Interactive Television : Redefining the Way of Television Advertising

Samiran Sur & Mrinalini Pandey

Abstract

Advertisement is well known and probably the most used form of promotion in marketing. Till now Traditional Television is the most common medium of video advertising. TV advertising can create emotional as well as visual impact on audience's mind. Due to these characteristics it's become a powerful and lucrative media for advertisers. It is essential to match advertisements with their audiences, a move that gives viewers a more engaging experience and advertiser's bigger revenue. Traditional Television marketers are facing challenges because of multi-platform distribution and that fragments the target audiences. The biggest drawback of traditional Television is that it is inherently difficult to TV advertisers to target the precise audience. Advertisers need to be very clear about their targeted customer, so that the right message can be conveyed to the right people in right manner. Though traditional Television is the most common medium of video advertising, drawbacks are also there. Through Addressability and Interactivity, Television system can overcome these drawbacks. This article tries to find out the factors which affect the acceptability of Interactive Television. It also tries to focus on benefits of addressable advertisement and how it can help advertisers and viewers too.

Key Words: *Interactive Advertising, Perceived usefulness, Technology Acceptance Model, Addressable advertising.*

Introduction

The task of adverting is to communicate with the unknown but omnipresent customer, in a language understood by him in the media which is preferred to him so that he can get an 'Opportunity to See' the advertisement. Also the customer convincing function of is part of the creativity of the advertisement, its attractiveness and its eye-catching ability. The customers are people of different layers of the society, the advertisers should aware about the market segment closest to using his product. For this purpose he needs to have a thorough knowledge of different methods market segmentation and the media most relevant to that segment. Different types of media for advertising are Newspapers, Magazines, Yellow pages, Radio, Television, Direct mail, Telemarketing, Speciality advertising and most recently Interactive TV.

Electronic media relates to Television, radio, video cassettes etc. Television has made a biggest impact on customers as a media for advertisement. Viewer-ship of Television has increased many times because of satellite and cable technology. Content, Coverage and Commercials the three C's driving the quest for a better business model and revenue picture. Once they've grown their subscriber bases and audience the natural progression is to seek advertising deals and income that strength the bottom line.

Television as an Advertising Medium

Now a day's Television (TV) becomes one of the most commonly used media for advertisement because visual impact of the media is very much powerful. Due to live demonstration of product in TV advertising it is easier to handle the product for customer. Commercials are made using the latest filming techniques to capture the attention of the viewers. But the necessary thing is meaningful strategy backed up by a strong creative idea. Advertiser's message should able to provide them the information they want, a solution to their problem, a situation with which they can identify and to entertain them. A commercial must open in such a way that further viewing is ensured.

Singhal et Al. (1988) has said, in India TV was introduced as an experimental educational service in Delhi in 1959, with regular daily broadcasts beginning in 1965. Between 1972 and 1975, TV transmitters began broadcasting in Bombay (recently Mumbai), Srinagar, Amritsar, Pune, Calcutta (recently Kolkata), Madras (recently Chennai) and Lucknow. Before the arrival of satellite channels Door-Darshan (DD) ruled the scene with monopoly terrestrial transmission. DD was the only channel available followed by DD2 or Metro. "In India the first commercial TV spots were aired in 1976, and in 1980 the first advertising sponsors were allowed. The TV programme *Hum Log* helped launch commercially-sponsored programmes on Door-Darshan. Maggi 2—Minute Noodles, a nestle product, was launched in a major way in 1984 via TV advertisement in *Hum Log.* The production of Maggi Noodles increased from 1,600 ton in 1983 to 2,600 tons in 1984, 4,200 tons in 1985 and about 5,000 tons in 1986. The successful experience of the commercial sponsors of *Hum Log* with Maggi Noodles convinced other advertisers that TV programme sponsorship was a promising investment. Door-Darshan had an almost 200-fold increase in its annual revenues through advertising spots since going commercial, from US$ 640,000 in 1976 to US$ 130 million in 1987".

Pleshette (2003) explained us some key features of Television through which it placed as one of the most preferred media. Those features are - it permits to reach large numbers of people on a national or regional level in a short period of time , independent stations and cable offer new opportunities to pinpoint local audiences ,Television being an image-building and visual medium, it offers the ability to convey our message with sight, sound and motion , but there are weaknesses too, like, message is te .iporary, and may require multiple exposure for the ad to rise above the clutter , preferred ad times are often sold out far in advance , limited length of exposure, as most ads are only thirty seconds long or less, which limits the amount of information you can communicate.

Problem definition

Addressable Advertisement is not new. Addressable advertising is the way of communicate a commercial to a customer based on their address. It has been exercised for many years in different forms, such as direct mail. But the current addressability is associated with TV advertisement. Through Interactivity and Measurability feature of Addressable advertising, marketer can predict the effectiveness of their advertisement. It is a method of delivering particular message to a target demographic by cable or satellite set-top boxes. Earlier audience was not fragmented as it is now amongst the several channels. Previously

Door-Darshan had the increasing share of advertising revenue, but that was later shared with satellite channels. With such jumble twenty-four hour programmed channels; it is increasingly difficult to get the viewers to watch commercials and its message. The biggest drawback of traditional Television from the advertisers view point is that, it is inherently difficult to TV advertisers to target the precise audience. It is essential to match advertisement with their audiences, a move that gives audience a more engaging experience and advertiser's bigger revenue. From viewer's point of view the drawback is that they are bombarded by irrelevant ads in every commercial break. Through addressability of Interactive TV marketers can reach to their target audience as per the target segments.

Literature Review

Conceptual Background

Interactive TV has characteristics of both information and media technology, for this reason we can say it's a convergent of those two technologies. It broadcasts different contents to subscribers via IP network. As such, Interactive TV using intent should be described in part by the technology acceptance model, TAM (Davis, 1989). TAM hypothesizes the effects of external factors on intention to use by perceived usefulness (Gefen, 2003; Talyor and Todd, 1995; Shin et al., 2008) and perceived ease of use (Venkatesh and Davis, 2000). TAM has been demonstrated its robustness through a range of empirical research in IS study (Davis et al. 1989; Legris, 2003) and applied across a variety of IT areas. The original factor Perceived ease of use (PEU) was defined as "the degree to which a person believes that using a particular system would be free of effort". Perceived usefulness (PU) was defined as "the degree to which a person believes that using a particular technology would enhance his or her performance" based on the definition of TAM study (Davis, 1989). As per previous studies, PEU and PU were directly or indirectly associated to Behavioral Intention (BI) (Davis, 1989; Karahanna et al., 1999; Venkatesh and Morris, 2000; Moon and Kim, 2001).

Perceived enjoyment can be defined as the degree to which a user perceives a system to be enjoyable in its own right after using it (Davis, 1989; Karahanna, 1999; Morris& Dillon, 1997; Segars & Grover, 1993; Yi & Hwang, 2003). Previous TAM research exposed that enjoyment is one of the most important factor of intention (Sun & Zhang, 2006a, 2006b; Yi & Hwang, 2003). Moreover, key purpose of TV is pleasure and enjoyment. Many research demonstrated that perceived enjoyment positively affected a user's attitude (Shin, 2008).Particularly, in case of interactive TV, TV features are enjoyment of using and ease of inducing interest (Kim& Moon 2001).

It is assumed that Perceived price level and perceived enjoyment is will to play the most significant role in TAM acceptance (Weniger, 2010).

Similarly, other research (Fogelgren-Pedersen, 2005) has shown that stability of connection and geographical coverage are important factors of perceived relative advantage in wireless broadband. The perceived enhanced utility of mobile services is a powerful variable motivating use of t-commerce. Though previous researches demonstrated important perceived variables, they still did not find factors particular to convergence technologies (Shin, 2009).

Interactivity Related Research

Interactivity is an intermediate component between a customer / prospect and company. Information technology may be only mediators which facilitate interactive communication. Interactivity comes as a result of changing environment and growing demand of customers' to get personalized services / products (Virvilait et al., 2005). Cutler (1990) describes the new interactive media as media that facilitate the chance to instantaneously advertise, accomplish a sale, and collect payment. Interactive marketing exposed new approach including new thought both in business and in management and marketing. Interactive marketing is treated as management of interaction, relations and networks.

The definition of interactivity may change according to the situation (Johnson et al., 2006).Many researchers (Hoffman and Novak, 1996; Stromer-Galley, 2004) classified interactivity in three aspects: user-media interactivity, user-information interactivity, and user-user interactivity. Another study (Liu and Shrum, 2002) suggested three-dimensional interactivity concept (Active control, Two-way communication, and Synchronicity). Earlier studies into interactivity was mostly concentrated on the process of information exchange (Rafaeli, 1988; Rafaeli and LaRose, 1993; Zack, 1993), as well as on particular chat rooms or search engine response characteristics that serve to increase interactivity (Shin, 2011). Interactivity is the level of participation to modify the contents and form of real time media (Steuer, 1992).

The meaning of Interactive marketing is development of several forms of interaction and cooperation trying to find out prospects and establish a dialog with them. Through computer technology marketer now can do micromarketing and can control of marketing relationships better (Peattie et al., 1997). Interactivity is based on new IT which enables synchronous mutual communication during which a customer is engaged into the process of active mutual cooperation (Virvilait, 2005).Being a fresh marketing concept, interactive marketing exposes value of a long-term interaction between the marketer and a customer. It allows customers to choose program and interact in a two-way mode with the service delivery system.

New media has shifted the connection between customers and company. The rise of user created media has turned customers into content generators. Shift of power relations have not only modified the customer's expectations, but also have changed buying decisior .making. Signs that users are shifting their media usage are well established and there is extensive evidence of a decline in conventional media habits (Danaher and Rossiter, 2006; Higgs, 2008). In response, companies are changing expenditure away from conventional media and searching for new media options, which are often untried(PQ-Media 2006). The fresh media environment is not only just a new direction of reaching customers, but has transformed many aspects of marketing – from segmentation, targeting positioning, distribution, customer relationship management (CRM) and the consumer value chain.

Hyper –segmentation is now a reality due to technological developments (Christian, 2005).Companies can use interactivity to query prospects throughout information interactions, thereby continuously rectifying the consumer profile (Higgs, 2008). Every successive interaction is able to yield rich

data enabling continuous micro segmentation. In the interactive media industry and in CRM literature this process is also referred to as progressive profiling (Christian, 2005; Dureau, 2004; Gal-Or, 2006). For gathering information on watching patterns and ad preferences addressable advertising exploits the potential of personal video recorders (PVR).Interactive media offer customers new ways to derive brand experiences. New media was slow to be structured, possibly due to deficiency of suitable media metrics (Higgs, 2008). Interactive advertising also has the potential to lessen the 'process loss' associated with uncoordinated advertising, to reduce the difficulties commonly encountered in clearly communicating an advertising message and to help overcome resistance to new products.

Pavlou (2000) describes, interactive advertising has the potential to raise the efficiency and quality of consumers' decisions, increase customers' involvement and satisfaction also marketers can use feedback from consumers to improve their advertising message and strategically adjust their customer support, product line, and services provided. Interactive advertising may also produce greater efficiency, trustworthiness, and quality in advertisement.

IP sets a completely newer standard in flexibility; being capable to deliver data to a single address service providers can broadcast different TV programs to different subscriber irrespective of geographic location even in same street or even within the same family (Christian, 2006). Addressable TV takes up less bandwidth than current TV networks. This is due to the reason that whole channels are not present on the signal in the user's house. Only the channel or channels that the viewer wants to watch are present in their home.

Research Related to Addressability

Every internet user has unique address. Using this notable attributes targetable advertisement can be possible. The IP endpoint is the television set or the set-top-box attached to it, which allows programmes or advertisement to be viewed via TV, depending on the instruction of remote commander.

Hart (2008) has said due to its inbuilt addressability many hundreds or even thousands of Interactive TV advertisements can be delivered simultaneously during a single timeslot and can be targeted at large groups, small groups or even individuals, and for viewers' responses to be collated. The personalisation can be based on sophisticated demographics so that viewers no longer need to be bombarded by irrelevant ads. The targeting can be demographic as well as geographic also. In demographic targeting ad spot sold multiple times to different advertisers targeting different non-over-lapping demographic audiences, but in case of geographic targeting ad spot sold multiple times to different advertisers or same advertiser having regional agents or franchisees targeting different audience by place or location.

From the viewers' perspective, it is much better to see advertising for products and services that are relevant to their individual areas of interest. For content providers, the extra revenue generated can gear up additional content creation.

Recent studies (Harte, 2009) indicate that matching the right ads to the right customer at the right time can involve many rules and decisions. Ad campaigns define what

promotional opportunities advertisers are willing to pay for, including region, system type and times of insertion. Advertisers may define what types of content they want to insert in their ads. Addressable advertising systems can select ads, coordinate ad insertion and track the ad consumption (viewing and interaction). Addressable ad insertion systems may be capable of managing ad in broadcasts (linear advertising) or programs (on demand). Addressable advertising systems operate on a system of rules rather than simple ad insertion orders. They use databases (normally in relatively simple XML text formats) that identify content, promotional opportunities and subscriber preferences. Addressable ad insertion systems may be designed to integrate with existing TV ad systems. Ads can be placed at relevant time, for example before starting of any programme or when the set-top box boots up, as a Screensaver, as a buffer when a movie loads or dynamically in the video streams, as an information screens.

Objectives

The objective of this study is to find factors influencing the acceptance of interactive TV service in India. For achieving this, we have chosen a structured framework. The quantitative analyses for finding out the factors will be done on the data collected from the sample customers and then generalize the data to population. Therefore, this theory will be developed by using both quantitative and qualitative research methods.

Research Hypotheses and Framework

Constructs were identified from already existing measures and then modifying them, as necessary to suit the context of interactive TV.

In technology acceptance research, Davis (1989); Davis, Bagozzi, and Warshaw (1992), and Venkatesh (2000) revealed that perceived usefulness influences the intention to use IT. Other researchers (Talyor and Todd,1995 ; Shin, 2009) supported the findings.

Hypothesis HI: Perceived usefulness will have a positive effect on Intention to use of Interactive TV.

Davis, Bagozzi, and Warshaw (1992); Heijden (2004); Weniger, S., (2010); Shin, (2009) indicate that perceived enjoyment serves as intrinsic motivator. So it has an influence on the intention to use Information Technology.

Hypothesis H2: Perceived enjoyment will have a positive effect on Intention to use of Interactive TV.

Rogers and Shoemaker (1971, cited in Gardner, C. and Amoroso,D. L., 2004) defined perceived complexity as the degree to which computer technology is perceived as relatively difficult to understand and use . Davis (1989) and Igbaria et al. (1996) tested complexity in terms of time taken to perform tasks. Igbaria, et al. (1995) saw strong relationships between perceived complexity and perceived usefulness with usage.

Hypothesis H3: Perceived complexity will have a negative effect on Intention to use.

Shin (2009) added perceived cost variable as a significant factor in developing the intention to use Interactive TV. According to Pavlou and Fygenson (2006), the perceived price level is important is developing intention for service usage. Cheong and Park (2005) found that the price has a significant affect in the development of initial willingness to use mobile Internet.

Hypothesis H4: Perceived cost level will have a negative effect on Intention to use.

Perceived system quality – referring to Interactive TV may be said to be based on attributes such as response time, system accessibility, and reliability (Weniger, 2010). Aladwani and Palvia (2002) added system quality is especially crucial in the context of IS, because many people become reluctant to use Information System (IS) when they feel frequent delays in response, frequent disconnection, lack of access, and poor security. Study of DeLone and McLean (1992), information quality and system quality were found to be important constructs for the success of IS.

Hypothesis H5: Perceived system quality will have a positive effect on Intention to use.

Methodology

Procedures

In researching this paper a variety of market influencing factors are analyzed. First, constructs were selected from previous studies and modified them as necessary, because previous constructs were for relatively simple technology. So for generate new item, focus group method was conducted and taken opinion from experts. All measures employed five point Likert scale anchored by Strongly disagree (1) at one end, to Strongly agree (5) at the other.

Total 19 numbers of items were generated for the study. Reliability of the questionnaire was tested through Cronbach's alpha test and the result is given in result section. This study is based on Primary Data collected by administering questionnaire. Based on the literature review, focus group interview and with the help of experts' opinion, questionnaire was designed and circulated to respondents. Sample size was 100 respondents which consisted of student, Service holder, Housewife, Self-Employed who are using interactive TV. All the respondents are chosen from Kolkata city.

Subjects

Demographic data was gathered about the subjects including age, gender, education and occupation and income. Out of circulated 100 questionnaires, 94 were returned in completely filled condition. Demographic characteristics of the respondents are given in Table 1.

Table 1: Demographic characteristics

Variables	Classification of Variables	Percentage
Gender	Male	59.6
	Female	40.4
Age	25 or Below	31.9
	26 to 35	31.9
	36 to 45	17
	46 to 55	14.9
	More than 55	4.3
Occupation	Student	23.1
	Working in Govt. / PSU Sector	20.2
	working in Private sector	12.4
	Housewife	18.1
	Self-employed / Business	26.2

Results and Discussions

The constructs were assessed for reliability using Cronbach's alpha. The measured of alpha were 0.740 for Perceived usefulness, 0.926 for Perceived enjoyment, 0.709 for Perceived complexity, 0.770 for Perceived cost and 0.785 for Perceived system quality. As per guideline, minimum alpha is considered as .70; however, a value of .60 is may be acceptable for new scales (Nunally 1978; Hair et al. 2009).So these values are all greater than minimum of 0.7 required for constructs to be deemed reliable.

Construct Validity

Convergent validity is a significant factor of construct validity, which is present when the indicators of the same construct have a high proportion of variance in common (Bagozzi and Phillips, 1982). All items should be related to each other for multi-item measures of a single construct. For testing the convergent validity Exploratory Factor Analysis (EFA) represented by Principal Components Analysis (PCA) with Varimax rotation were performed.Before moving to factor analysis KMO Measure of Sampling Adequacy and Bartlett's Test of Sphericity was done. The KMO varies from 0 to 1. As a rule of thumb KMO should be larger than 0.5 (Malhotra, 2011). KMO is equal to 0.600 which is above 0.5 and which indicates that it is appropriate to conduct factor analysis. Also Bartlett's test shows an approximate chi-square of 1025.221 with an observed significance of 0.000 (Bartlett's sign<0.001) which indicates that the overall intercorrelations assumptions are met (Field 2009) and the strength of the relationship among the variables is strong. As a result, the data set was considered appropriate for conducting EFA (Hair, Anderson et al. 2003; Field 2009). Except items PCL3 and PC2 (which need further analysis), rest all the items have taken high load on their respective construct. The result is shown in table-2. Discriminant validity can be shown if items are loaded highly in a specific factor and do not take high load on other factors (Straub 1989; Hair et al. 2003). From table -2 it can be concluded that all the items take high load on their respective constructs and weak loading on other constructs, hence discriminant validity is proved.

Table -2 Factor Analysis

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
PU1	**.873**	-.124	-.233	-.071	.263
PU2	**.867**	.081	-.343	-.017	-.204
PU3	**.822**	-.171	.072	-.044	-.006
PU4	**.818**	-.015	.191	-.032	.070
PU5	**.811**	.280	-.144	-.109	-.255
PCL3	**.807**	.415	.186	.118	.056
PU7	**.806**	.028	.104	-.086	.353
PC2	**.685**	.234	-.156	-.286	-.253
PE1	-.111	**.811**	.146	-.052	.232
PE2	.390	**.687**	.014	.233	.033
PE3	.444	**.685**	.345	-.043	-.208
PE4	.369	**-.579**	.350	-.269	.135
PCL1	.126	.129	**.883**	-.165	.247
PCL2	-.347	.119	**.857**	.014	.010
PSQ1	-.016	-.082	-.204	**.813**	.018
PSQ2	.074	.140	.121	**.793**	.002
PSQ3	-.310	.109	-.108	**.716**	.046
PC1	-.199	.337	-.015	.131	**.845**
PC3	.263	-.122	.264	-.041	**.814**
Eigen Value	6.334	2.883	2.621	1.830	1.265
Cumulative %	32.26%	45.36%	57.46%	68.53%	78.60%

The means, standard deviations and correlation coefficients for all constructs were determined and are displayed in Table 3 and table 4.

Table 3: Descriptive Statistics: Multiple Regressions

Variable	Mean	Std. Deviation
Perceived enjoyment (PE)	3.285	.885
Perceived usefulness (PU)	3.847	.538
Perceived complexity (PC)	2.445	1.654
Perceived cost level (PCL)	2.650	.990
Perceived system quality (PSQ)	3.453	.773

Table 4: Intercorrelation Matrix

	ITU	PU	PE	PSQ	PCL	PC
ITU	1.000					
PU	.446	1.000				
PE	.339	.159	1.000			
PSQ	.167	.581	.359	1.000		
PCL	.043	.063	.151	.074	1.000	
PC	.221	-.101	-.167	-.066	.161	1.000

Hypothesis testing

Multicollinearity was measured through variance inflation factor (VIF). Zuur et al. (2010) suggested that VIF value less than 3 is acceptable, this study shows that all VIF values are less than 2, so it can be concluded that the variables are reasonably free of the multicollinearity problem. Hypotheses were tested through multiple regression analysis.

The independent variable were thus regressed on the dependent variable (intention to use) the results of which are are shown in Table5.

The results of multiple regression analysis are shown in table 4.10. Regression of the Intention to use' has been done on the eight factors across the data for 94 respondents. An examination of F value (significant at 1 percent level) reveals that the regression model is a good fit. The significant F ratio (21.684) shows that the regression model as a whole has a high explanatory power. The value of adjusted R-square (0.317) explains 31.7 percent variation in the dependent variable. The Durbin Watson DStatistic value can vary from 0 to 4. As a rule of thumb, Field (2009) suggests that value less than one or greater than 3 are normally undesired. Here the value of Durbin Watson D Statistic (1.488) for the regression (as shown in table 5) indicates that the residuals do not suffer from serial autocorrelation at 1 percent significance level.

Table 5: Regression results
(Dependent variable: Intention to use)

VARIABLES	COEFFICIENTS
Constant	0.994* (1.578)
Perceived usefulness	.578*** (10.178)
Perceived enjoyment	.203*** (4.297)
Perceived system quality	.146* (2.506)
Perceived cost level	012 (.244).
Perceived complexity	-.219*** (-4.618)
F ratio	21.684
Adj. R2	0.317
Durbin Watson D Statistic	1.488

*, **, *** significant at the 10%, 5% and 1% level respectively. t values are shown in parenthesis.

From the t values, it is observed that 'Perceived usefulness', 'Perceived enjoyment', 'Perceived system quality', 'Perceived complexity' are significant explanatory variables for intention to use Interactive TV.

Perceived usefulness, Perceived enjoyment and Perceived system quality has positive coefficients in the regression. The positive influence suggests that intention to use

Interactive TV depends on the perceived usefulness, so, it can be said that people are interested about the usefulness of convergent technology. Also as it is not only work related system people are enjoying the TV system which has a positive relation with intention to use.

Here the regression analysis provides some very interesting results. The intention to use Interactive TV is negatively related to Perceived complexity. This particular relation proves that user system must be simple.

Perceived cost level does not show any significant influence on intention to use Interactive TV. Though this is a bit ambiguous result, possible explanation is that, users may feel uneasy during the time of using Interactive TV, because, Cable TV don't need to connect set-top box ,simply users' need to switch on the TV . But in case of Interactive TV the people who are not proficient in using new technology they might feel discomfort which adversely affects the continuation of Interactive TV service.

Implications

This study provides a theoretical and empirical analysis to demonstrate factors affecting a potential user's acceptance of Interactive TV, which in turn proposes practical implications for the industry.

Primarily 'Perceived usefulness ', 'Perceived enjoyment' and 'Perceived system quality' are identified as antecedents of intention; so this has some practical implications in enhancing the attitude toward using Interactive TV service. Service providers should first develop more features for customers in order to attract novice users to accept the service. This factor can be used in attracting new users and should be carefully designed in terms of users' requirements to reflect perceived usefulness of this service. Service provider should add more program for fun as well as they must improve their system quality, so that customer can feel the better system quality in comparison to traditional cable.

This study also revealed that 'Perceived complexity' has negative effect on intention to use. This finding has implication for marketers; it suggests that system must be simple, so that effort of customers must be less when they are using Interactive TV.

Conclusion

This study makes significant contribution across the area of new service adoption and usage research and practice. These contributions are:

1. The development and forecast of the factors that affect the adoption and acceptance of new service; and it's implication regarding the new technology in the broadcasting and advertising sector in India.
2. The empirical support for integrative research framework and the literature.
3. The outcome of this research is an indication of the good explanatory power for intentions and can be used as a research model for further study on adoption of this type of service.

Limitations

The adoption of Interactive TV technologies is a dynamic and uninterrupted process. One of the main limitations of this study is that it used cross-sectional survey. Therefore the inferences are not as robust as in a longitudinal study. There is a possibility that some articles may have been overlooked in the literature survey process, though extensive efforts were taken to review. Additionally, there might be other factors did

not reveal themselves in this research, which may have influences on acceptance of Interactive TV. Even though a rigorous process was followed in this research, possible measurement errors and sample error cannot be completely ruled out. Finally, the sample is limited to a particular zone of India and was not tested in other regions of the country

References

Aladwani, A. & Palvia, P.C.(2002), Developing and validating an instrument for measuring user-perceived web quality. Information and Management, vol.39 , pp. 467–476. Retrieved from http://www.ugr.es/~focana/dclasif/artuserweb.pdf.

Bagozzi, R. P. & Phillips, L.W. (1982), Representing and Testing Organizational Theories: A Holistic Construal, Administrative Science Quarterly, Vol. 27, pp. 459-489.

Cheong, J.H. and Park, M.C. (2005), Mobile internet acceptance in Korea. Internet Research, vol. 15(2), pp.125–140.

Christian, P. (2005), Addressable IPTV Advertising: Dramatically Increasing Revenue per Viewer. Retrieved 21 January, 2011, from http://www.iptvarticles.com/iptvmagzine_2005_10_addressable_iptv_advertising.htm.

Christian, P. (2006), Let a Thousand TV Channels Bloom. Engineering & Technology, Vol.1(7),pp 28-31.

Cutler, B. (1990),The Fifth Medium, American Demographics, vol.12, pp-24-29. Danaher, P.J. & Rossiter, J.R. (2006), A Comparison of the Effectiveness of Marketing Communication Channels: Perspectives from Both Receivers and Senders. Retrieved 22 May, 2012, from http://www.mailmarketing.com.au/files/AuspostDanahersFullReport_1_.pdf.

Davis, F. (1989). Perceived usefulness, perceived ease-of-use, and user acceptance of information technology. MISQuarterly, pp.319-340, September.

Davis, F.D., Bagozzi, R.P. & Warshaw, P.R. (1989), User acceptance of computer technology: a comparison of two theoretical models. *Management Science*, vol.35(8), pp.982-1003. Retrieved 24 October, 2011, from http://www.ii.metu.edu.tr/sites/default/files/DavisBagozziWarshaw_MS89_User_Acceptance_of_Computer_Technology.pdf

Davis, F.D., Bagozzi, R.P., & Warshaw, P.R.(1992), Extrinsic and intrinsic motivation to use computers in the workplace, Journal of Applied Social Psychology, vol.22, pp.1111–1132.

DeLone, W. & McLean, E.(1992), Information systems success: the quest for the dependent variable. Information Systems Research, vol.3(1), pp.60–95.

Dureau, V. L. (2004), Addressable Advertising on Digital Television. Paper presented at the International Conference: Broadcast Asia 2004, Singapore. Retrieved 6 November, 2010,from http://www.csd.abdn.ac.uk/cgibin/ betsie.pl/0005/www.csd.abdn.ac.uk/~jmasthof/EuroITV04/P04.pdf.

Field, A. P. (2009), Discovering statistics using SPSS :(and sex and drugs and rock 'n'.

roll). London: Sage.

Fogelgren-Pedersen, A., (2005), "The mobile internet: the pioneering users' adoption decisions", In: Proceedings of the 38th Annual Hawaii International Conference on System Sciences, Big Island, HI, 3, p. 84b. Retrieved October 21, 2011 from .

http://www.computer.org/comp/proceedings/hicss/2005/2268/03/22680084b.pdf.

Gal-Or, E., Gal-Or, M., May, J.H. and Spangler, W.E. (2006), Targeted Advertising Strategies on Television. Management Science, vol.52(5),pp-713-725. doi:10.1287/mnsc.1050.0489.

Gefen, D.; Karahanna, E. & Straub, D.W (2003a), Inexperience and experience with online stores: The importance of TAM and trust", IEEE Transactions on Engineering Management, vol-50(3), pp.307–321.

Hair, J. F. Jr., Black, W .C., Anderson ,R.E., and Tatham , R.L. (1995), Multivariate Data Analysis, (5th ed.), Delhi: Pearson Education.

Hart, T (2008). 'The benefits of addressable advertising in broadcast (LINEAR) TV over Telco Networks', accessed ", on 22.09.2010.

Harte ,L (2009), Addressable TV Advertising', accessed "http://www.iptvmagazine.com /IPTV_ Magazine_Featured_Article.html", on 05.08.2010.

Heijden, H. (2004), User acceptance of hedonic information systems. MIS Quarterly,vol.23, pp.695–704.

Higgs, B.(2008),New Media: The Evolution of Promotion to Holistic Marketing Strategy. Retrieved 12 May, 2011, from http://eprints.vu.edu.au/872/1/ANZMAC_-New_Media-final.pdf.

Hoffman, D. L. and Novak, T .P. (1996), Marketing in Hypermedia Computer-Mediated Environments: Conceptual Foundations. Journal of Marketing, vol.60(7),pp.50–68.

Igbaria, M., Parasuraman, S., & Baroudi, J.J. (1996), A motivational model of microcomputer usage. Journal of Management Information Systems, Vol.13, pp.127-143.

Igbaria,M., Zinatelli, N., Cragg,P., Cavaye,A., (1997), Personal computing acceptance factors in small firms: a structural equation model. MIS Quarterly, pp.279–302, September.

Johnson, G. J., Bruner II,G.C. and Kumar,A. (2006), Interactivity and its Facets Revised. Journal of Advertising, vol.35(4),pp.35-52.

Karahanna, E., Straub, D.W., &Chervany, N.L (1999), Information technology adoption across time: A cross-sectional comparison of pre-adoption and post-adoption beliefs. MIS Quarterly, vol.23(2),pp.183–213.

Legris,P., Ingham, J. and Collerette, P (2003), Why do people use information technology? A critical review of the technology acceptance model, Information & Management, Vol. 40, pp.191–204.

Liu, Y. and Shrum, L. J. (2002), What Is Interactivity and Is It Always Such a Good Thing? Implications of Definition, Person, and Situation for the Influence of Interactivity on Advertising Effectiveness. Journal of Advertising, vol.31 (4), pp.53–64.

Mathur, U.C (2005), Advertising management, New Delhi, New Age International.

McMillan, S. J. and Hwang, J.S. (2002), Measures of Perceived Interactivity: An Exploration of the Role of Direction of Communication, User Control, and Time in Shaping Perceptions of Interactivity. Journal of Advertising, vol.31(3), pp.29–42.

Moon,J.W.; Kim,Y.G (2001),Extending the TAM for a World-Wide-Web context. Information & Management, Vol. 38, pp.217-230.

Morris, M.G. & Dillon, A (1997),How user perceptions influence software use. IEEE Software, vol.14(4), pp.58–65.

Moote, S (2006), IPTV: the business opportunity for telcos., IBE: International Broadcast Engineer, pp.28-29, June.

Peattie, K. and Peters, L. (1997),The marketing mix in the third age of computing. Marketing Intelligence & Planning, vol.15(3),pp.142-150.

Pleshette, L.A (2003), Choosing the Right Advertising Medium for Your Small Business', accessed"http://www.powerhomebiz.com/vol118/admediums.htm", on 24.09.2010.

PQ-Media (2006), Alternative Media Research Series II: Alternative Advertising & Marketing Outlook 2006. Retrieved 18 July, 2012, from http://www.pqmedia.com/execsummary/AlternativeAdvertisingMarketingOutlook2006-ExecutiveSummary.pdf.

Pavlou, P. & Fygenson, M. (2006), Understanding and Predicting Electronic Commerce Adoption: An Extension of the Theory of Planned Behavior.Management Information Systems Quarterly, vol 30 (1), pp. 115-143.

Pavlou, P. A (2000) . Measuring the Effects and Effectiveness of Interactive Advertising: A Research Agenda Journal of Interactive Advertising, vol.1(1),pp.62-78.

Rafaeli , S. and LaRose, R.J.(1993), Electronic Bulletin Boards and "Public Goods" Explanations of Collaborative Mass Media. Communication Research , vol.20(2),pp.277-297.

Rafaeli, S.(1988), Interactivity: From New Media to Communication. Retrieved 24 August, 2012, from http://gsb.haifa.ac.il/~sheizaf/interactivity/Rafaeli_interactivity.pdf.

Schumann, D. W., Artis, A. and Rivera, R. (2001), The Future of Interactive Advertising Viewed Through an IMC Lens. Journal of Interactive Advertising,1(2).Retrieved from http://jiad.org.

Segars, A.H. & Grover, V (1993), Re-examining perceived ease of use and usefulness: A confirmatory factor analysis, MIS Quarterly,Vol.17(4),pp.517-525.

Singhal,A et al. (1988), "The Diffusion of Television in India", Media Aisa, vol.15(4), pp.222-229.

Shin, G., Ahn,J. and Kim,T.(2011),IPTV in Korea: The effect of perceived interactivity on trust, emotion, and continuous use intention. Retrieved 24 October, 2011, from http://www.globdev.org/files/AMCIS%20Proceedings%202011/Paper%206.pdf.

Shin, D. H., (2009), An empirical investigation of a modified technology acceptance model of IPTV, Behavior& Information Technology, vol.28(4),pp.361-372.

Shin, Y.; Jeon, H. and Choi, M (2008), Analysis on the Mobil IPTV Adoption and Moderator Effect Using Extended TAM Model", Networked Computing and Advanced Information Management, pp.220-225, September,

Steuer, J.(1992), Defining Virtual Reality : Dimensions Determining Telepresence, Journal of Communication, vol.42(4), pp.79-90.

Stromer-Galley. J. (2004), Interactivity- as-Product and Interactivity-as-Process. The Information Society, vol.20(5), pp.391-394. doi: 10.1080/01972240490508081.

Sun, H. & Zhang, P (2006a), Causal relationships between perceived enjoyment and perceived ease of use: An alternative approach, Journal of Association for Information Systems, Vol.7(9), pp. 618-645.

Sun, H. & Zhang, P (2006b), The role of moderating factors in user technology acceptance, International Journal of Human-Computer Studies, vol. 64(2),pp.53-78.

Taylor, S & Todd, P.A (1995), Assessing it usage: The role of prior experience. MIS Quarterly, Vol.19(4), pp. 561-570.

Van Den Dam, R (2007), IPTV ADVERTISING: a gold mine for telcos?,IBE: International Broadcast Engineer, 49(5),pp.76-81.

Venkatesh,V. & Davis, F.D(2000), A theoretical extension of the technology acceptance model: four longitudinal field studies, Management Science, Vol.46(2), pp.186-204.

Venkatesh, V. & Morris, M.G (2000), Why don't men ever stop to ask for directions? Gender, social influence, and their role in technology acceptance and usage behavior", MIS Quarterly, Vol. 24, No.1, pp.115-139.

Virvilaite, R. & Belousova,R. (2005),Origin and Definition of Interactive Marketing. Engineering Economics,.41(1). Retrieved 18 July, 2012, from http://internet.ktu.lt/lt/mokslas/zurnalai/inzeko/41/1392-2758-2005-1-41-67.pdf.

Weniger, S., (2010), User Adoption of IPTV: A Research Model, in '23rd Bled e-Conference e-Trust: Implications for the Individual, Enterprises and Society', Slovenia, pp.154-165. Retrieved October 24, 2011 'http://www.bledconference.org / proceedings.nsf/Proceedings/1C44208F6E0E30E8C125 7570039155D/$File/12_Weniger.pdf'.

Wu, J. and Wang, S. (2005), What drives mobile commerce?: An empirical evaluation of the revised technology acceptance model. Information and Management , vol.42 ,pp.719–729. doi:10.1016/j.im.2004.07.001.

Yi, M.Y. & Hwang, Y (2003), Predicting the use of web-based information systems: Self-efficacy, enjoyment, learning goal orientation, and the technology acceptance model", International Journal of Human-Computer Studies, Vol.59(4), pp. 431–449.

Zack, M. H. (1993), Interactivity and Communication Mode Choice in Ongoing Management Groups. Information Systems Research, vol. 4(3), pp.207-239. Retrieved from http://www.jstor.org.

About the Author

Dr. Samiran Sur is an Assistant Professor at Haldia Institute of Technology, West Bengal.

The author can be reached at samiran_sur@rediffmail.com

Dr. Mrinalini Pandey is an Assistant Professor at Indian School of Mines (ISM), Dhanbad.

The author can be reached at mrinal_nalini@yahoo.co.in