A Conjoint-Based Approach To Consumer Preferences in VoD Services

Rahul Sharma, Amit Kakkar

Abstract: With the emergence of Video-On-Demand (VoD) services and the increasing intrusion of broadband, higher penetration of allied devices and the subsequent development of infrastructure, consumers now have the choice of enjoying broadcasting contents using smartphones, tablets and personal computers as and when they want and where they want. Lot of international players like the deep pocketed Netflix and Amazon Prime are expanding their wings across the world. Not to be behind, many broadcasters, content developers and aggregators from India are also making their presence felt in this emerging industry. With the expected growth in VoD industry, the India's online video advertising market’s contribution will be equal to or more than INR 80 bn out of total digital advertising market of INR 185 bn in revenue by 2020. Subscription video on demand (SVoD) services, albeit starting from a much lower base is expected to see a higher CAGR at 64% for the same period. To comprehend the shift that the VoD services will bring in the content consumption of the viewers, a proper understanding of consumer acceptance for VoD services is crucial. Thus, the present study uses the technique of conjoint analysis to find the key attributes for the success of VoD services in India. We identified Content_type, Payment_model, Content_nature and Language as the important product attributes that influence the adoption of VoD services in the Indian scenario.

Index Terms: AVOD, Conjoint Analysis, Content, Online streaming, OTT, SVOD, Video on Demand

1. INTRODUCTION

As the technology is changing at a swifter pace in the present times, the wireless market as well as the wired internet industry in the entertainment domains are nearing the maturity levels, two very distinct groups are getting ready to make two different efforts. On one hand, the industry of wired and wireless services subscribers is continuously busy in improving the performances & developing more applications with far-reaching effects whereas on the other hand, the wired and wireless service providers are trying to increase their own market shares by providing newer services thus, hoping in increasing market share and revenues. VoD service is being considered as the newer and bigger thing for content development, telecommunication and entertainment industry. Content development industry considers it as the next big thing from the point of view of content development. Entertainment industry considers it beneficial from the point of view of advertisement and viewership and telecommunication industry from data consumption point of view. This is a service that exists in the entertainment industry from nineties onwards [28] and it is a technique that allows the viewers to watch; what they want, when they want, where they want and, on any device [32]. VOD service provider provides the video content offered either through Internet or through Internet Protocol (IP). This the service which provides content like music, movies, live events, drama and other entertainment related content either on the mobile phones or SMART TVs or other wireless/wired equipments through wireless/wired networks. It is also called a “moving TV” since it streams digital multimedia contents on mobile devices such as smartphones, tablets and others. Increase in the broadband and smartphone penetration, decrease in data pack prices and multiscreen availability such as smartphones, laptops, tablets etc. has encouraged the companies to develop and offer premium video content through OTT/VOD services.

The literature related to VOD services also states that they adopt a technique which streams the data in the form of content either through broadband connections or through VoLTE [13], [24] and bypasses operators such as optic fibres or cable. The VOD services industry has witnessed the growth from 4.2 billion to $21 billion in the span of four years (2010-2014) and is expecting the same growth rate as it is looking to touch the figure of $51.1 billion by 2020 (Digital TV Research, 2015). On the similar grounds, the VOD industry in India is also witnessing a rapid growth rate, with a lot of changes and progresses taking place in this field for the last two to three years. Many prominent broadcasters (Star, Zee, Sony, Viacom TV18), production houses & content developers (Balaji Telefilms, EROS), pure aggregators (VIU) and international players (Amazon Prime Video, Netflix) with thousands and thousands of content hours have made their presence felt in this industry with huge investments plans to expand and strengthen their services. To gain an edge in the video-on-demand (VoD) market in India, US-based Amazon Prime Video and Netflix has set aside Rs. 2,000 crore each for acquiring and developing content to attract customers.

II. INDIAN VOD LANDSCAPE and MEDIA & ENTERTAINMENT INDUSTRY

Ref. [3] quantified that India’s Media & Entertainment industry is growing at a rapid pace and by 2017, it is expected to garner the income of roughly 17 billion USD.

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But in comparison to developed countries where print & TV has been beaten by different online services in getting significant share of advertisements, the online services in India remain nascent because of infrastructural issues like connectivity, low bandwidth etc.

In India, the people usually watch/consume online content either on YouTube or they remain online through social networking sites like Twitter, Facebook, Instagram and few more. But, some of the recent reports on M&E industry have highlighted bright future of VoD services in India. The report titled (Future of Digital Content Consumption in India, 2016) by EY, a consulting firm has predicted an increase in the consumption of digital media content in rural markets primarily because of decreasing smartphone prices leading to higher smartphone penetration. As per the report, the smaller screens of the personal devices will be used to watch content and by 2020, the consumption of content on small screens will reach 45% of the total consumption of the content. The 3G as well as the 4G networks have completely changed the experience of viewing the content since live streaming/downloading of the content can happen anywhere, anytime.

Sensing the ever-increasing promise of VoD services in India with the introduction of 4G networks by all the telecommunication companies and the steady reduction in the prices of data packs, all the major broadcasters of Indian entertainment industry, aggregators, content developers and International players have entered in this ever growing VoD industry. Viacom18 with its streaming service-VOOT, Star India with its service called Hotstar, Zee network with ZEE5 and Sony network with SONYLIV become the major players. As they are broadcasters, on one hand, they have the content that can be broadcasted on VOD platform and on the other hand, they are also contemplating/producing the content which is termed as originals for their respective VOD platforms. Content developers like EROS or Balaji, aggregators like VIU and players from the international space like Amazon Prime and Netflix have also entered the VOD sphere of India.

Regardless of the confidence being shown in the success of VOD industry, some of the researchers still have doubt in the success and growth of VOD services industry [20]. Such people envision that since smartphones have less features and small screen sizes in comparison to TVs, or there may be poor service quality or there may be other hassles related to infrastructure, the subscribers may be discouraged to engage to the VOD services. Thus, the views which are opposing in nature towards the viability and success of VOD in India raise an exciting situation worthwhile to be reviewed and researched. Thus, this paper intends to study the different consumer preferences responsible for adopting the VOD services in India.

### III. REVIEW OF LITERATURE

Ref. [42] suggested that the online services success depend upon the different factors like network coverage and transmission quality. The subsequent review of different studies related to Internet and its applications in the context of India suggests that Indians are now adopting various electronic applications through Internet to the fullest. Applications like online ticket reservation/e-reservation [5], online shopping/e-grocery [35], purchasing items using Internet and associated services [11], net banking/e-banking [17], [34] and social networking sites [30], [38] are becoming a part of Indian customers’ day to day activity. With the growing penetration of 4G services in whole of India, the customers are preferring to watch HD videos either on their smartphones or on other portable devices and they are also using smartphones to make high quality video calls. Thus, more and more people are now using their smartphone either for watching or talking or both, in place of listening only [23]. Ref. [1] stated that subscriber base of mobile phones in India has crossed the user mark of 1.18 billion. As smartphones are becoming affordable day by day for larger chunk of the population, most of mobile phone subscribers will use smartphones in the future and because of this, there will be lot of opportunities for companies dependent on telecom dependent industry as well as on its allied industries.

Ref. [22] found that Internet’s working has five features that may influence the business models of VOD: 1) delivery costs are decreased and capacity constraints are reduced; 2) efficiency is increased in either how content is delivered or how VOD is interacted with its user; 3) how revenues are generated either from advertising or sponsorships; 4) varied price point ranges for varied product services & categories; and, 5) the costs of content copying and sharing is lowered. Content is something that has the features of relevance, exactness, and sufficiency which leads to acceptance of internet and acceptance of content on Internet [8]. Ref. [6] defined content as the understanding of the person towards timeliness, sufficiency, relevance and credibility of the details provided either by the broadcaster or by the content provider. Ref. [39] studied and found that television can be viewed during three different periods, proposing that every period has different type of content to be viewed, and the selection of the content depends on special selection mechanism. Three periods related to viewing are home coming viewing, viewing during mid-evenings and viewing in the late evenings. Video-on-demand facilitates people to see what they want, where they want, at any time [40].

Further on, new technology’s success depends on the perceived values, aspirations and needs, it is offering to the customers [15]. Ref. [15] opined that possession of high-end home theatre TVs acted as deterrent in the adoption of VOD services. Customers who want to adopt something new are ready to adopt the VOD service despite the several threats (short battery life, small screens, content rights) which are in line with VOD services and there are suspicions from some that these threats can hinder the success of VoD service. Customers adopting new technologies (early adopters) are also willing to subscribe the VoD services and more so, the main stream customers have also shown their inclination towards the use of VoD services in the future [14].
Ref. [2] said that the Mobile phones penetration in India is more than 10 times the penetration of PCs in India and the subscription base of mobile phones is estimated to touch staggering 1 billion mark by the end of year 2014. Although the Infrastructure and the developments taking place in various fields are still poor and far from being called satisfactory, the subsequent improvements taking place in mobile connectivity and other allied infrastructure have bestowed a rare opportunity, through innovative ideas, to bring different services related to internet close to millions of people [2]. The report provided by consulting firm EY [9] stated that the earning population which is above the age of 25 years in India is going to be increased from 40% to 54% by 2018 and because of this, huge shifts will come in how the TV is being viewed. In addition to this growing numbers of earning population, the spending patterns are also going to change as mobile wallet transactions will grow by 60 times by 2020. This expected increase in the earning potential of the population and simultaneous usage of easy payment modes will also translate into increased outlays on media as well as on entertainment.

The literature on the VOD is very limited, even when so much changes have been brought in the media and entertainment industry by VOD services. Ref. [4] throws light on Netflix and Hulu, the new online streaming services; other researchers emphasize the importance of characteristics and origin of the operator in the rise of OTT services [18], [26], [36]. Ref. [19] suggests through niche analysis that competitive dynamics exists between traditional pay TV and OTT platforms. A Technology–Policy–Consumer (TPC) model has been created by [12] that studies the effect of the OTT services launch on the US media industries on various dimensions like public policy, technology, industry, and culture/consumer.

The motivational factors which result in the adoption VoD services have been studied by various scholars [27]. Ref. [3] studied the factors which motivates the customer to adopt VOD services and the said study was done using the TAM (Technology Acceptance Model). It is true to say that neither the company size nor the OTT service launch date determines its business performance [31]. However, not much of the attempts have been made to find out the different attributes that are important for the success of VOD services in India. Hence, the present study tries to figure out the various attributes that will affect the success of VOD services in Indian market.

IV. RESEARCH DESIGN

A. Conjoint analysis and important attributes

The technique that is used to understand the different attributes of consumer preferences is called Conjoint analysis. It is relevant in situations wherein a consumer is required to choose combinations that would vary simultaneously through two or more attributes [10]. The technique assumes that decisions to select/purchase from different products are made by consumers keeping in mind the attributes or characteristics of the products, and the final trade-off among different attributes result in the selection of the product [41]. As the attribute levels and the importance of attributes and their levels may be deduced from conjoint analysis and thus, the consumer preferences, it has been extensively used in market research for new product development and new product launches [29]. The technique involves the respondents to select their choices by ranking levels within a set of attributes and combination of different attributes and their levels [21]. Therefore, a conjoint analysis is conducted by instructing the respondents to select among different preference sets. The analysis involves the identification of key attributes, followed by constructing their levels, designing the survey, and collecting data in the form of preferences & analysing the data leading to identifying the key attributes with their most important level. In conjoint analysis, the process of attribute selection is one of the most important steps. Considering the growing potential of the VOD industry in India, the attributes for the present study are mainly selected from the competitive features that VOD services players are gunning towards. Four attributes were selected for this study: content_type, payment_model, content_nature, and language.

B. Content_type

VoD services provide the content which is wide in range with levels like Originals, TV shows and Uncensored. Out of these content types, the customers either look for originals or TV shows (repeat) or uncensored content of TV shows. With the help of conjoint analysis, the VoD service providers can develop their content as per the liking of the viewers and customers.

C. Payment_model

The next attribute is the payment model that offers a wide range of payments options to choose from for the viewers like AVOD or SVOD or Hybrid or PPV. Various studies have identified price as an important attribute for selection. Ref. [21] and Ref. [27] established that price is also important in consumption of VOD services. Thus, the conjoint analysis will help the companies to develop the pricing strategies as preferred by the viewers.

D. Content_nature

The third attribute defines the nature of content like LIVE/Sports, reality, movies or music. Nature of content is very important for the programming teams of the VoD service providers as it brings to light the nature of content which the customers usually like or want to watch. The VoD service provider which will design its program schedule as per the likings of the customer will succeed in longer run.

E. Language

The last attribute is again very important for the success of VoD service providers and that attribute is language. Since, India is a land wherein, the accent and language changes every 50 kms, the VoD service providers cannot ignore the importance of language in determining their programme schedule in different languages.
The attribute language has three levels like Hindi, English and regional. Table 1 provides the information regarding the key attributes and levels to be used in the present study for conjoint analysis.

As per the conjoint analysis, numerous comparisons from different combinations were made by the respondents and after the comparisons, they were supposed to indicate their preferred option. In the present study, model based on orthogonal main-effects was used. Orthogonality involves strict independent variation of levels across attributes, in which each pair of levels appears an equal number of times in combination with all other attribute levels [16].

**Table 1: Attributes and levels in conjoint analysis**

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content Type</td>
<td>Originals, TV Shows, Uncensored</td>
</tr>
<tr>
<td>Payment Model</td>
<td>AVOD, SVOD, Hybrid, PPV</td>
</tr>
<tr>
<td>Content Nature</td>
<td>Reality, Movies, Music</td>
</tr>
<tr>
<td>Language</td>
<td>Hindi, English, Regional</td>
</tr>
</tbody>
</table>

With two three levels attributes and two four levels attributes, a total of 144 (=3x4x4x3) alternatives would have to be tested for all possible combinations related to four attributes. However, it is next to impossible to compare the 144 combinations since comparing 144 alternatives will confuse as well as fatigue the respondents [37]. Therefore, we used the orthogonal array design for reducing the number of combinations to a manageable size (16 in total). Following the orthogonal array design, sixteen alternative cards/combinations were generated for final selection and evaluation by the respondents. These sixteen cards were asked to be ranked by the respondents as per their preferences.

To increase the level of accuracy, respondents were provided with background information on VoD services and core attributes before card options/sets were administered.

**F. Sampling Design and Sample Size**

The population which was targeted for the present study included all the people that were viewing different modes of media either for knowledge gathering or for entertainment or for time passage or for any other specific intention. Sampling technique of Snowball was followed to collect the data from the respondents. The structured questionnaire was designed and was mailed to the respondents.

The sample size for the said research was 140, as the duration for collecting the data was short.

**Table 2: Utilities and their coefficients**

<table>
<thead>
<tr>
<th>Content_Type</th>
<th>Utility Estimate</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Originals</td>
<td>-1.042</td>
<td>.408</td>
</tr>
<tr>
<td>TV Shows</td>
<td>.990</td>
<td>.479</td>
</tr>
<tr>
<td>Uncensored</td>
<td>.052</td>
<td>.479</td>
</tr>
<tr>
<td>AVOD</td>
<td>.438</td>
<td>.530</td>
</tr>
<tr>
<td>SVOD</td>
<td>-1.813</td>
<td>.530</td>
</tr>
<tr>
<td>Hybrid</td>
<td>.813</td>
<td>.530</td>
</tr>
<tr>
<td>PPV</td>
<td>.563</td>
<td>.530</td>
</tr>
<tr>
<td>LIVE/Sports</td>
<td>1.063</td>
<td>.530</td>
</tr>
<tr>
<td>Reality</td>
<td>-1.000</td>
<td>.530</td>
</tr>
<tr>
<td>Movies</td>
<td>-.375</td>
<td>.530</td>
</tr>
<tr>
<td>Music</td>
<td>.313</td>
<td>.530</td>
</tr>
<tr>
<td>Hindi</td>
<td>.083</td>
<td>.408</td>
</tr>
<tr>
<td>English</td>
<td>.177</td>
<td>.479</td>
</tr>
<tr>
<td>Regional</td>
<td>-.260</td>
<td>.479</td>
</tr>
<tr>
<td>(Constant)</td>
<td>8.740</td>
<td>.339</td>
</tr>
</tbody>
</table>

**V. RESULTS & ANALYSIS**

The sample size for the present study was 140 (57.1% males, 42.9% females) with 82.9% of the responds’ age ranged from 21 to 25 years and 7.9% respondents had age ranged in between 36 to 40 years. The source of information about VOD services for 64.29% respondents was their friends wherein for 55% respondents, the source of information was TV advertisements. Other sources of information like Print Advertisement and email promotions failed to create awareness about VOD services. With 92.85% awareness level among the respondents, HOTSTAR was no. 1 among all the VOD service providers, wherein VOOT with 55% was at no 2 position, followed by SONY LIV with 50% awareness level and with 42.9% awareness level, Netflix was not far behind. Very few respondents had heard about Ditto TV, Eros Now etc. From the usage point of view, 82.15% of the respondents were using only HOTSTAR for streaming purposes, followed by VOOT by 42.9% usage rate and SONY LIV by 25% for streaming purposes. Netflix with the usage rate of po14.3% was also used for the same. Very few respondents were using other service providers for VOD. 85% of the respondents used Smartphones and 69.3% used Laptops for availing the VOD services. Rest of the devices like Tablets and desktops were rarely used for the same.
A. Conjoint Analysis

Conjoint analysis is used to determine the relative importance of various product/service attributes and the levels attached with each attribute based on the responses provided by the customers in a systematic way. Conjoint analysis works on the principle of developing a utility function stating the utility customer attach to the levels of each attribute. Code (set of commands) for running the conjoint analysis was written in SPSS Syntax Editor. Once the code was executed in the SPSS 21.0, conjoint analysis was performed and the output for the same was generated.

The table no. 2 provides the details about the utility co-efficient for each level of the attribute. The utilities table can be interpreted as: higher the utility co-efficient of the level, higher is the preference for that level of the attribute in the minds of the customers. This utilities table can be inferred by reading the values in the utility estimate column. As per the utilities table, the customers are preferring TV shows the most in TV_Content attribute, Hybrid in payment model attribute, LIVE/Sports in Content nature and English in Language attribute.

Table 3 signifies the importance being given to individual attribute by the customers. As per the table, Payment_model attribute is being viewed as the most important attribute while selecting the VoD service provider followed by nature and type of content which are very close to each other and least importance is given to language.

VI. CONCLUSIONS AND MANAGERIAL IMPLICATIONS

The Asian VOD market with China and India has considerable growth potential. However, to make strong hold in the Indian market, the company must adopt an appropriate pricing strategy with right programming scheduling. This study identified the Content type, Payment model, Content nature and Language as important attributes of VoD services that influence Indian Customers.

As per the utilities (table 2), the most preferred levels for each attribute are TV shows TV_Content attribute, Hybrid for payment model attribute, LIVE/Sports for Content nature and English for Language attribute.

Since, the maximum utility coefficient for content_type attribute is TV shows; the customers are giving more importance to TV shows in place of originals or uncensored content. For the payment attribute, the customers are ready to adopt a Hybrid model wherein some content will be free, and rest of the content will be subscription based. For content_nature, the customers are giving more importance to LIVE/Sports events followed by music wherein movies and reality are given less preference. For languages, the customers prefer English language followed by Hindi and regional. The companies offering VoD services can develop programming strategies keeping in mind these levels for different attributes. As per the table, the customers prefer TV shows and LIVE/Sports events with a Hybrid payment model and the language should be English. The programming managers of different VoD service providers should develop/telecast programmes which are true to the preference of the customers. i.e LIVE/Sports events to be telecasted along with TV shows with a hybrid model and language should be English. The preference being given to Hybrid model signifies that the customers are ready to pay money for the programmes and are not interested to go for AVOD (advertising model). Keeping an eye on the language front, the customers are very much interested in English programmes rather than programmes in Hindi or Regional language.

The attribute which is considered as most important for the average Indian consumer of VoD services is payment_model, followed by the content_nature, content_type and language. The maximum importance is being given to Payment thus symbolizing the preference of Indian customers towards value for money concept. The next preference is given to type and nature of content wherein both the attributes have almost the same values thus symbolizing the customers are giving equal importance to both nature and type of content. Language has been given the least preference symbolizing that the customers are not giving much importance to language of the programmes being streamed on VoD services.

VII. LIMITATIONS

Since research is a continuous process, every research is having inherent limitations and thus, the present research also has some inherent limitations. The foremost limitation was the sample size. As the time was very limited for conducting this study; the sample size was for the present study was only 140. The nature of respondents (North Indian urban respondents) was another limitation. As the demographic nature of the respondents was urban youth, the Hindi as well as regional levels of language utility may have been ignored. Since the time to conduct this study was very less, only one geographical region was selected for collecting the date; thus, the respondent’s profile was also similar in nature.

VIII. FUTURE SCOPE OF STUDY

As responses of only 140 respondents were recorded and analysed for the present study, a bigger sample size can be used for conducting the present study. Since the respondents’ profile was almost the same, the present research can be conducted with the respondents from different regions and different profiles, thus bringing new preferences. Moreover, the only four attributes were studied. More attributes with different levels can be conducted to find more preferences of the customers.
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IX. REFERENCES


