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Impact of Online Streaming on Satellite Broadcasting

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Abstract: ***Today's advertisers want to generate the maximum sales per rupee of ad and are hence constantly on the lookout for an even more targeted platform to reach their target consumers quickly and efficiently. In this context, the advent of online video streaming platforms becomes extremely relevant. Are they drawing consumers away from Television? If so, what kind of consumers are shifting online? What are they primarily watching? What are the primary reasons for their shift? This paper is an attempted output to answer the above questions after 3 months of detailed research aimed at arriving at specific conclusions to enable actionable results. I used exploratory, descriptive and confirmatory research techniques to answer all the questions mentioned above. I conducted FGDs, in-depth interviews and floated a survey to collect data for the research. I used various tools like cluster analysis, excel, ANOVA and ordinal regression to analyse the data. These tools helped to find relation between online video streaming and satellite broadcasting.***

Keywords: Online Streaming, Satellite broadcasting, Television, Online broadcasting

1. Introduction

In the modern world, the way entertainment is being consumed is undergoing a rapid change. With the advent of technology, people shifted from Radios to Television and hence it should come as no surprise that with the technological boom in the form of internet a huge chunk of people started consuming entertainment online through various web platforms. As these platforms garner more and more eyeballs, advertisers are also shifting focus on them with some percentage of their ad spend splashed on them. However, it would be interesting to know if it makes logical sense. Should they just jump onto the bandwagon blindly and shift ad spend from TV to online? Are the consumers actually shifting from TV? Is TV dying?

In this report I have ventured to answer the above questions through a well-defined and targeted research. I wanted to figure out patterns, if any, in the shift from TV to Online platforms and draw valuable conclusions which would help companies make an informed decision. Specifically, I set out with the following objectives in mind:

- What are the various parameters to divide people who use online video streaming and consume entertainment on TV?
- What are the parameters which distinguish consumers using online streaming & TV?
- Determine if there exists a relationship between consumers and online video streaming to establish shift from satellite broadcasting to online video streaming.
- What has been the effect of change in parameters of the products on consumer base?

2. Methods

First, I undertake exploratory research as the question needs to be clearly specified so as to figure out what needs to be measured and how. After exploratory research, with the defined variablesnow, I went ahead with confirmatory and descriptive research. The entire research process overthe 3 months can be summarized broadly as below:

2.1 Identifying the Research Question

The popularity of online streaming and the changing trend in its usage makes it a captivating research topic. From a bird's eye view there seems a relation between online streaming and satellite broadcasting and I wanted to analyze if there is indeed a relation between them. If yes, what are parameters that confirm this relation and by what intensity.

2.2 Setting Broad parameters to be identified through Focused Group Discussions (FGDs) and Interviews

The objectives were framed keeping in mind the current scenario and the suspected shift to online streaming from satellite broadcasting. I also listed down a set of parameters that affects the relation between online streaming and satellite broadcasting. As I proceeded with the research, some more parameters came into the picture and some of the parameters that I had listed earlier were removed as it did not play any role in the relation between them.

2.3 Conducting the FGDs and Interviews to figure out variables to be used in the survey

2 sets of groups with 8 members in each were gathered for focused discussion. I threw in a lot of questions in front of them. The open-ended nature of the questions let the group members discuss freely on various aspects of the topic. Lot of parameters and attributes were discussed, some of which I had not inferred in the initial analysis. For example, a lot of people see TV as a medium of bonding with friends and families and though satellite cable TV might die but TV as a device is here to stay. A holistic picture of the trends and patterns that consumers have shown, was known. I got an overall idea of which variables must be in relation with which factors. I got to probe deeper to understand the reason behind their choices and understand their future expectations.

2.4 Designing the Survey

The survey was designed initially on google forms and then redesigned it on Qualtrics. I used Likert scale which enabled me to measure the extent to which the respondents agree or disagree with the parameters that I had earlier concluded through FGDs and interviews. I also had few data entry questions which made the survey a little inefficient but I needed the data to run regression. I also included multiple choice questions which provided flexibility to respondents.

2.5 Floating a survey to get adequate data to enable quantitative analyses

The survey was formed after a thorough research through various sources online and the interviews and FGDs conducted. I had targeted 150 responses when I started floating the survey and satisfactorily received 184 responses. The survey was floated through posts and messages on group and individually. The access to survey was provided without recording personal details like name and email ID to maintain anonymity in filling the responses, which in turn would avoid any kind of bias related to identity. The survey was attempted to get responses from respondents of diverse background but I was not satisfied at the end which will be further explained under the section "Limitations of the Study".

2.6 Data Preparations

- I had 184 total responses. Out of which after a rigorous process of pre-processing, I removed blank responses and were left with 177 responses.
- I assigned desired values to some answers which respondents missed to fill. I used average/neutral values. There were 15 such responses which had some answers missing.
- I also undertook consistency check wherein I removed outliers which had arbitrary responses and were interfering with the analysis.

2.7 Quantitative Analysis methods used

Cluster Analysis
Using Cluster Analysis, I tried and divided the consumers of entertainment on online platforms into various clusters based on their primary reasons for using these platforms. I then tried and profile these consumers and mapped a relation to their primary reasons and the type of content they watch. I derived some interesting insights from the data, reports for which are attached below. Different types of consumers are shifting to online platforms for different reasons and the type of content they consume is determined by these reasons.

ANOVA:
Analysis of variance was carried out to check the variances in the reasons for shift to online platforms across different consumers based on the type of accommodation/lifestyle. I figured out that people living under different circumstances, had different set of reasons to shift to online platforms using Anova Analysis and this could be used by promoters of online platforms to increase the reach amongst the target population.

Ordinal Regression
The regression analysis was performed to assess the impact of independent variable or explanatory variables on dependent variable. Here, the dependent variable is the number of hours consumes on content. The data on number of hours were converted into ordinal scale in order to conduct ordinal regression.

3. Results

3.1 Findings from exploratory research

For this analysis, I first developed a few templates or codes under which I tried fitting in the main findings of the interview transcripts. Over the analysis of the initial few interviews, I noticed other broad themes of similar findings which had not been previously accounted for. I then incorporated these findings under these heads for the transcripts. Thus since I had majorly qualitative data for the interviews, I used thematic and template analysis to analyze the findings.

Herein I have mentioned the various findings under the heads to come up with variables which I can use in a survey to further research on this topic.

The cohort which has access to both TV and Online Video Streaming, would prefer to use Online Video Streaming because of the following reasons:

1) Exclusive content: Users generally stick to online streaming due to the content which arenot available on TV.
2) Flexibility in time and options: A working individual generally lacks the flexibility of timewhile following a show on Television. It is often difficult to make oneself available to watcha particular show at a particular time. Online streaming services provide this flexibility whichmake the users to stick to them.
3) Uncensored and Niche Content: The content telecast on TV is censored for all types ofaudience. Moreover, specific content which might be a little offbeat or a little nicheis nottelecast there but available readily online.
4) Privacy: People prefer watching some content in their personal space. Online webplatforms offer them that facility.
5) Binge Watching: Some individuals prefer binge watching which is available only in onlinestreaming platforms and not in TVs.
6) Ad free content: Ad free content is not available in unpaid channels whereas in paid onlinestreaming channels either ads are not shown or you have an option of skipping the ads.

However, they still use TV because of the following reasons:

1) Family Bonding: People enjoy watching TV with family and friends. They do it for theexperience which cannot be provided by online streaming on laptop or asmart
2) Larger Screen: Content like sports and sci-fi action movies are best enjoyed on largescreens rather than on a smartphone.
3) Regional Content: Regional and local content are still not widely available on streamingwebsites. TV is very much the preferred medium to access such content.

4) Content which can be enjoyed in a group:
5) The privilege(ease) of surfing through channels: Many respondents pointed out that TVoffers them the possibility of surfing through various channels without having to decide anything specific to watch. They can come across something new and just watch something for no specific time. They haven't found the same ease online.
6) Availability of sports: Some of the individuals watch TV only for sports as there aren't many online streaming channels to serve this purpose. They prefer watching matches live and that is available only on TV.

Some reasons for not using Web Platforms for Video Streaming are as follows:

1) Availability of pirated content free of cost and with minimal effort deters individuals from using these platforms which generally have a price attached to it.
2) Speed and reliability of internet is low in India which hampers the usage of these platforms and limits its growth.
3) High pricing of these websites especially with availability of free content on user shared websites like torrentz.
4) Users who are not interested in watching movies and TV shows do not get any extra utility from using online streaming.

Other interesting insights from the interviews were:

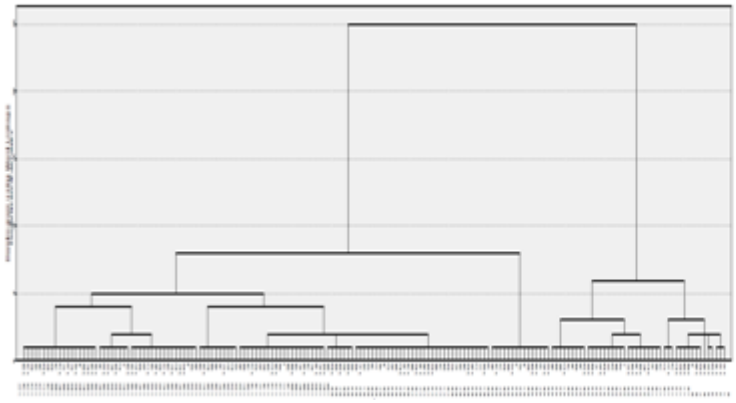
1) Users often need recommendations and suggestion before turning onto a streaming website which might deter them sometimes.
2) They want a choice of the larger screen and would prefer it whenever available.
3) TVs are a sign of social status and is necessary when guests come to visit.
4) Cable Connections can be used by the entire family while online subscriptions by only one or two people. Hence there is more cognitive dissonance in subscriptions as compared to Cable connections.
5) Currently, low internet and subscription prices have played a key role in shifting of users towards online content. In future, if prices increase, the trend may change
6) TV as a device would not die, it could still be used as a smart device with the display for laptops but cable connections might become extinct.

Going ahead, I can conduct a wider survey with targeted questions using the insights gained to arrive at some quantitative data.

3.2. Quantitative Analysis Study

Cluster Analysis

Cluster Analysis of reasons for using online video streaming platform
(Using Wards Linkage Method)



Clusters	Movies/TV Shows	Sports	News	Total (hrs)
1	6.78	1.2	0.67	8.65
2	4.94	2.94	0.82	8.50
3	11.63	2.8	1.84	16.27
4	9.9	2.4	3.2	15.5
5	4.9	1.7	1.9	8.5

In identifying the reasons for using online video streaming platforms, I performed clusteranalysis based on primary reasons for using these platforms:

- Exclusive Content
- Ad- free Content
- Flexibility/Convenience
- Uncensored content
- Privacy
- Binge Watching

I obtained following segments through cluster analysis and have profiled these consumers the type of content they watch, number of hours they devote based on reasons. I found some outliers from cluster analysis which were not taken when segmenting. I did the following profiling for the clusters & derived certain interesting insights on comparing with number of hours they divide between online content like sports, movies & TV shows & news.

- **Cluster I:**

This segment includes consumers who preferred flexibility, convenience & ad free time as their main reason for watching online content and didn't had much higher rating for privacy. These respondents were found to spend on an average 6.8 hours (>75%) of their time watching movies /TV shows compared to news and sports content. In total, they spend 9-10 hours per week watching online content.

- **Cluster II:**

This segment includes the consumers who had lower ratings for uncensored content and binge watching but had a higher rating for other factors. These respondents were found to spend about 50% of their time watching movies /TV shows & 30% watching sports content. Therefore, people who are

inclined towards online sports content didn't have censorship or binge watching as their major reasons. In total, they spend 8-9 hours per week watching online content.

- **Cluster III:**

This segment includes the consumers who had very high ratings for binge watching andcomparatively lower rating for Ad Free content. Due to preference for Binge Watching theyspend 10-12 hours watching movies or TV series online out of total 16-20 hours they devoteto online content which is more than other segments.

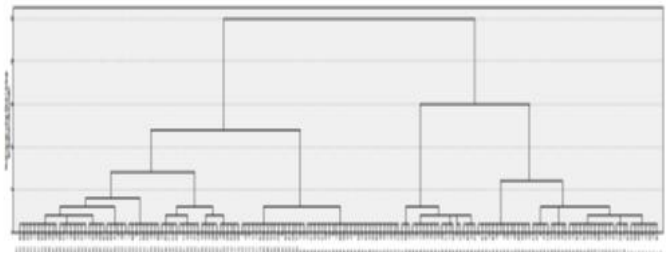
- **Cluster IV:**

This segment includes the consumers who had very low ratings for Ad Free online content and they prefer watching more news given there are frequent ads on news channels. This includes consumers who prefer watching Ads. Subsequently these people also had a liking of watching TV shows before online content was available. Therefore, there is still a section of users who prefer Ad Content. They spend 20% time watching news which is higher than others. In total also they are heavy users of online content, given total number of hours they watch online content which is 16-20 hours.

- **Cluster V:**

This segment includes the consumers who had lower ratings for many factors for watching online streaming. This may be the reason for their low preference for watching online content as evident by total number of hours they watch online content which is the least among all segments. Therefore, they don't have much inclination towards online streaming.

Cluster Analysis of reasons for watching cable television (Using Wards Linkage Method)



How do you rate the following reasons for watching TV?

Variables/Clusters	Movies/TV Shows	Sports	News	Total (hrs)
1	2.8	2	0.6	8.65
2	4.5	3	1	8.50
3	8.2	2.8	2	16.27

In identifying the reasons for using online video streaming platforms, I performed cluster analysis based on primary reasons for using these platforms:

- Watching in groups (friends or family)
- Large screen of TV as compared to portable devices
- Regional content mostly available on cable TV
- Surfing through channels without knowing what to watch
- Content not available online

Analysis on Excel using functions

I found some insights regarding which reason is most responsible for the behavior of various clusters using some basic excel functions such as 'average' and 'sum'.

Reasons	Mean	Reason	Mean2	Reasons2	Mean3
Access	3.85	Group watching	3.45	Pirated content	3.07
Ad free	3.90	Large screen	3.70	Low speed	3.37
Flexibility	4.36	Regional content	3.18	High price	3.53
Uncensored	3.84	Surfing	3.52	Non specific	3.05
Privacy	3.70	Offline content	3.00		
Binge	4.08				

	TV	Online
Movies & Tv series	5.92	7.39
Sports	2.82	2.66
News	1.68	1.50

I found out that on an average, a person spent more time watching content online and the distribution can be seen above. People prefer watching movies and TV series more online. However, the average time spent on TV reduced from 10.42 hours to 9.88 hours per week only. Thus, I can conclude that the size of the pie has increased. Especially for the movies and TV series part.

Ordinal Regression:

The regression analysis was performed to assess the impact of independent variable or explanatory variables on dependent variable. Here, the dependent variable is the number of hours consumes on content. The data on number of hours were converted into ordinal scale in order to conduct ordinal regression. Following scale was used for conversion:

Weekly Number of hours	Ordinal scale equiv.
0-3	1
3-6	2
6-9	3
9-12	4
>12	5

The independent variables or the explanatory variables were recorded using ordinal scale.

Reasons for watching online

Here, the dependent variable is the weekly number of hours spent on online subscriptionplatforms, respectively for the 3 kinds of content considered (movie/shows, sports, news) againstsix different reasons or explanatory variables extracted through the results of exploratoryresearch. The six explanatory variables identified were:

1. Access to exclusive content not available online
2. Ad free content
3. Flexibility/ convenience in time
4. Uncensored content
5. Privacy while consuming content
6. Binge watching

Reasons for watching online				
	Pseudo R squared			Significance
	Cox and snell	Nagelkerke	McFadden	
Movies/ shows	0.193	0.203	0.071	0.036
Sports	0.117	0.136	0.064	0.591
News	0.166	0.217	0.125	0.130

The significance value is less than 0.05 only for Movies/shows content. So, it can beinferred that consumption of movies and shows are most affected through the reasons ofconsuming content online subscription platforms.

Reasons for watching online

Here also the dependent variable is the weekly number of hours spent online. Theindependentor the explanatory variable were again identified through exploratory research (FGD). Thereasons are given as follows:

1) Pirated content available on internet
2) Low speed of internet
3) High price of online subscription platforms
4) Not having anything specific to watch

Reasons for not watching online				
	Pseudo R squared			Significance
	Cox and snell	Nagelkerke	McFadder	
Movies/ shows	0.050	0.053	0.017	0.911
Sports	0.065	0.076	0.034	0.760
News	0.118	0.155	0.087	0.138

From the following result table, it could be inferred that the given reasons for not watchingonlinecontent cannot explain the variation in any kind of content since the significance values are morethan 0.05. Anyway, the news content is most influenced by the reasons of not watching online asthe pseudo R-squared values are highest.

Reasons for watching cable Television

Here, the dependent variable is the weekly number of hours spent watching cable television. Theindependent or the explanatory variables were also identified through the exploratory researchconducted FGD. The variables are as follows:

1) Watching in groups (friends or family)
2) Large screen of TV as compared to portable devices
3) Regional content mostly available on cable TV
4) Surfing through channels without knowing what to watch
5) Content not available online

The following table of results obtained through ordinal regression shows that significant values formovies/shows and news content are less than 0.05. The pseudo R-squared values are also highfor the two kinds of content. It could be inferred that the given explanatory variables explain significantly towards consumption of Movies/shows and news content on cable Television.

Reasons for watching cable TV				
	Pseudo R squared			Significance
	Cox and snell	Nagelkerke	McFadden	
Movies/ shows	0.178	0.19	0.072	0.023
Sports	0.08	0.091	0.039	0.791
News	0.747	0.972	0.939	0.000

Also, the pseudo R squared values of news content are extremely high which shows that viewers'inclination towards news content is mostly through cable TV rather than through online platforms.

4. Conclusions

Through this research, followings conclusions are reached:

a) Despite the advent of online video streaming, the average number of hours consumersspend on Television for entertainment purposes hasn't seen any significant decline.
b) The total number of hours spent on entertainment has increased on an average for 48.86%of the respondents. Thus, Online video streaming hasn't eaten TV's share, rather hasincreased the size of the pie.

5. Recommendations

5.1 Recommendations for online web platforms

a) The most important reason for using online video streaming turned out to be the flexibilitythey offer and the fact that they facilitate binge watching of their favourite TV shows andMovies which is also a function of the flexibility.
b) The most widely used form of entertainment online is Movies and TV series. The biggestdecline in consumption of entertainment on TV is seen in Movies.
c) I can conclude that most people who are using online video streaming, are using it to consume movies. They watch movies and TV series online because of the flexibility andprivacy which it offers over TV.
d) Other forms of entertainment like News and Sports are preferred to be watched on TV

5.2 Recommendations to the advertisers

a) They shouldn't reduce their ad spend on TVs as it is still a major form of consumingentertainment for most people especially for news and sports.
b) A specific cohort of people is using online video streaming more than the others for different forms of entertainment.These people have the following characteristics:
   - One group of people which wants flexibility and watches mostly movies and TV seriesonline because they can binge watch. Advertisers should be wary of putting inadvertisements for them as it can have a negative impact.
   - Another group of people who watched a lot of sports content online did not care muchabout privacy and other factors.They focused on ad free content provided online. Theseare people who stay in hostels and usually don't have access to TV.

c) Advertisers who want to target the above people should focus on online web streamingplatforms.

6. Limitations of the Study

1) The sample size of the data that I collected was a little short of ideal.
2) The research majorly focused on urban population. Due to inaccessibility to ruralpopulation and also due to the pre-notion that the study doesn't affect the rural populationI did not take any major step for including them in the researches that I conducted.
3) Majority of the sample population is from same age group, which is alsofound by one-way analysis of variance, and though geographically spread, more or lesshave the same profile with respect to education and career.
4) Due to data typing in the questionnaire, some people left the survey halfway.
5) Heavy usage of internet may have a disproportionately higher probability of being includeddue to online survey

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