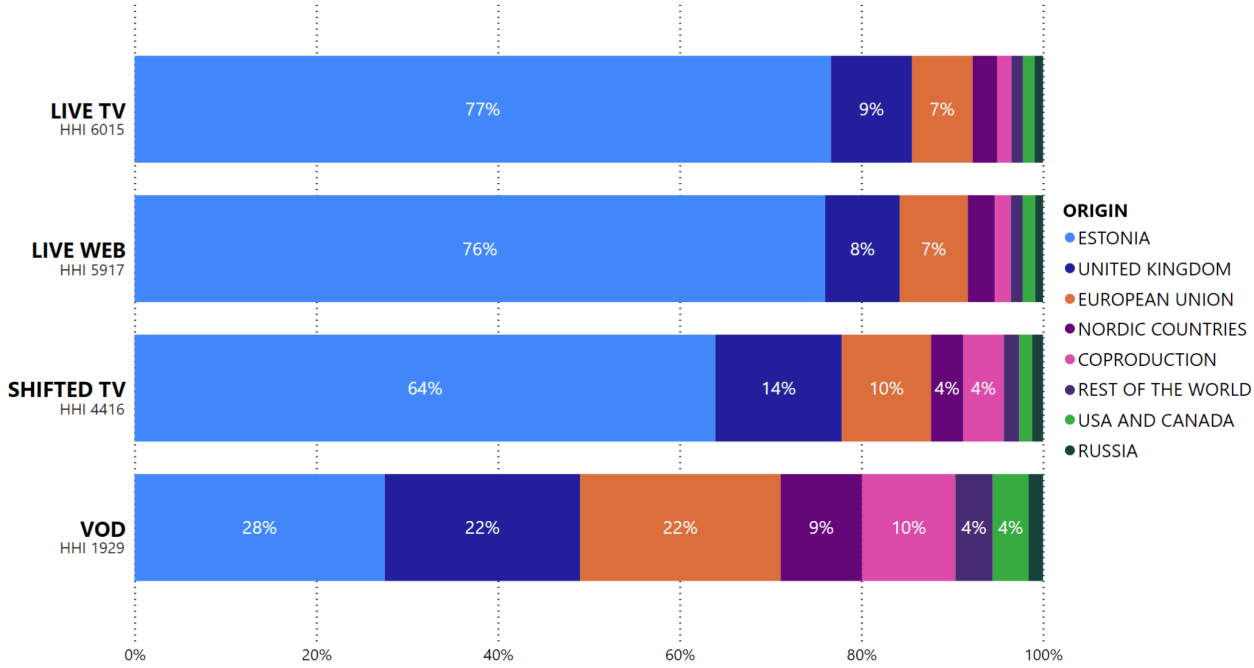

Figure 4. Shares of content origins in the weekly rankings of 2023 by viewing modes, based on sum of viewers

Figures - production years

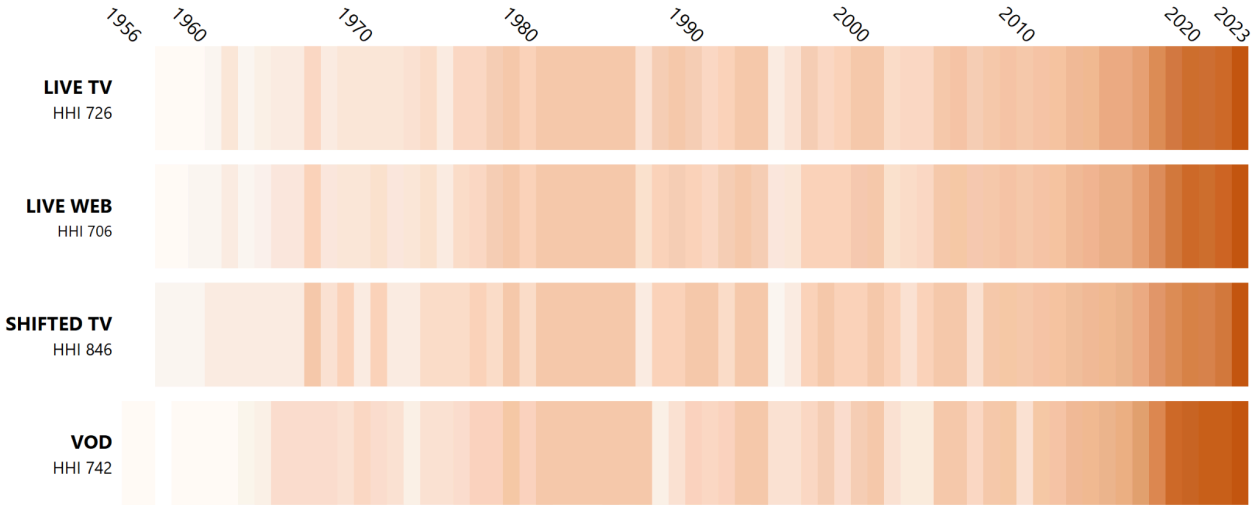

Figure 5. Distribution of production years in the weekly rankings of 2023 by viewing modes, based count of viewed titles

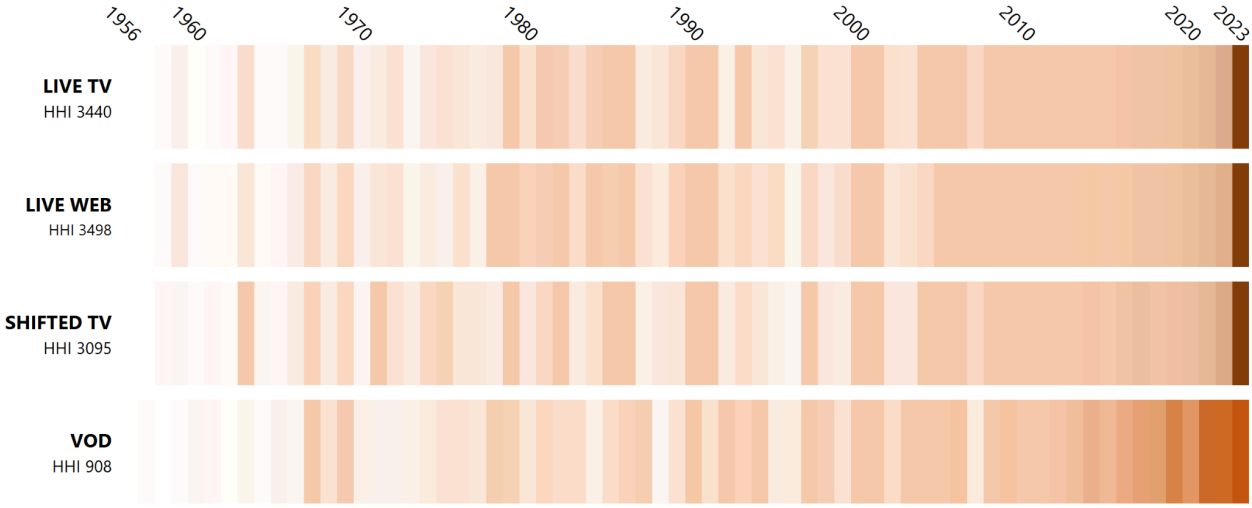

Figure 6. Distribution of production years in the weekly rankings of 2023 by viewing modes, based on sum of viewers

Figures - channels of release

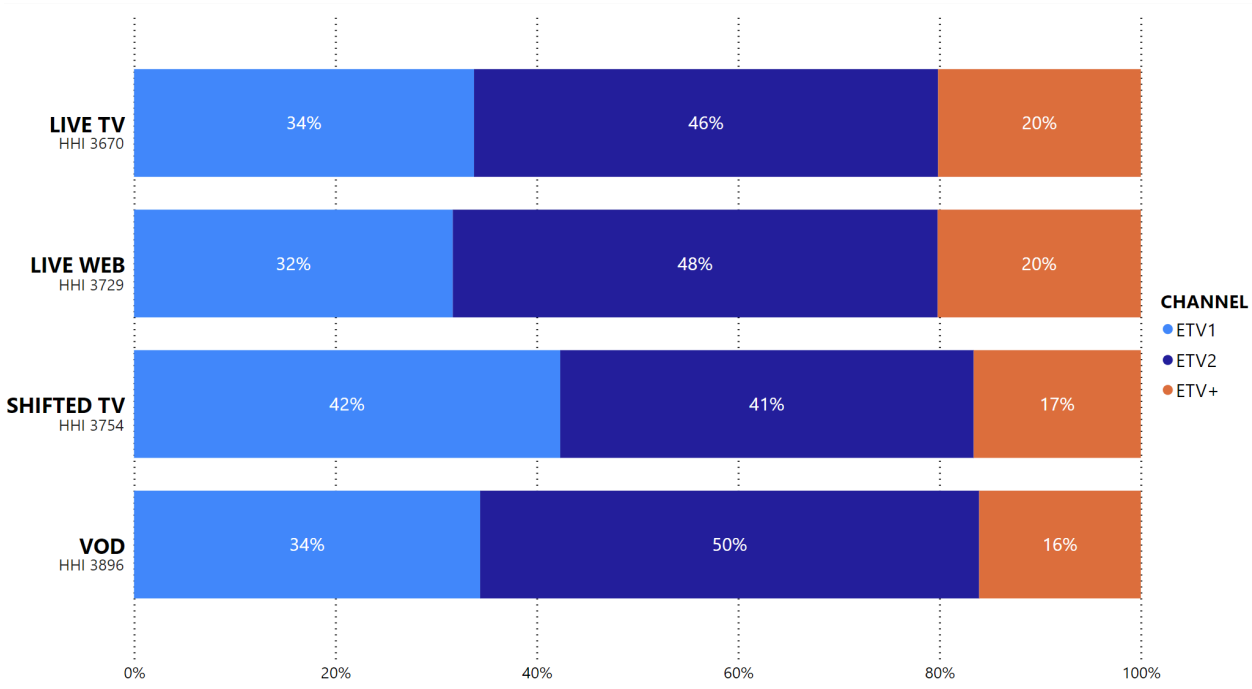

Figure 7. Shares of channels of release in the weekly rankings of 2023 by viewing modes, based count of viewed titles

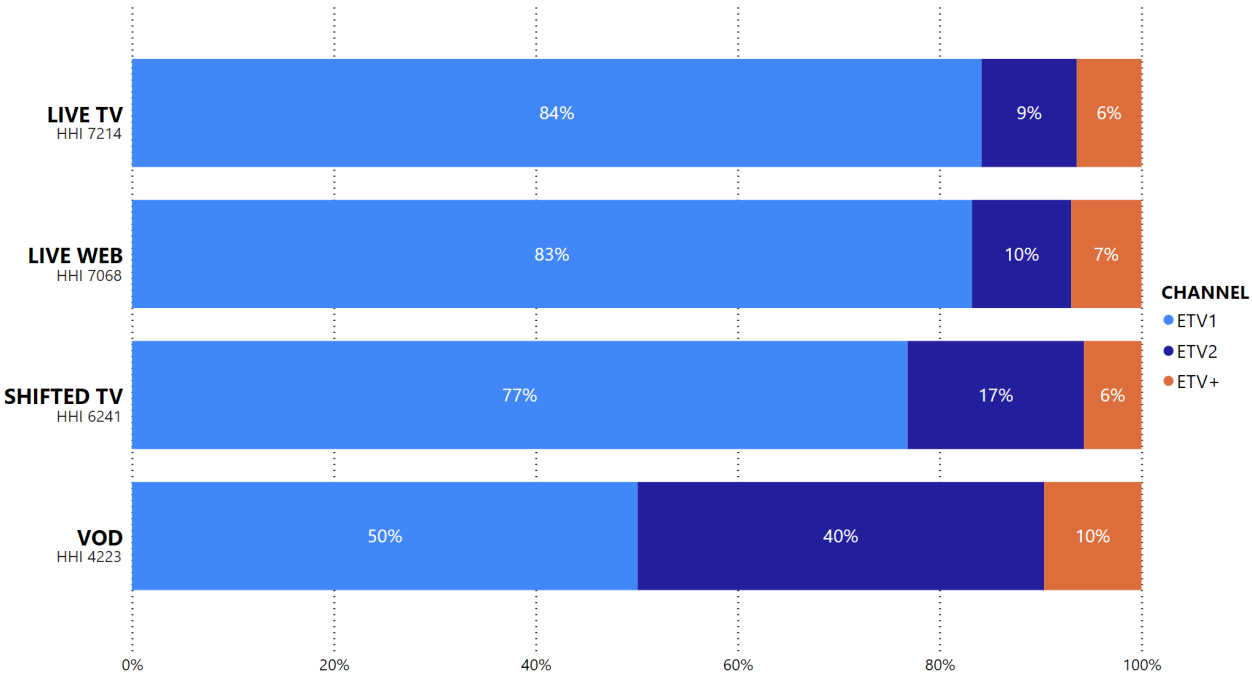

Figure 8. Shares of channels of release in the weekly rankings of 2023 by viewing modes, based on sum of viewers

References

Evens, T., & Donders, K. (2018). *Platform Power and Policy in Transforming Television Markets*. London: Palgrave Macmillan.

Fagerjord, A., & Küng, L. (2019). Mapping the core actors and flows in streaming video services: What Netflix can tell us about these new media networks. *Journal of Media Business Studies*, *16*(3), 166–181. https://doi.org/10.1080/16522354.2019.1684717

Kim, S. J. (2018). Audience Measurement and Analysis. In A. Albarran, B. Mierzejewska, & J. Jung (Eds.), *Handbook of Media Management and Economics*. New York: Routledge.

Lüders, M., & Sundet, V. S. (2022). Conceptualizing the Experiential Affordances of Watching Online TV. *Television & New Media*, *23*(4), 335–351. https://doi.org/10.1177/15274764211010943

Mytton, G., Diem, P., & van Dam, P. H. (2016). *Media audience Research. A Guide for Professionals*. SAGE Publications, Inc.

Napoli, P. M. (2012). Audience Evolution and the Future of Audience Research. *International Journal on Media Management*, *14*(2), 79–97. https://doi.org/10.1080/14241277.2012.675753

Portilla, I. (2015). Television Audience Measurement: Proposals of the Industry in the Era of Digitalization. *Trípodos*, *36*, 75–92.

Professional biography

Raul Lobanov is a PhD student at Baltic Film, Media, and Arts School of Tallinn University. He has a background in sociology, media analytics and development of digital media platforms. During the recent years he has been working in Estonian Public Broadcasting as a digital media analyst as well as editor-in-chief of its VOD platform. His research interests include streaming services, VOD platforms, multidimensional audience studies and media analytics. His PhD studies focus on the question in what way and to what extent VOD platforms contribute to the objectives of public service media. For this purpose he is developing novel ways to analyse PMSs' VOD platforms.