

ASSESSING ROMANIANS' OPINION ON OVER THE TOP VIDEO TELEVISION USING GOOGLE TRENDS

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ABSTRACT

Consumer over-the-top television interest shows the propensity towards more personalized content. This also represents an opportunity for advertising practitioners to unlock better reach, targeting, and measurement. We present a study of multiple search keywords associated with media distribution over the Internet via streaming services in the 2004-2017 time span, in Romania. Results show high public interest towards over-the-top television services, especially in Romania, due to the fast Internet connections and also a reflection of the changing consumer habits. In order to estimate a search data volume for all the investigated keywords a given time series was kept as a reference (in this case "TV online") and compared to four other keywords. The results show a high propensity towards online movie streaming, although "streaming" is not frequently used as a keyword.

KEYWORDS: *Google Trends; OTT TV; big data; public interest; consumer behavior;*

1. INTRODUCTION

Over-the-top (OTT) video streaming: is a media distribution practice that occurs on internet-enabled devices and via on-demand streaming services

Essentially, an over-the-top application is one that disrupts traditional billing models - from cable or satellite companies. Examples for video services include Hulu, Netflix, HBO Go. The appearance of OTT applications has spurred a conflict between companies offering similar or added services. This has led to a change in television advertising, specifically the use of data and automation technology to reach audiences across over-the-top television and traditional television. At the same time, we are seeing a massive amount of high-quality video content coming from growing groups of online creators and programmers.

One of the most prominent evolvments of the broadcasting industry is the horizontal integration between what is traditional broadcast content and the new broadband delivery platforms. With lax entry barriers and instant global reach, the Internet market has created opportunities for any new players and disruptive platforms to enter the market. OTT

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television aggregators allow producers and broadcasters to reach the user directly, bypassing the traditional network and access providers. [1]

As a result, traditional broadcasters have begun to create content and distribute it via over-the-top streaming services, newcomers writing some of the best shows of our time. Consumer viewing trends show considerable differences, with cord cutting as the biggest trend, as viewers have the flexibility to watch their favorite shows at any time. Video is the main form of media consumption and messaging, due to the popularity of smartphones with faster internet connections. In order to be a part of this trend, marketers have focused their attention to providing video ads to viewers who are online.

But while the cross-screen viewing experience is beneficial to viewers, it creates complexity for marketers. Specialists must reach and engage with audiences across all these devices and contexts, meaning that the traditional model of television advertising can no longer be used.

2. REACH, TARGETING, MEASUREMENT AND EFFECTIVENESS

As broadcasts become more personalized, advertising practitioners unlock better reach, targeting, and measurement.

Reach is no longer wasted on the same user with the same message via multiple video access points. Online broadcasts allow the identification of each individual user, in a wider and more streamlined perspective than that which has been possible via cable television.

Online targeting allows for higher addressability, therefore a more personalized experience and the opportunity to deliver relevant messages both to the viewer and to the content they're watching.

Online television entertainment allows for better measurement of the impact of television advertising, with detail and precision going beyond the household-level ratings of traditional cable. This is because online television inherits the web's measurement capabilities, making it possible to know who saw what, and what their online response was.

Such opportunities also bring along strategic risks for each of the existing broadcasters. As a result of the integration between Internet and television, traditional distribution is disrupted and operator earnings decrease considerably, as tailored services render the bundled model obsolete. In addition, even original content creators and copyright owners remain under the threat of illegal content distribution by peer-to-peer file sharing. [1]

The development of broadband and smart technology has modified content consumption patterns, and also encouraged the development of various OTT services. The leading global OTT provider is Netflix, presently supplying services in over 190 countries with over 83 million subscribers, of which 35 million are projected to be international subscribers outside of the USA. [2] Around one-third of Netflix revenue comes from international markets. On January 6, 2016, Netflix Company entered the Romanian on-demand online video streaming market, the Republic of Moldova and other 128 states and territories. On the Romanian market, they entered in competition with HBO GO and local services like Seenow, Voyo and Digi Play.

Whereas the emergence of OTT television clearly has an impact on the television market, it is also a reflection of the changing consumer habits. The assessment of the OTT TV evolutions and cord-cutting should therefore also take into account the perspective of the context in which media services are being consumed. Romanian households are increasingly connected to high-speed Internet, allowing them access to any media, at the time and place of their choosing. Frieden [3] distinguishes three types of OTT TV content challenging traditional formats: (1) 'illegal, copyright infringement access' (peer-to-peer file sharing, torrents) (2) 'new, lawful access to live television or video files via new intermediaries' (Amazon, Apple, Hulu, Netflix) and (3) efforts by upcoming broadcasters, broadcast networks, direct broadcast satellite operators and cable television systems that offer new television everywhere services. Given the emergence of multiple screens per household (tablets, computers, multiple television sets, laptops, and smartphones), whether OTT TV will be a disruptive, or a substitution in a certain country will be determined by Internet access in the area and the way it is accepted and adopted within a social context.

Both advertisers and scholars studying consumer attention view this variable as a scarce and valuable one that is difficult to obtain and rather easily lost. In the context of broadcasting, present studies are starting to direct attention towards media multitasking as a result of multiple screens, and the consequences it poses on advertising effectiveness [4-6]. As a result, it has been proven that multitaskers perform worse in advertising recall and recognition than viewers exposed to advertisements while uninterrupted [7]. This is generally explained by capacity limitation theory [8], suggesting that we as humans have a limited cognitive capacity to process the information from our environment. This is why multiple screens tend to limit our ability to process and recall advertising content, leading to a decrease in overall video advertising effectiveness. [9]

Where OTT services are concerned, in addition to the standard 15-30-second commercial spot, advertisers must deliver video ads specifically formatted for the screen and content they show up on. For example, 6-second ads are used in the case of mobile devices where consumers tend to have a shorter attention span, out-stream video ads in order to reach high-quality audiences using apps or browsing non-video content, and even display ads coordinated to enforce the campaign's global message and build reach. Such online formats also require different creative strategies, but allow a wider spread for marketing messages.

As internet-connected devices continue to fuel viewing behavior, consumers will spend even more time watching online video content. Marketers can thus reach consumers with more precision, and also measure outcomes as they can today with social media and mobile applications. Specialists who have an understanding of present viewing behavior also understand the opportunities presented by OTT TV. Therefore, marketers must monitor the TV and video market and designate sufficient resources to value the opportunities.

3. METHODS

The query search data used in the study is provided by Google as a time series for each keyword, starting from 2004. The data can be freely downloaded from the Google Trends website (trends.google.com). Google Trends data is a popular way of assessing the public interest towards specific topics. [10] Each data point used is scaled with respect to total searches performed for a time range and location and normalized to the highest data point in a time series. Search data is generally provided to cover a 1 month time range and expressed between 0 and 100, with 0 representing less searches than a given threshold value.

A selection of related search terms was used to account for different use of synonymous terms (McCallum et. al., 2014). A number of 12 Romanian search keywords related to OTT TV were selected (“TV online”, ”Filme online”, ”Seriale online”, “Filme gratis online”, “Streaming filme”, “Streaming seriale”, “Voyo”, “Netflix”, “HBO Go”, “Seenow”, “Digi TV”, “Program TV Online”). Individual search keywords were selected from the topic of online television. Keywords with insufficient search volume data were discarded.

4. RESULTS AND DISCUSSION

It is worth mentioning that Google Trends doesn't return results in absolute values and therefore the sum of the change rate for all keywords cannot be taken into account as a measure of overall public interest towards OTT television.

Google Trends data is available as a time series for each individual keyword, shown in Fig. 1. The values presented are proportional to the frequency of each keyword in the total searches performed in the specified time range (monthly, January 2004 to March 2018). Google presents normalized results for each time series in the 0 - 100 range, so that 100 corresponds to the highest value of the time series. Because of this, data values are impervious to changes in total search volume or number of search users. Time series values can be artificially affected only by changes in user search behavior or the apparition of interruptive events.

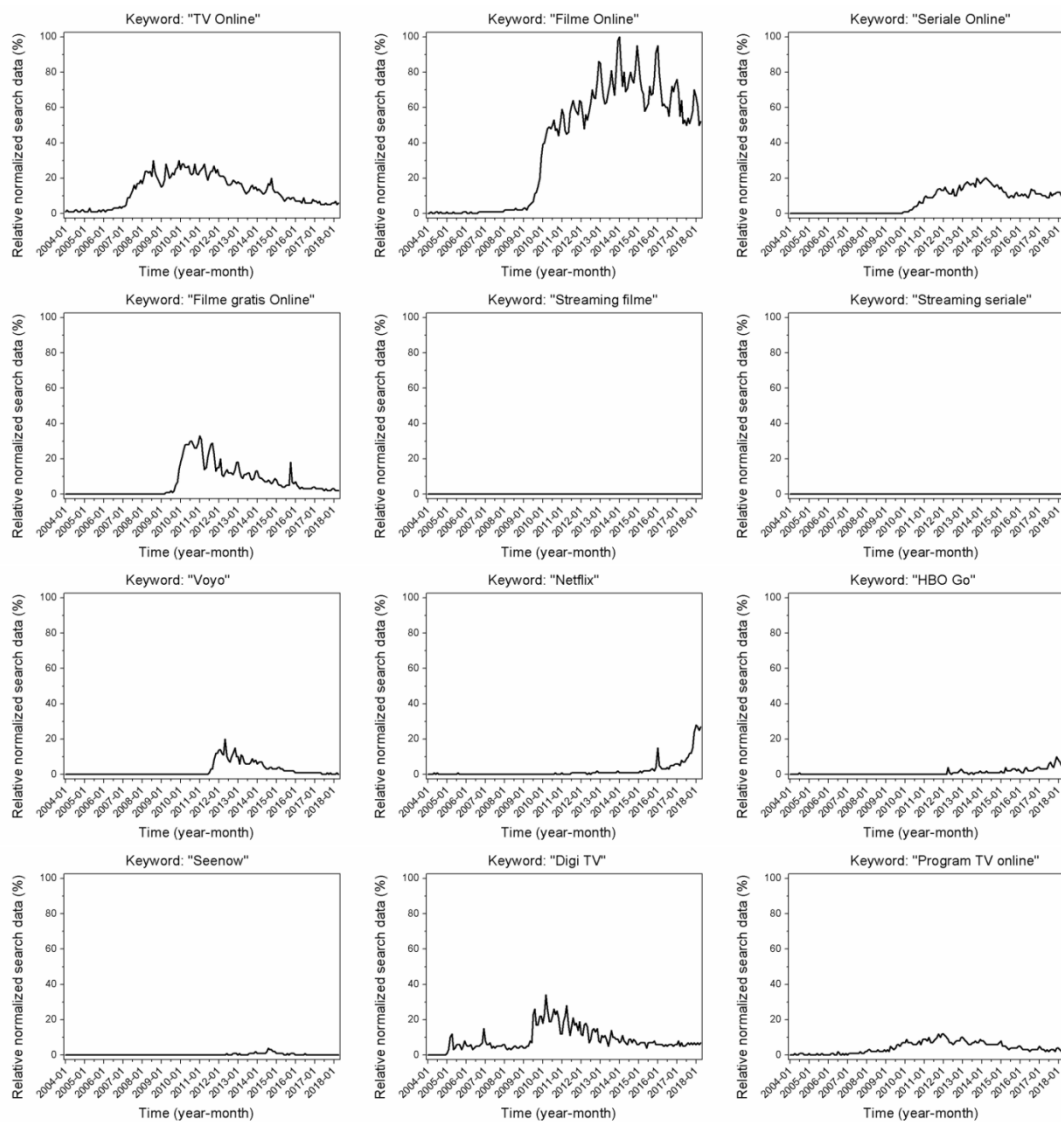


Figure 1. Normalized Google search data

With respect to individual keyword time series in Fig. 1. we can easily observe that the most searched term is “online movies” (the Romanian term “filme online”), with a peak in January 2014. Maximum values for “TV Online” are shown between 2008-2015, steadily decreasing with the appearance and rise of “Netflix”. The results are not surprising, as Internet piracy is high in Romania.

Movie streaming and series streaming show very low values (“Streaming filme”, “Streaming seriale”), proving that they are not common search terms for OTT television services.

“Voyo”, “Netflix”, “Seenow” and “HBO GO” are competing service providers on the Romanian market. They each show peak values at the moment of their respective launches, with Netflix as the most popular in 2018.

The relationship between search keywords pairs was investigated (Table 1). The correlation coefficients between each pair of keywords can take values between -1 and 1, with values close to ± 1 indicating negative or positive correlation and values close to 0 indicating no correlation between the keywords. Only 3 pairs have absolute correlation coefficients above 0.8: “Filme Online” – “Seriale Online”, “Netflix” – “Hbo Go” and “Filme Gratis Online” – “Program TV Online”.

Table 1. Correlation coefficients for pairs of keywords.

	TV Online	Filme Online	Seriale Online	Filme Gratis Online	Voyo	Netflix	Hbo Go	Seenow	Digi TV	Program TV Online
TV Online	1.00									
Filme Online	0.20	1.00								
Seriale Online	0.12	0.93	1.00							
Filme Gratis Online	0.62	0.53	0.39	1.00						
Voyo	0.25	0.54	0.66	0.33	1.00					
Netflix	-0.24	0.32	0.29	-0.11	-0.08	1.00				
Hbo Go	-0.27	0.49	0.45	-0.10	0.05	0.85	1.00			
Seenow	0.02	0.61	0.65	0.08	0.35	0.07	0.20	1.00		
Digi TV	0.69	0.30	0.16	0.75	0.20	-0.12	-0.14	-0.04	1.00	
Program TV Online	0.69	0.72	0.67	0.80	0.67	-0.05	0.03	0.32	0.67	1.00

5. FINAL CONCLUSIONS

Romanian public opinion towards OTT TV was investigated using publicly available Google search data between 2004 and 2017. Although search data is relative and normalized, Google provides an option to compare up to five keywords using the same scale. In this scale, the 100 value shows the maximum data point present in the five keywords. In order to estimate a search data volume for all the investigated keywords a given time series was kept as a reference (in this case “TV online”) and compared to four other keywords. Four time series were constructed in order to obtain an aggregate of the 12 investigated keywords.

Low value search keywords indicate a weak understanding of OTT services by the Romanian consumer, given the rare use of the word “streaming” in television searches. “Streaming” keywords are likely replaced by “Seriale online” and “Filme gratis online” (online series and online free movies). With the continuous growth of Internet use on

multiple devices, the social trend of using OTT services can only further grow. For this reason, marketers must monitor the TV and video market and designate sufficient resources to value these opportunities.

Advertising via OTT TV allows for better reach, as digital marketers can avoid sending the same message via multiple video access points. Individual users can be identified in online broadcasts in a more streamlined perspective than that which has been possible via cable television.

With “Netflix” searches showing a steady growth since the service was launched in Romania, this indicates an openness of the Romanian public towards paid OTT TV services, in spite of the high online piracy rate.

One of the limitations of the present study is the low number of keywords investigated. Further work may focus on more keywords and possible keywords used in television advertising. Another limitation is the restriction of the study to the Romanian market. An assessment of overall interest towards OTT TV gauged by Google search data with English keywords by revealing a geographical distribution could reveal interesting results in explaining both search behavior and viewing trends.

REFERENCES

- [1] B. Baccarne, T. Evens, D. Schuurman, The television struggle: an assessment of over-the-top television evolutions in a cable dominant market, (2013).
- [2] M.S. Kim, E. Kim, S. Hwang, J. Kim, S. Kim, Willingness to pay for over-the-top services in China and Korea, *Telecommunications Policy*, 41 (2017) 197-207.
- [3] R. Frieden, Next-generation television and the migration from channels to platforms, *Policy and Marketing Strategies for Digital Media*, (2014) 60.
- [4] R. Angell, M. Gorton, J. Sauer, P. Bottomley, J. White, Don't distract me when I'm media multitasking: Toward a theory for raising advertising recall and recognition, *Journal of Advertising*, 45 (2016) 198-210.
- [5] S. Bellman, J.A. Robinson, B. Wooley, D. Varan, The effects of social TV on television advertising effectiveness, *Journal of Marketing Communications*, 23 (2017) 73-91.
- [6] D. Varan, J. Murphy, C.F. Hofacker, J.A. Robinson, R.F. Potter, S. Bellman, What Works Best When Combining Television Sets, PCs, Tablets, or Mobile Phones?: How Synergies Across Devices Result From Cross-Device Effects and Cross-Format Synergies, *Journal of Advertising Research*, 53 (2013) 212-220.
- [7] H.A. Voorveld, Media multitasking and the effectiveness of combining online and radio advertising, *Computers in Human Behavior*, 27 (2011) 2200-2206.
- [8] W. Zhang, S.-H. Jeong, M. Fishbein, Effects of multitasking and arousal on television content recall and secondary task performance, *Journal of Media Psychology*, 22 (2010) 2-13.

- [9] L. Jayasinghe, M. Ritson, Everyday advertising context: An ethnography of advertising response in the family living room, *Journal of Consumer Research*, 40 (2012) 104-121.
- [10] M.L. McCallum, G.W. Bury, Google search patterns suggest declining interest in the environment, *Biodiversity and Conservation*, 22 (2013) 1355-1367.