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Understanding the contextual shift: Investigating the influence of physical environment on Indian millennials' usage of second screen for television consumption

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Abstract: This study aims to decipher the influential effects of physical environment on media access and engagement among Indian millennials. Wide-scale adoption of mobile devices in the last decade has led to high content distribution, and also reconfigured television as a personal and mobile medium. Intra-country migration for higher education or career prospects is high among Indian youth and an equally high number of Indian millennials live in shared accommodation as with families. This study found a significant difference between these two groups in terms of screen time and motivations for using the secondary screens. Access and availability are the primary motivations for both groups; the secondary motivation for those in shared accommodation with higher media dependency is convenience, while it is social appropriateness for family dwellers. This study is notable as it initiates a scholarly inquiry into a subject that is dominated by industry reports in the Indian context.

Keywords: culture, family, millennials, multiscreen, second screen, television

1. Introduction

In recent years, the television and viewing content landscape has changed dramatically. The rapid growth and adoption of handheld devices have brought about a cross-fertilization of web and TV (Braun & Callay, 2009). This has led to an evident change in viewing habits. Earlier, television served like a social adhesive, viewed by the whole family together. Now, it is also a personal and mobile medium. According to the Ericsson (2017), approximately seventy percent of Indians watch TV content on a smartphone. This number has doubled since 2012, and predictions are that by 2020 only ten percent of consumers will be watching television content on the TV screen (Ericsson, 2017). The latest FICCI[1] report has also reported significant traction of online video viewership has grown from forty-nine to sixty-six percent over the last year, and this phenomenon is not limited to the metros (FICCI, 2019).

Until recently, many households were investing in multiple television devices; but now, increasingly, there is a shift towards one television and multi-device (mobiles, tabs, smartphones, etc.) households (Ericsson Consumer Lab, 2013; Tefertiller, 2018). However, some scholars argue that households do not show any signs of abandoning the television and are instead investing in larger screens that are bringing families into their living rooms again (Carey & Elton, 2010). Ofcom's Communications Market Report (2013), *The Reinvention of the 1950s Living Room*, states that with the advancement in media technology and the growth of multiscreening, the traditional living room has been transformed into a digital media hub, where family members do get together in front of the TV, but each of them have fragmented their attention between the television and the second screen. Also, the content on the second screen may or may not be related to the primary content on the TV screen (Ofcom, 2013).

[1] FICCI: The Federation of Indian Chambers of Commerce and Industry is an association of business organizations in India. It releases an annual report with Ernst and Young on the state of media and entertainment industry in India.

Broadcast networks and advertisers have seen see a rise in time-shifted viewing, and TV content discussions are increasingly happening online. The new age audiences watch sports updates on their smart-phones while at work and watch sitcoms on their tablets while traveling (Ericsson Consumer Lab, 2014).

In addition to technology, social contexts also have an impact on media use (D'heer & Courtois, 2014). In a recent phenomenon, a very high proportion of Indian youth are now traveling outside their hometowns and settling in different parts of the country for higher education or better career prospects (Rangarajan, 2019). According to *The Economic Survey of India 2017* (Press Information Bureau Government of India Ministry of Finance, 2017), there were approximately nine million inter-state migrations every year between 2011 and 2016, and more within the state. While in 2011 the total number of migrants was estimated at 139 million by the Census of India; accounting for inter- and intra-state movement (Sharma & Aajeevika Bureau, 2017) and the Census of India 2001 pegged approximately 30 percent of the country's population as migrants (Migration, 2001). A lot of these "migrants" live in shared accommodation – hostels, paying guest homes, shared apartments, among others. This trend of shared accommodation among Indian millennials has been growing significantly over the last decade. Affordability, proximity to the workplace/educational institution, surrounding amenities, and infrastructure are a few key factors that lead millennials to choose shared accommodation ("Rising paying-guest trend", 2014; Sanger, 2018; Thomas, 2018).

This study aims to decipher this contextual shift in the organization of domestic and social life in India and its impact on media access and engagement. Though television is typically viewed in a family situation, or other such intimate social groups, very little is known about how this domestic context affects the content viewed and how it is viewed (Hardy et al., 2006; Morley, 2016). Millennials are the most coveted consumer group in India today (Deloitte, 2018) that most brands wish to understand and target using various media. Multiple studies (Chhajer, 2019; Nandy, 2018; Rangarajan, 2019) suggest that an equally high number of this sought-after target group now lives in shared accommodation as with families. This reconfigured physical and social environment catalyzed by increased mobility of Indian millennials makes it imperative for brands to understand and assess its impact on media access and engagement.

This study is notable in that it aims to study the alteration in TV viewing brought about by change in the domestic sphere. It studies the difference in screen time and motivations for using the secondary screens between those who live with family and those who live in shared accommodation. The industry is both euphoric and intrigued by this pattern. But, more of than not, the industry's response is driven by economic possibilities. However, the pace and extent of this paradigm shift requires deeper scholarly deliberations to deconstruct the role of several contextual factors to understand it in a more cogent manner, where the social, cultural, economic, and policy discourses converge. This study is an endeavor to investigate the reconfigured dynamics of television viewing of Indian millennials in the second screen world in the context of their immediate physical environment shaped by the status of their accommodation.

2. Streaming platforms market in India

The online streaming market in India has seen an exceptional growth trajectory (S. Mehta, 2019) with an estimated 325 million online video viewers as of FY 2019 (FICCI; Ernst & Young, 2019). The recent availability of affordable Internet-enabled multimedia devices, reduction in data charges, and growing rates of digital video consumption have created new opportunities for India's digital economy (Evans, McDonald, Bae, Santos, & Ray, 2016; Kay, 2018; Mukherjee, 2019). Thirty four platforms (PricewaterhouseCoopers, 2019) and an overall revenue of USD 630 Million (INR 4,462 crore) in 2018 make India the tenth largest market for Over the Top (OTT) in the world (PricewaterhouseCoopers, 2019). The world's cheapest data prices (FICCI; Ernst & Young, 2019) along with technology proliferation make India the second highest per capita video consumption market in the world (FICCI; Ernst & Young, 2019). This rate of growth in online video consumption has led the traditional broadcasters to emphasize digital platforms as key touchpoints for audiences as a part of their strategy for future survival (Mehta & Kaye, 2019; MICA, 2019). The 34 players, now

present in the cluttered OTT market consist of both international platforms such as Netflix and Amazon Prime Video as well as home-grown services like ZEE5, VOOT, and Hotstar. Even the home grown service providers range across cable or satellite pay-TV operators (Zee5, Voot, Hotstar), telecommunications companies (Airtel, Jio), film distributors (Eros Now) and media and entertainment companies (ALTBalaji) (Evans et al., 2016).

D'heer and Courtois (2016) argue that in an unusual reversal for the media industries, business models must now be crafted in response to consumer behavior rather than as a means of engineering or controlling that behavior. Similarly, it is argued that India is an amalgamation of multiple markets, each with its unique characteristics and consumption patterns (Jha, 2019).

Despite multiple service providers and content explosion, television content was the highest consumed content category in the last year (MICA, 2019). Preference for TV content on OTT services, along with no observed reduction in television viewing suggests that maximum OTT consumption in India takes place for 'Catch-up' purposes (MICA, 2019). Another motivation for using OTT platforms was access to varied content (Evans et al., 2016), and the potential for opening up access to a wide and varied range of content. The third observed motivation was its characteristic as a personal medium and the access to 'non-family viewing content' (MICA, 2019). Both these points suggest the significance of choice as a key discourse in research around digital culture (Evans et al., 2016).

3. Literature review

3.1. Cross-media viewership

Wide-scale adoption of mobile devices in the last decade has led to large scale content distribution. The increase in the number of content offerings on broadband and growing content choices 'on-demand' has led to more widely distributed patterns of consumption, commonly referred to as audience fragmentation (Webster & Ksiazek, 1982). Audiences now have an increasing array of content to choose from across multiple platforms. This abundance of media content combined with the scarcity of audience attention in the current media environment has contributed to the emergence of cross-platform convergence (Jenkins, 2006). The construct of convergence encapsulates two separate, but highly intertwined patterns, convergence of content and convergence of consumption. The first pattern, convergence of content, refers to a trend among media providers to make their content available across platforms. In India, most broadcast networks have launched various Over the Top (OTT) and Video on Demand (VOD) platforms, allowing audiences to consume TV broadcast content across platforms. Hotstar[2] app from the Star Network, Sony Liv[3] from the MSM network and Zee5[4] from the Zee TV network are a few attestations to this pattern. The second pattern in cross-platform convergence is the convergence of consumption across platforms; this is on the audience side and describes their propensity to spread their consumption of media across platforms (Ksiazek, 2009).

The construct of convergence of consumption points to the problem statement of the media repertoire these audience members consume on varied platforms. Do they exhibit fragmentation or content loyalty across platforms? Television content loyalty in the social context has been studied since the 1980s. Webster and Wakshlag's (1982) research suggests that people who did some viewing alone and some with others, or those who viewed with a group whose composition varied over time, displayed relatively less loyalty towards television content.

More recent studies have conflicting points of view on loyalty towards content across platforms. While some studies suggest overlapping patterns of public attention which implies that the same audiences seek out the same content on both platforms (Ksiazek, 2009; Ruggiero, 2000; Webster & Ksiazek, 2012). Contradictory to this finding, a study conducted by MIT Mobile Experience Lab called the Next TV project (Casalegno & Susani, 2009) states that there is little evidence that users were using digital means to interact with the same television content they were watching. Another study

[2] An Indian over-the-top streaming service owned by Novi Digital Entertainment, a subsidiary of Star India, which itself is a wholly owned subsidiary of The Walt Disney Company.
[3] A South Asian internet television channel and subscription video on demand service operated by Sony Pictures Networks in India and Pakistan.
[4] An Indian video on demand website run by Essel Group via its subsidiary Zee Entertainment Enterprises Limited (ZEEL).

(Dimmick, Feaster, & Hoplamazian, 2010) suggests that mobile or personal devices allow media usage in situations where traditional media may be 'unavailable, inappropriate, or inconvenient.'

In the same context, D'heer and Courtois' (2014) study suggests the use of second screens is related to TV content other family members are watching, where the individual is not keen on compromising on their choice of content; so they consume it privately on their personal screens (e.g., tablet or laptop) while other family members watch TV. In this respect, TV viewing as an activity is accomplished together with the family but experienced alone (D'heer & Courtois, 2014).

3.2. Family: The setting for TV and cross-media viewership

Television is embedded uniquely in the ongoing processes of family interaction (Lull, 1982), where often, family members have competing agendas and pursue individual needs and interests (D'heer & Courtois, 2014). Several studies on program choices in the family were conducted in the 1980s and early 1990s (see Lull, 1982; McDonald, 1986; Sang, Schmitz, & Tasche, 1992; Webster & Wakshlag, 1982). These studies suggest that viewers often watch programs that are selected by someone else in the family. About three-fourths of the American population said that their daily viewing is characterized at least in part by nonselectivity (Lull, 1982), and one-third of the viewing was different from expressed choice (Wand, 1968). Various family members exercise a disproportionate influence on program selection (Webster & Wakshlag, 1982), hence the chances of an individual viewing his personal choice appeared to be related to his role in the family and to the type of choice difference in which he was involved (McDonald, 1986; Wand, 1968).

This compromise of choice is somewhat taken care of in the increasing multi-media environment. The viewers can now have the autonomy of choice (of content and device) along with the social context of the living room (D'heer & Courtois, 2014). Usage of the second screen allows viewers to avoid program choice disputes and at the same time, avoid watching what they are not interested in, thus satisfying multiple family members in consuming their preferred content (Lull, 1990).

In light of the above research, it may be safe to accede that program choice conflict is a major reason for using the second screen for the consumption of TV content. Additional research also suggests that these internet technologies serve the structural use of connectivity for participants with and without a partner and/or children (D'heer & Courtois, 2014). The convenience, portability, and ease of use of the second screens may be further reasons for increased use of the 'sofa screen' (Goode & Mortensen, 2013). The same reasons have been theorized in the technology acceptance model (Davis, 1989; Venkatesh & Davis, 2000). The model proposes that the adoption of new technology is dependent upon the individual's 'perceived usefulness' and 'perceived ease of use' towards the intended product. The 'perceived usefulness' can be linked to a) avoiding program choice disputes while maintaining preferred content consumption (Lull, 1990) and b) the structural use of connectivity as suggested by D'heer & Courtois (2014). For this research, 'perceived ease of use' (Davis, 1989) has been further studied using the model provided by Struckmann & Karnowski (2016).

Struckmann & Karnowski (2016), while discussing determinants of media platform choice, talk about multiple factors including media access, physical environment, and specific social dimensions. According to them, media access includes the possibilities of access to multiple media choices. Personal consumption and interaction with media content may not be available to all family members despite being in the same physical space (Papacharissi, 2010). In this respect, these technologies redefine the household as an economic and sociocultural unit and how it interacts with the outside world (Papacharissi, 2010).

Struckmann & Karnowski's (2016) second motivation, physical environments, include the person's familiarity with their environment; that is if the person is comfortable in a situation. The third factor of specific social dimensions talks about the company the user is in at that time- are they with familiar people, unfamiliar people, or alone. This also influences his or her media choices, either due to social norms or other social psychological factors. Both these factors become increasingly important when the young adults (millennials) flee the nest and move out of the familiar home environment.

A very high number of Indian millennials, especially those in their twenties and early thirties, are moving out of their parents' house and looking for a place to stay. This group majorly comprises outstation students and young professionals (Nandy, 2018). With the soaring housing rents, the number of students and young professionals living with roommates has considerably increased over the previous decade (Rangarajan, 2019). Research suggests the shared accommodation market in India currently stands at $93 billion, and millennials are the ones driving this change (Chhajer, 2019).

3.2. The sociology of shared accommodation

Despite the startling growth rates and economic potential, shared households or houses in multiple occupations (HMOs) (Kemp, 2011) have been largely neglected in the existing literature on young people (Easterbrook & Vignoles, 2015; Green & McCarthy, 2015; Heath, 2004). These households have been frequently portrayed in popular culture with television series like 'Friends', 'The secret life of us', and 'This life'. These series showcase young groups living and mingling together while having a good time. The increasing frequency of these images depicts the fact that this phenomenon is continuing to gain strength (Heath, 2004), both among the young adults as well as content creators and marketers. Kemp (2011) has highlighted the difference between the two major sets of sharers – students/young professionals and low-income tenants – in terms of choice and constraint. The 'lived experience' of shared accommodation is expected to be different for both groups (Green & McCarthy, 2015). This paper focuses only on the first group - students/young professionals.

Living away from home is often equated with an increased risk of social isolation (Heath & Kenyon, 2001) and as much as they esteem their independence, millennials also yearn for a sense of community (Rangarajan, 2019). Several millennials reported that they preferred sharing to living alone as it provided companionship as well as savings (Clark, Tuffin, Frewin, & Bowker, 2017). Moreover, many single young adults have fostered wide-ranging and complex networks of social bonding, and for a lot of them, the shared household has been a central spot for developing these networks (Heath & Kenyon, 2001). Most of these networks are built based on shared interests and commitments. It is argued that while shared accommodation provides for social networking, it may also lead to acrimonies.

In these shared households, usually, the common living room is the focal point for domestic life. The housemates usually congregate there to eat, watch television, or generally 'hang out' (Heath, 2004). Easterbrook and Vignoles (2015) reported that social ties are strengthened when residents make use of the communal area, whereas unintentional contact between strangers could lead to a negative effect on friendship formation. Heath's (2004) study found that watching television in the living room was a regular activity in virtually all households. In the same study the author argues that the motivations for spending time in their rooms were usually to secure a modicum of privacy for work, study or personal relations; but a remarkable motivation to spend time in their room was also to watch their favorite TV programs. This has been echoed in another study which states that close peer relationships or mutual exposure do not appear to foster improved similarity in food, music or television program preferences (Rozin, Riklis, & Margolis, 2004). Chhajer's (2019) study among Indian millennials also provided similar results. This study states that according to their space utilization patterns, millennials living in shared households, typically spend more than nine hours a day in their personal spaces (bedroom and bathroom) and less than three hours a day in the common areas of the house viz., the hall, kitchen, and utility areas (Chhajer, 2019). These patterns (friends versus strangers in the house, shared interests versus need for privacy) are reflected in the second and third motivations (physical environments and specific social dimensions) in Struckmann and Karnowski's (2016) model.

Following on the first motivation, media access, data suggests that 84% urban millennials access the internet from home (Morgan Stanley, 2017) and they spend an average 17 hours online every week (Deloitte, 2018). Thus suggesting that access to connected screens is almost ubiquitous among the HMO dwelling millennials in India.

Further, it has been established that these audiences are usually time-constrained and also disengaged from family and community life. They spend considerable amounts of non-work time

alone, and generally feel socially disconnected (Heath & Kenyon, 2001). Further research has linked loneliness (perceived and chronic) with increased consumption of television (Perse & Rubin, 1990), internet (Leung, 2001) as well as smartphones (Bian & Leung, 2014). Their research points to the theory of media dependency which suggests that individuals under certain conditions such as confinement to home, loneliness, and stress form high levels of attachment to media (Ball-Rokeach & DeFleur, 1976; Ruggiero, 2000).

The above literature confirms that Indian millennials are increasingly fleeing the nest to live in HMOs and are often watching TV content using ICT. While program, choice conflict and structural function of connectivity have been researched in the family context, physical environments and social dimensions have been discussed in the HMO context. There is yet no clarity if these factors lead the audiences to consume television content differently. Available research does not shed light on the differences, if any, between an Indian millennial living at home and one living in HMOs in terms of the watching TV content using ICT. The question therefore is if media access, physical environments, and specific social dimensions have a varying effect on the same demographic living at home compared to the one living in an HMO.

4. Technology adoption model: Contextualizing the research problem

The theoretical framework for this paper, as derived from literature, has been presented in figure 1. The figure presents the main problem statement; the amount of time the audience spends consuming content on television as compared to that on connected devices. It can be understood that the time spent on each of the devices is dependent upon the varying motivations. As per the above literature, these motivations are studied using the technology adoption model or TAM (Davis, 1989; Venkatesh & Davis, 2000) as the base framework. The model proposes that the adoption of new technology is dependent upon the individual's 'perceived usefulness' and 'perceived ease of use' towards the intended product. For this research, 'perceived ease of use' (Davis, 1989) has been further studied using the model provided by Struckmann and Karnowski (2016). Struckmann and Karnowski (2016) while discussing determinants of media platform choice talk about multiple factors like physical environment, media access, and specific social dimensions. According to them, media access includes the possibilities of access to multiple media choices. The second motivation of physical environment includes the person's familiarity with the environment; that is if the person is comfortable in that situation. The third factor of specific social dimensions talks about the company the user is in then - are they with familiar people, unfamiliar people or alone. This also influences his or her media choices, either due to social norms or other social psychological factors. 'Perceived ease of use' can also be studied through the model provided by Dimmick et al. (2010) which suggests that mobile or personal devices allow media usage in situations where traditional media may be 'unavailable, inappropriate, or inconvenient.'

Further, 'perceived usefulness' (Davis, 1989) has been studied through the theory of media dependency (Ball-Rokeach & DeFleur, 1976). This theory talks about the dependent relationship between media and audiences. The theory states that in the modern information-based societies, individuals tend to depend upon media to satisfy multiple needs and the more needs it satisfies for an individual, the higher will be the effect of media's influence. In that context, the theory puts forth two propositions; first, the number of functions the medium performs for the audience and second, the level of instability in the society.

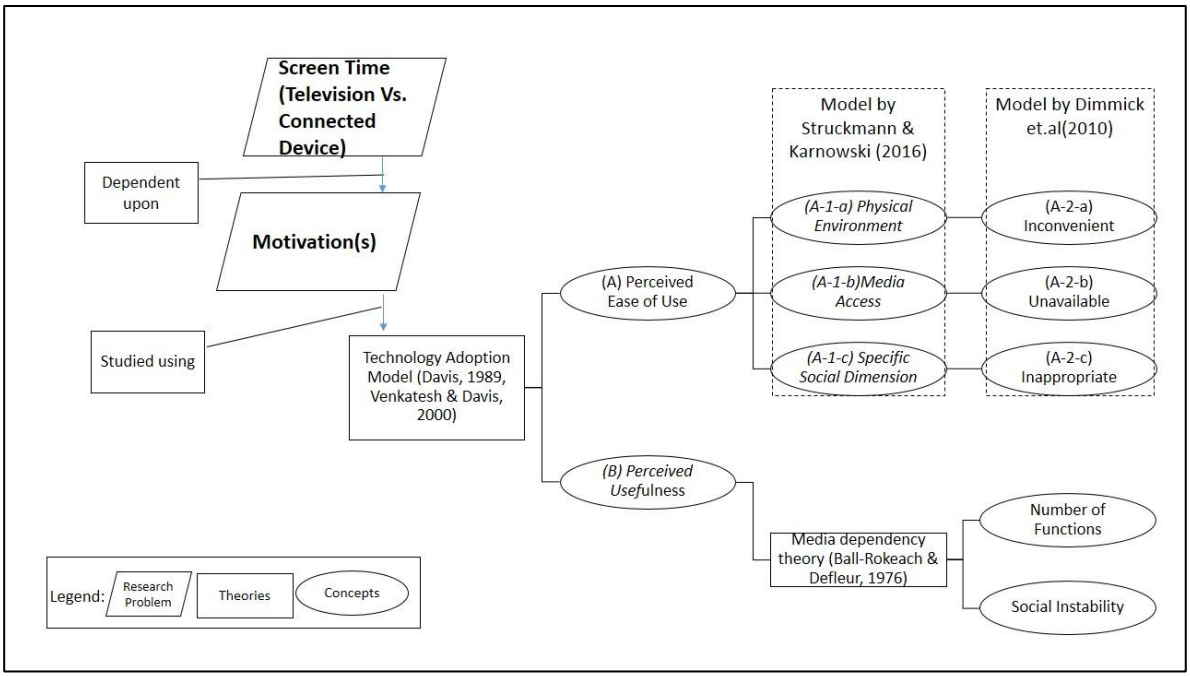

Figure 1. Theoretical framework

This study, thus, attempts to understand if these concepts apply differently for Indian millennials staying at home and ones living in HMOs. The central question is if different motivations are applicable for the two groups which consequently affect their screen time.

5. Research questions and hypothesis

This is an exploratory study that investigates the following question: Do the Indian millennials living in HMOs consume multiscreen content in the same manner as their counterparts living with family or is there a significant difference between the two? This question has been analyzed using two major research questions -

Question 1

Is there a significant difference between the proportion of time spent on television as compared to the connected devices among the two groups - the millennials who live with family and those who live in HMOs?

Question 2

Is there a significant difference between the major motivations or reasons for choosing the connected device for consuming television content, among the two groups?

For the above research questions, two null hypotheses were generated:

H1: There is no significant difference between the time spent on TV versus the connected screen among the people who live with family and those who live in HMOs.

H2: There is no significant difference between the motivations for using the second screen among the people who live with family and those who live in HMOs.

For the purpose of this study, millennials are defined as those 'born in or after 1982' until before the year 2000 (Howe & Strauss, 2000). For this study we use the HMOs or houses in multiple occupation definition as given by The Town and Country Planning (Amendment) (England) as

"living accommodation occupied by more than one household who share one or more of the basic amenities (toilet, washing facilities and cooking facilities)" (Wilson, 2013). These include bedsitting room accommodation, shared houses and hostels. While families are defined as "a group of individuals related to one another by blood ties, marriage or adoption, who form an economic unit, the adult members of which are responsible for the upbringing of children" (Giddens, 2010, p. 1016). For the purpose of this study we use all structures of family as recognized by the Media Research Users Council (MRUC) India. These family structures include nuclear family without elders, nuclear family with elders, joint family or siblings living together (MRUC, 2011).

6. Research methodology

A quantitative survey was conducted to get an understanding of audience behavior. This study has been conducted through a structured online questionnaire-based survey as has been done earlier for studies of similar nature (Struckmann & Karnowski, 2016; Tefertiller, 2018). The survey was conducted during May to September 2018. The survey included questions about respondents' demographic profile and accommodation status. It also enquired about their habits regarding TV video content consumption, the time spent watching on various devices, and the motivations for watching content on secondary screens. The survey was administered to a total of 100 respondents in the age group 20 to 35 years (Howe & Strauss, 2000) through stratified random sampling to reflect an equitable distribution of people from both accommodation types. The respondents were from various cities all over India, including metros like Pune, Mumbai, Delhi, Hyderabad, Bengaluru and non-metros like Amravati, Bhubaneswar, Dibrugarh, and Indore. This was done to get cross-sectional data from across the country and also since a very high number of HMO dwellers live in the metros mentioned above (Rangarajan, 2019). The survey was administered to a total of 100 respondents of which 45 percent of the respondents lived in HMOs, whereas 55 percent of respondents live within various family structures. The family structures included were 'living with spouse', 'living with spouse and kid(s)', 'living with parents/ extended family' At the time of the survey, 55 percent of the respondents were up to 25 years of age and the other 45 percent were aged between 26 and 35 years. The respondents were equally distributed by gender and by occupation status among working professionals and students. This distribution is in line with profiling reports on Indian OTT users which suggest that salaried employees and students are the largest consumer group for these platforms (Counterpoint Research, 2019; FICCI; Ernst & Young, 2019).

The variables in the study include:

- Respondents' accommodation status (living with family or living in HMOs) - The data for this variable was collected through the survey questionnaire. The respondents selected their current accommodation status from among living in residential campus, living in a shared household, living with spouse (nuclear family without elders or children), living with spouse and kids (nuclear family with children), living with parents/ family (joint family or siblings living together). The first two were grouped as shared accommodation while the other three were grouped as living with family.
- Motivations for consuming content on the connected screen- The data for this variable was collected through the survey questionnaire where the respondents ranked the motivations from among a given list. The study hypothesizes that the ranking or linkage with motivations will be different for the two groups of accommodation status. These motivations are studied using the Technology Adoption Model (Davis, 1989; Venkatesh & Davis, 2000) and further using the models proposed by Struckmann and Karnowski (2016) and Dimmick et al. (2010).
- Screen time of the respondents - The total screen time is split between time spent watching content on the television screen and time spent watching content on the connected screen. This is the dependent variable in the study which is hypothesized to be dependent on the respondents' accommodation status.

6.1. Data analysis tools

The validation of the first hypothesis regarding, 'a significant difference in the screen time of the two groups' was done using two-way analysis of variance (ANOVA) test with replication (Wilcox,

1987). The second hypothesis regarding 'most important motivations for watching content on the secondary device' was validated using Spearman's Rank Correlation test (Ramsey, 1989).

7. Analysis

7.1. Significant difference in terms of the proportion of time spent on television vis-à-vis the secondary devices among the two groups

As can be seen in figure 2, the respondents staying in shared accommodation spend a significantly higher proportion of their screen time on the other devices. Those staying in shared accommodation spend only 19.4 percent of 3.6 hours of their daily screen time on the TV set, while those staying with family have an average of 5 hours of screen time and they spend 50 percent of it across TV and other devices.

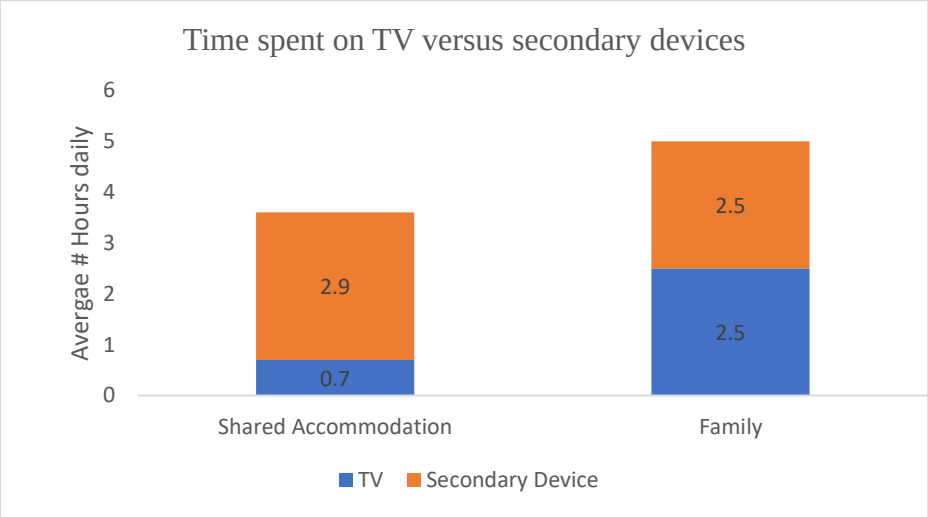

Figure 2. Time spent viewing TV and secondary devices – by accommodation type

To confirm that the difference among the two groups was significant a two-way ANOVA with replication was conducted. The hypotheses:
H0: There is no significant difference between the time spent on TV versus the second screen among the people who live with family and those who live in shared accommodation.
H1: There is a significant difference between the time spent on TV versus the second screen among the people who live with family and those who live in shared accommodation.

The result of the ANOVA analysis is given in table 1.

Table 1. Result of two way ANOVA:
Significant difference between time spent on TV and secondary device.

Source of variation	SS	Df	MS	F	P-value	F crit
Sample	29.60556	1	29.60556	6.765422	0.010085	3.894838
Columns	58.93889	1	58.93889	13.46864	0.000321	3.894838
Interaction	56.67222	1	56.67222	12.95066	0.000416	3.894838
Within	770.1778	176	4.37601			
Total	915.3944	179				

Referring to table 1, the P-value less than 0.05 and the F value is higher than the value of F critical, we can safely reject the null hypothesis and accept the alternate hypothesis thus proving that there does exist a significant difference between the two groups in terms of the time they spend on TV versus that on the secondary devices.

7.2. The motivations for each of the groups for their multiscreening behavior

As can be observed in table 2, the first three ranked reasons are almost the same for both the groups and relate to practical reasons of economy and availability. The most significant difference lies in the next three ranked reasons. For those who live in shared accommodation, these reasons relate to the convenience of watching it at desired times and binge-watching. For those who live with family, it is about the social reasons either involving discomfort in watching content with family or watching their preferred content on the second screen while the rest of the family watches something else on TV, mention of uncensored versions comes up as critical for both groups. Interestingly, ad-avoidance is the least important reason for both the groups.

Table 2. Ranking: Reasons for using secondary devices

Reason for using the second screen - ranks	**HMO**	**Family**
To catch-up on missed episodes	1	1
I do not have a TV connection	2	12
This is cheaper than paying for it on Cable TV	3	3
I can watch it when I want it where I wish	4	7
The latest episodes/season is not available in India yet	7	11
Watch multiple episodes at the same time	6	10
The show has been over on TV for a while now	12	2
Un-cut/uncensored versions	8	5
Watch while traveling/at work	9	8
It is more convenient	10	9
Others watch content I do not prefer	11	4
Uncomfortable watching content in company	5	6
To avoid ads	13	13

A Spearman's rank correlation test was done to confirm if there is a significant difference in the rankings of the two groups. The hypotheses –
H0: There is no significant difference between the time spent on TV versus the second screen among the people who live with family and those who live in shared accommodation.
H1: There is a significant difference between the time spent on TV versus the second screen among the people who live with family and those who live in shared accommodation.

For calculating Spearman's rank correlation, the formula $r_s = 1 - \frac{6\sum d^2}{n(n^2-1)}$ was used. Where r_s =0.28022 thus suggesting that there is a minimal correlation between the motivations of the two groups and hence they are significantly different.

8. Discussion of results

From the data analysis, it can be deduced that there is a significant difference in the second screen consumption patterns and reasons for millennials living with family and those living in HMOs. If we go back to the theoretical model constructed we see that the screen time is significantly different for the two groups. The millennials living with family have a higher total screen time and half of it is spent watching television. While, the HMO dwellers, have a lower screen time and most of it (80.6%) is spent on the connected screens. The second problem statement

from the theoretical construct refers to the motivations for the above behaviors. This has been studied through the lens of the technology adoption model (Davis, 1989; Venkatesh & Davis, 2000). The first motivation of TAM, perceived ease of use has been analyzed using the three concepts suggested in the model by Struckmann and Karnowski (2016). The factors of the physical environment and specific social dimension represent the variation in the time spent on traditional television versus secondary screens. We see that those who live in shared accommodations spend a higher proportion of their screen time on secondary screens. This is in line with influence of intimacy on selection decisions (Struckmann & Karnowski, 2016), stating that in the presence of strangers (roommates etc.) to whom the person is not comfortable opening up, the usage of mobile and personal devices shows a marked increase thus leading to a reduction in the usage of traditional media like television which is used only during select social or physical occasions (Struckmann & Karnowski, 2016). This is also in line with another study (Heath, 2004) which suggests that young people living in shared accommodation spend time in their rooms to secure a modicum of privacy and to watch their favorite TV programs (Heath, 2004).

When we study the motivations for using the connected screens, the first three motivations for both groups are related to practical reasons of economy and availability – that is media access (Struckmann & Karnowski, 2016) or availability (Dimmick et al., 2010). 'To Catch-up on Missed Episodes' is the number one reason for using the secondary devices for both. The second most important reason for HMO dwellers is unavailability of television set, while it is the unavailability of content (show has been over on TV for a while now) for those living with family. For both the groups, economy is the third most important reason. This last reason has majorly come into play in India since the launch of extremely economical 4G internet subscriptions in India over the last couple of years (Mehta, 2017). Thus, media access (Struckmann & Karnowski, 2016) or availability (Dimmick et al., 2010) are the common most important motivations for using the connected screen among both groups.

The difference in motivations among the groups are visible in the next three reasons. For those living with family the fourth most important reason points to program choice conflict. This is again linked to media access in Struckmann and Karnowski's (2016) model or being 'unavailable' in Dimmick et.al.'s (2010) model.The fifth and sixth motivations for family dwellers relate to inapprorpiateness of content as suggested by Dimmick et.al.(2010), translating to specific social dimensions in Struckmann and Karnowski's (2016) model.

For the HMO dwellers, the fifth most important motivation (Uncomfortable watching content in company) relates to specific social dimensions in Struckmann and Karnowski's (2016) model. Their fourth and sixth most important motivations (I can watch it when I want it where I wish and Watch multiple episodes at the same time) relate to convenience from Dimmick et.al.'s (2010) model.

Further the motivation of binge-watching (watch multiple episodes at the same time) among HMO dwellers leads to the theory of media dependency (Ball-Rokeach & DeFleur, 1976). Thus proving that they are highly dependent on media and that media plays a higher number of functions for them. According to the uses and gratifications theory (McQuail, Blumler, & Brown, 1972) these could be any combination of identity, relationships - considering they are in a new social set up and experience increased social isolation (Heath & Kenyon, 2001)and diversion. This can be further analysed as a future study working on motivations and the roles media plays for these audience as well as their social instability.

Hence, media access comes out as the key reason for using secondary screen among Indian millennials irrespective of their accommodation status. While media access is followed by physical environment or convenience among LMO dwellers, motivations of specific social dimensions or inappropriateness are vital among those living with family.

From the data analysis, it can be deduced that there is a significant difference in the second screen consumption patterns and reasons for millennials living with family and those living in HMOs. If we go back to the theoretical model constructed we see that the screen time is significantly different for the two groups. The millennials living with family have a higher total

screen time and half of it is spent watching television. The HMO dwellers have a lower screen time and most of it (80.6%) is spent on the connected screens. The second problem statement from the theoretical construct refers to the motivations for the above behaviors. This has been studied through the lens of Technology Adoption Model (Davis, 1989; Venkatesh & Davis, 2000). The first motivation of TAM, perceived ease of use has been analyzed using the three concepts suggested in the model by Struckmann & Karnowski (2016). The factors of the physical environment and specific social dimension represent the variation in the time spent on traditional television versus secondary screens. We see that those who live in shared accommodations spend a higher proportion of their screen time on secondary screens. This is in line with influence of intimacy on selection decisions (Struckmann & Karnowski, 2016), stating that in the presence of strangers (roommates etc.) to whom the person is not comfortable opening up, the usage of mobile and personal devices shows a marked increase thus leading to a reduction in the usage of traditional media like television which is used only during select social or physical occasions (Struckmann & Karnowski, 2016). This is also in line with another study (Heath, 2004) which suggests that young people living in shared accommodation spend time in their rooms to secure a modicum of privacy and to watch their favorite TV programs (Heath, 2004).

When we study the motivations for using the connected screens, the first three motivations for both groups are related to practical reasons of economy and availability – that is media access (Struckmann & Karnowski, 2016) or availability (Dimmick et al., 2010). 'To Catch-up on Missed Episodes' is the number one reason for using the secondary devices for both. The second most important reason for HMO dwellers is unavailabily of television, while it is the unavailability of content (the show has been over on TV for a while now) for those living with family. For both groups, economy is the third most important reason. This last reason has majorly come into play in India is the launch of extremely economical 4G internet subscriptions in India over the last couple of years (Mehta, 2017). Thus, media access (Struckmann & Karnowski, 2016) or availability (Dimmick et al., 2010) are the most important motivations for using the connected screen among both groups.

The difference in motivations among the groups in the next three reasons. For those living with family, the fourth most important reason points to program choice conflict. This is again linked to media access in Struckmann & Karnowski's (2016) model or being 'unavailable' in Dimmick et al.'s (2010) model. The fifth and sixth motivations for family dwellers relate to inappropriateness of content as suggested by Dimmick et al. (2010), translating to specific social dimensions in Struckmann & Karnowski's (2016) model.

For the HMO dwellers, the fifth most important motivation (Uncomfortable watching content in company) relates to specific social dimensions in Struckmann & Karnowski's (2016) model. Their fourth and sixth most important motivations (I can watch it when I want it where I wish and Watch multiple episodes at the same time) relate to convenience from Dimmick et al.'s (2010) model.

Further, the motivation of binge-watching (watch multiple episodes at the same time) among HMO dwellers leads to the theory of media dependency (Ball-Rokeach & DeFleur, 1976). This establishes that they are highly dependent on media and the media serves high number of functions for them. According to the Uses and Gratifications theory (McQuail et al., 1972), these functions could be any combination of identity and relationships - considering they are in a new social set up and experience that has increased social isolation (Heath & Kenyon, 2001) and diversion. This can be further analyzed as a future study working on motivations and the roles media plays for this audience as well as their social instability.

Hence, media access comes out as the key reason for using secondary screen among Indian millennials irrespective of their accommodation status. While media access is followed by physical environment or convenience among HMO dwellers, motivations of specific social dimensions or inappropriateness are vital among those living with family. Hence, it is argued that access to media technologies has an overwhelming impact on engagement with second screens. However, Indian millennials living away from families exercise greater personal agency; while millennials co-

habiting with families exercise greater care with respect to appropriateness of content acknowledging the dynamics of their physical environment.

9. Managerial implications

Millennials are the most coveted consumer group in India today (Deloitte, 2018) accounting for approximately 70 percent of total household income in India (Deloitte, 2018). Most brands and advertising wishes to understand and target this group using various media. A Morgan Stanley (2017) report maintains that half of the Indian millennials prefer the traditional media and 31 percent consume online and offline entertainment equally (Morgan Stanley, 2017). That makes it imperative for brands to understand the motivations of these audiences for selecting their media-mix. It is also understood that an equally high number of this sought-after target group now lives in shared accommodation or HMOs (Chhajer, 2019; Nandy, 2018; Rangarajan, 2019) as with families. This study establishes that there is a significant difference between the two groups in terms of screen time and motivations for using the secondary screens. It may be crucial for marketers to understand those differences and target the prospective consumers accordingly. While access and availability may be the primary motivation for both groups, the second motivation for HMO dwellers is convenience, whereas that for family dwellers is social appropriateness. This study also establishes that the LMO dwellers have a higher media dependency because of their specific social situation (Ball-Rokeach & DeFleur, 1976; Heath & Kenyon, 2001; Ruggiero, 2000).

10. Limitations and directions for future research

This is an exploratory study with a limited sample size, hence caution must be exercised in generalizing the results to a wider population. The current academic research on cross media viewership in India also discusses the paucity of adequate attention to consumption cultures that are being created in the process. Despite the expansive growth of India's Internet infrastructure and the predicted growth of the on-demand content market, few studies consider that the Indian digital entertainment ecosystem (Mehta & Kaye, 2019) profiles have an abstract, partial relationship to human agency and say little about the grounded realities of how individuals actually make use of their services (Evans et al., 2016).

As a next step, qualitative research could be conducted using in-depth interviews as a research tool. This will help to get deeper insights into the motivations and a better understanding of the audience behavior. Further analysis on this data could also be done through the lens of the media dependency theory (Ball-Rokeach & DeFleur, 1976) as well as from the newer perspectives of the uses and gratifications theory (Ruggiero, 2000). Another theoretical perspective that may be explored in further studies could be the theory of media substitution (Tefertiller, 2018).

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