Predicting adoption of Subscription based services: A study of OTT platforms in India

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Abstract

Over the Top [OTT] media based subscription services are changing the way people watch entertainment content. This study intent to examine the adoption determinants of such subscription based OTT Platforms for Indian customers in a technology acceptance framework. The empirical statistics validates the adopted model structure. The analytic statistics showed that attitude coupled with subjective norms indeed influence behavioural intention to subscribe such service, whereas the effect of some other components was not significant. Future researchers are encouraged to corroborate the revised model to effectively validate the proposed acceptance structure across varied contexts. The study provides practical implications to consider the antecedents behind adoption of subscribing an OTT system by the consumers.

Keywords: OTT Platform, Subscription Services, E-media, Adoption Framework

1.   Introduction

Human desires change with the fast changing economic and social environment. The emergence of Over the Top [OTT] subscription based media services has reinvented the entertainment industry and consumer choices contemporarily. Over-the-top (OTT) services entails services carried over the internet networks thereby delivering value to customers, but without any carrier service provider being involved in planning, selling, provisioning, or servicing them (Green & Lancaster, 2006).Starting with a magazine subscription domain (Juhas, 2017), the acknowledgement of such subscription based e-services have expanded to literally all possible digital domains. Since, these applications do not require any affiliation business or technological, with any network operator for providing their services, they are referred as "Over the Top" services. In entertainment sector, the most famous OTT platforms are SVOD- Subscription Video on Demand. In these, a user pays fees for monthly subscription to get access to library brimming with content. SVOD include platforms like Netflix, Amazon Prime video, Disney+hotstar, SonyLiv etc. With over 30+ entertainment OTT platforms available in India, the trends in entertainment broadcasting have undergone a dramatic shift. The delivery of video content directly to user's devices allows access to varied infotainment content anytime anywhere. Indeed, OTT acts as "Personalisation of TV" where relevant content and services can be tailored to consumers (Moyler & Hooper, 2009). As Figure I shows, the trends in OTT segment in India over the last three years (2016-2019) has registered a quantum jump and is expected to "grow at a 21.8per cent CAGR from INR 4,464Crore in 2018 to INR 11,976Crore in 2023 (PwC, 2019)".

Figure I: Trends in OTT Subscription
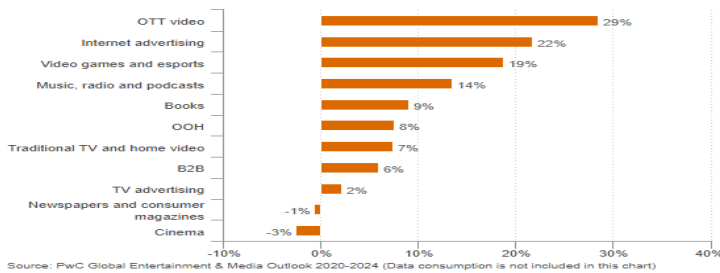
Source: PwC India (2019)

Market demand for OTT services carries a great impact on its pricing strategy as well. In fact, demand becomes a driving force behind pricing structure in several instances. If the OTT platform enjoys a good demand and formidable subscriber's base, the pricing decision can be aimed to utilise in expanding base and providing premium services. OTT platforms are hence very much dependent upon demand from consumers. OTT services are more premium products because of which its demand remains elastic. India has been on the second place in terms of subscription TV market in the Asia Pacific region (subscription in TV households), which reached 154.3 million in 2016 (Parikh, 2020). A FICCI report (2020) asserts that the global trends in such OTT services are expected to double the revenue generated between 2018- 2024 to US$158.8 billion with contribution of Subscription Video on Demand [SVoD] estimated to be the biggest revenue driver in 2024.Infact, Over the top (OTT) industry in India has recorded a gigantic 240 percent growth between 2016 and 2019 (https://yourstory.com/2020/05/billion-dollar-opportunity-indian-ott-industry-missing). In 2019, India had 647 million mobile users of which included 395 million smartphone users. While globally 63 per cent of data consumed was driven by video content, it has been 70 per cent for Indian mobile users. In 2019, Indians spent 28 per cent of their phone time on entertainment content. India had the highest consumption of online video globally (3.5hours a day) with mobile users expected to rise to 488 million by 2022.Of these, Paid OTT video subscribers touched 10 million in 2019 who paid for 21 million OTT video subscriptions. However, although Digital subscription grew by 106 per cent, the proportion of paying subscribers to total OTT consumers remained less than 5 per cent and 1 per cent for video and audio respectively. OTT services in major countries use the host of strategies to compete with huge TV market by commonly applying "localization strategy", "partnership strategy", "content differentiation strategy", "revenue enhancement strategy", and "service optimization strategy" (Park & Kwan, 2019). As a case, Park & Kwan (2019) outlined the case of Netflix which keeps highest market share (40 per cent) by the standard of watching time followed by You Tube (18 per cent), Hulu (14 per cent), and Amazon (7 per cent) in U.S. by employing three principal strategies therein - "content differentiation strategy" (developing its own contents) followed by "service optimization strategy" (enabled customers to watch contents freely through smartphones or various devices without hassle of caring about space, time, and amount of money) and "partnership strategy" (maintaining productive relationships with Internet Service Providers and hardware-based and laptop sales companies). The main research question, therefore, is what drives paid subscription to such entertainment OTT platforms among Indian youth. The present study attempts to address the same.

2.   Theoretical Framework

Motivation to use OTT services have been examined by a number of research enthusiasts. Moon &Park (2015) asserted that it is the consumer intention to subscribe rather than corporate size or date of emergence that determines business performance for online players like OTT platforms. Yim (2013) also holds that the price value of media content invariably rests on consumer "spotential demand rather than on the cost incurred towards the supply side dynamics. Kim et al. (2016)

investigated the vital elements defining consumers" marginal willingness to pay (WTP) for OTT services& found recommendation systems, resolution, and viewing options as significant attributes of OTT services that influences Chinese and South Korean consumers. For China, resolution followed by recommendation system and viewing options were observed as most pertinent factors while South Korean consumers placed recommendation system as the most prized feature followed by viewing options and resolution.

Cha (2013) investigated "how the perceived characteristics of online video platforms and consumer-related factors affect consumer intention to use the Internet and television to   watch   video content. Extending technology adoption model [TAM] with other constructs, a survey of 1500 adults in US revealed that perceived differential in OTT services viz-a-viz traditional T.V. resulting in more customer satisfaction followed by relative advantage and compatibility are the principal drivers of adoption of OTT services. Dasgupta & Grover (2019) however, identified four fundamental factors enabling the success of such OTT platform among young consumers: Convenience, mobility, content and subscription strategies. Smith (2015) asserted that convenience and saving of time are he important drivers in online in- home mode. Though these studies addressed means to improve customer retaining, essentially none of them focused on the emerging "box model" of online subscription-based services. Ramkumar & Woo (2018) filled the gap by classifying the factors that potentially impact consumers" attitude and subsequent intention to use a subscription based service platform in the fashion/beauty domain. The present study utilises the same model developed by the authors and seek to testify its acceptance in the OTT media subscription and usage domain. Although, the literature has outlined the empirical attempts to understand the consumption patterns towards such subscription based services. However, there is hardly any abundant literature suggesting which specific determinants define the adoption for the same. Ithas shed light on the various dimensions that have affected the content viewing on OTT platforms, but questions still remain on whether those remain the only determinants that affect the same.

3. Methodology

For the purpose of study, empirical data has been obtained by a structured questionnaire designed by Ramkumar & Woo (2018) adapted into OTT context to elicit consumer responsiveness towards intention to subscribe to OTT entertainment services. Table I outlines the underlying framework. The universe comprised all consumers registered for an OTT entertainment service in the State of Punjab (India).The survey data has been collected out of a sample of 400 individual respondents spread across three major cities of Punjab (Ludhiana, Amritsar, Gurdaspur) along with the union territory of Chandigarh. The sampled cities have been selected in line with spread of population in the region as obtained through Census statistics, 2011. Non–probability snowball sampling technique has been used to select the respondents since the sampling frame pertaining to user statistics of such services is neither available in the public domain nor being provided by the service providers. The sampled respondents included paid subscribers to such service. For data analysis, confirmatory factor analysis and structural equation modelling technique has been applied. The survey has been conducted during the April- December, 2020 sampling period.

Table I: Dimensions and criteria for analysing OTT platform acceptance

Construct	Items
Utilitarian Motivations	Cost saving
	Convenience
	Selection
	Lack of sociality
	Customized products or services
Hedonic Motivation	Adventure
	Social
	Idea
	Value
	Authority & Status
Consumer innovativeness	Attraction for newness
	Autonomy in innovative decision
	Ability to take risk in trying newness
Desire for unique products	
Subjective Norm	
Attitude	
Intention to use	

Source: Ramkumar& Woo (2018)

3.1   Hypothesis & Data collection

The six antecedents driving consumers attitude towards subscription of OTT services forms the basis of the theoretical framework. The research model builds upon the model propounded by Ramkumar &Woo (2018) examining the intention to use subscription based services in fashion domain. However, the model has been adapted by making suitable adjustments in line with the discussions with the academic experts and pilot testing results so obtained on account of changed nature of underlying service domain. Hence, two antecedents - fashion conscious & online transaction self-efficacy construct stands dropped in the revised model so adapted. The data over consumer intention to use OTT services was obtained from complete responses of sampled 289 young Indian respondents. An online survey was conducted across the target audience by employing snowball sampling technique. Since, the overall subscriber's population might be finite; however drawing of representative sample out of such population whose composition and profiles are not publicly available acted as a daunting task. Hence, referral mode of approaching the target respondents has been employed for reaching the target respondent base. Table II represent the demographic profiles of the survey respondents. Based on the theoretical framework modelled by Ramkumar& Woo (2018), the following hypotheses have been examined:

H1: Utilitarian motivation significantly influence attitude toward OTT Subscription.
H2: Hedonic motivation significantly influence attitude toward OTT Subscription.
H3: Consumer Innovativeness significantly influence attitude toward OTT Subscription.
H4: Desire for unique products significantly influence attitude toward OTT Subscription.
H5: Subjective norm significantly influence intention to use OTT Subscription.
H6: Attitude significantly influence intention to use OTT Subscription

The dimensions for these five antecedents have been captured by Ramkumar& Woo (2018) using a set of measures. Utilitarian motivation was recorded using a 20-item scale with six elements - cost saving, selection, information availability, convenience, customized products or services and lack of sociality. Similarly, other dimensions have been measured respectively - hedonic motivation has

been calculated using a 16-item scale with five elements–adventure or explore, idea, value and authority, social and status. Both Utilitarian motivation & Hedonic motivation have been derived by the source study from To et al. (2007) using a 7 point likert scale. Consumer innovativeness was measured using three elements - attraction to newness, autonomy in innovative decision and ability to take risks in trying newness and based on Le Louarn's (1997) 5 point likert scale. The desire for unique consumer products was measured using eight items on Lynn and Harris (1997) 5-point likert scale. Attitude towards using OTT platform was captured using items - bad/good, inferior/superior, not worthwhile/ worthwhile etc. based on Childers et al. 2002 on a 7-point scale. Finally subjective norm and the intention to use were measured using 3-item each sourced from Limayem et al. (2000).

Table II: Demographic Profile of the respondents

	Total	Subscribers		Users but Non-Subscribers	
		N	per cent	N	per cent
Gender					
Male	185	79	42.7	106	57.3
Female	104	83	79.8	21	20.2
Age					
Upto 20 yrs	79	71	89.9	08	10.1
20-30 yrs	142	69	48.6	73	51.4
30-40 yrs	47	39	83.0	08	17.0
40-50 yrs	21	10	47.6	11	52.4
Income					
Nil	193	84	43.5	109	56.5
₹ 1- ₹ 2.5 lac	62	39	62.9	23	37.1
₹ 2.5 lac – ₹ 5 lac	34	29	85.3	05	14.7

Source: Survey data

Across the descriptive profile of respondents (table II), majority respondents have been male participants. However, the sub group statistics among subscribers vis-à-vis nonsubscribers revealed more female participants opting as subscribers as relative to the male participants. Likewise, on the age parameter namely majority of the respondents belonged to age bracket of 20-30 years followed by participants aged less than 20 years. However, in the sub group classification on subscribers v/s non-subscribers quotient, a near to absolute majority of those less than 20 years were subscribers while the classification remaining similar for the age bracket of 20-30 years. On the income level, majority of the participants reported zero annual income followed by those falling under the basic tax exemption limit (up to □ 2.5 lakh). The majority of the participants under zero income category belonged to being non-subscribers vis-à-vis an equal number of participants under the next level reporting been either subscribers or non-subscribers.

3.2 Statistical results

The theoretical model was tested using confirmatory factor analysis for structure validation. The factor analytic results found support for utilitarian motivation, hedonic motivation, consumer innovativeness, &desire for unique products as antecedents of attitude. Furthermore, the path for subjective norm intention to use (p>0.05) however was not observed significant enough in the model. The various indices namely measures of goodness as well as badness of fit - CFI, NFI, IFI, TLI, RMSEA, RMR were used as validation measures. As Table II reveals, all the various fitness parameters have been found to be well within the prescribed levels with a few exceptions. All items with factor loadings greater than or equal to 0.5 in measurement model have been taken as the benchmark. The model have been tested for reliability and validity issues through various important parameters – phi coefficient, composite reliability, average variance extracted, cronbach alpha and mean values. The validity of the

scale has been established through three considerations – content validity, convergent and discriminant validity. Content validity stands established during the process of item generation itself by consulting expert opinion while convergent validity is validated by having all factor loadings for items greater than 0.5 value benchmark. Furthermore, it has also been corroborated by Bentler and Bonett (1980) coefficient. The value of NFI being more than 0.85 established convergent validity of the constructs. For discriminant validity, we have used the method outlined by Fornell and Larcker (1981). As table III reveals that square root of AVE values (diagonal values) been greater than the phi coefficients (values among the lower half of the matrix). Overall, the psychometric properties of the scale in terms of reliability and validity stands validated.

Table III: Comparison of Theoretic & Revised Model

Model	CMIN/DF	CFI	GFI	RMSEA	p value
Theoretical	4.89	0.99	0.99	0.10	< 0.001
Revised	3.27	0.97	0.98	0.08	< 0.001

Source: AMOS 23.0

Now, a question arises as to how much the attitude coupled with subjective norm defines the extent of intention to subscribe in the near future. For the said purpose, structural equation modelling has been used to explore the dependence relationship among the latent constructs. The SEM results reveal that utilitarian motivation (0.708, p <.01), hedonic motivation (0.335, p<.01) and consumer innovativeness (0.129, p <.01) is observed to be having a positively significant impact on intention to subscribe except that of subjective norm construct (0.028, p >.05). However, desire for unique products along with component of utilitarian motivation namely customized products and services (-0.0009, p >.05); along with two components of hedonic motivation namely adventure (-0.045, p >.05) and social (0.050,p>.05) were also observed to be statistically insignificant in assessing the intention to subscribe. Overall, a satisfactory extent of predictive power (in terms of coefficient of determination) of 46 per cent has been achieved by the postulated model.

Table IV: SEM Results

Testing of Hypothesis	Sig.	Decision
H1: Utilitarian motivation significantly influence attitude toward OTT Subscription.	.000*	Rejected
H2: Hedonic motivation significantly influence attitude toward OTT Subscription.	.005*	Rejected
H3: Consumer Innovativeness significantly influence attitude toward OTT Subscription.	.000*	Rejected
H4: Desire for unique products significantly influence attitude toward OTT Subscription.	.010	Accepted
H5: Subjective norm significantly influence intention to use OTT Subscription.	.020	Accepted
H6: Attitude significantly influence intention to use OTT Subscription	.000*	Accepted

*Note: *Significant at 5 per cent level*
Source: Compiled from AMOS output

4 Implications for Practice

The study results have found that there is a positive and significant relationship between utilitarian motivation, hedonic motivation, consumer innovativeness and attitude towards OTT platform subscription However, the most noteworthy discovery was that the effect of desire for unique products on attitude is not observed. Further, another constructs namely subjective norm that play an important role in the way attitude leads to intention to use has not been found statistically significant. In this regard, In line with previous studies, improvement in efficiency can help in improving: cost-efficiency, productivity, quality of product and delivery service, inventory management, values and so on (Bakos,1998; Wymbs, 2000; Garicano, L. and Kaplan, S.N., 2001; Hackbarth, G. and Kettinger,W.J.,   2000).The   findings   reveal   the   level   of   relationship

among attitude and subjective norm towards intention to use in OTT platform media industry. The study contributes numerous insights for the theoretical confirmation in terms of model validation and further development in the said field of OTT platform segment. Firstly, the study identifies the importance of attitude formulated via utilitarian motivation; hedonic motivation and consumer innovativeness facilitate the composition of attitude towards OTT platform service (Jones et al. 2000; Lin & Hsieh, 2007). Secondly, the present study has attempted to validate the said revised model propounded by Ram kumar &Woo (2018) in the media industry context which can be useful in future researches. Next, as supported by the study, attitude towards OTT platform is shown to influence the acceptance of intention to use of such services. Finally, this study helps in identifying the different variables for attitudinal determinants for intention to use in the media industry, thereby contributing to the body of existing literature on the domain. The study is conducted in media industry which is considered as highly sophisticated and somewhat tech savvy segment. The nature of present study considered being the primary one can be another constraint as the perception of the users, both subscribers and non-subscribers, towards the OTT platform may change in terms of longitudinal studies. Since the results pertain to sample respondents conducted in a dedicated sample region only, results cannot be generalized for all the spheres. Future studies shall be conducted to validate the revised model in varied contexts which can further strengthen the relationship dynamics among the underlying constructs.

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