Role of Contagious Consumer Behavior and Product Convergence in Diffusion and Adoption of New Brands in Indian Market

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Abstract

Influence of adoption variables on consumer brand choice and diffusion variables on spread of new product innovation has of late caught attention of marketing researchers and consumer behavior experts. Researchers are studying how mangers have taken these two set of variables into account while launching new brands and marketing campaigns. It is important to analyze and develop a model of diffusion and adoption of innovation that explicitly describe the influence of various adoption variables such as *familiarity, innovativeness of consumer, priority knowledge, personal influence* and of diffusion variables such as advertising, e-word of mouth and web interaction in brand choice behavior. The primary data is collected from the field through online and face to face surveys. The sampleprofile consists of people above age of 15 with various pre-selected demographic and psychographic characteristics at different geographic locations. Various statistical techniques are applied to test the role of identified constructs in both adoption and diffusion process. The findings from the study will help the marketers to make appropriate decisions for new product launch and brand campaign planning.

Key Words: Contagious Consumer Behavior, Product Convergence, Technology Product Marketing

Introduction

Researchers have focused their attention on the rate at which new technology is getting adopted by individuals thus leading to diffusion of innovation in technology product and brand space. Rapid adoption of technology backed up by global marketing and branding strategy has helped in creating high technology brands in Indian and emerging markets. High technology marketing products are treated as a tool for common expression of global life style. This has been proved by the success of Chinese consumer goods and Indian IT services sector. Are there learning lessons for marketers from other industries? Majority of learning that is happening in the current market place is coming from outside the industry. For example what are the learning lessons for pre-dominantly marketing ad brand oriented companies like fast moving consumer goods company (FMCG) and industry from this rapid adoption and diffusion process?

The sheer number and the rapid rate of diffusion of new technology merit attention as a case in global new brand and technology diffusion. Another reason being the

mysterious degree of variation in how they have been adopted in different parts of the world — and the wide range of explanations of the variation. Studying mobile telephone brands will keep this research work focused and also help in identifying trends in the high technology space. In the emerging world, mobile penetration rates are varying substantially — from more than 100% (e.g., Jamaica, Russia) to less than 1% (e.g., Papua New Guinea). On a regional basis, the levels range from Europe's 84.53% to Africa's 15.03%.There is significant variation also within Africa, with most markets still being below the 10% level, albeit growing rapidly, while three, including South Africa, are above70% (Kas Kalba (2008))

This research will focus on studying how diffusion of innovation happens in a social setting. It will also attempt to study the contagious consumer behavior and effect of social and cultural factors in new product/brand adoption. Understanding of consumer perception on new products, convergence of technology in mobile phones, role of influencers in choice of mobile phone brands and degree of contagiousness on consumer choice process will help to develop and generalize principles for effective brand marketing campaign.

Review of Literature

The concept of diffusion of innovation was introduced by Everett Rogers a professor of rural sociology in his book "Diffusion of innovations" published in (1962). In his book he defined diffusion as the process by which an innovation is communicated through certain channels over time among the members of a social system. There are four main elements in the Diffusion of Innovation i.e. the innovation; communication channels; time; social system.

Roger in his book has defined Innovation as an idea, thought or object that is perceived as new by any individual or other unit of adoption. He defined communication channels as the means by which messages flow from one individual to another. With respect to the time element he stated that the innovation-decision period is the length of time required to pass through the innovation-decision process and rate of adoption is the relative speed with which an innovation is adopted by members of a social system. And lastly he defined a social system as a set of interrelated units engaged in joint problem solving to accomplish a common goal.

There is a clear advertising impact on the diffusion of innovation of various products. Consumers today are exposed to a wide range of influences that include word-of-mouth communications, network externalities, and social signals. Internet is also playing a prominent role in diffusion of innovation. Surprisingly, there are not many studies focusing on influence of web based advertising on purchase behavior of high technology buyers. One of the key questions that are to be answered is the effectiveness of

web based advertising and web based interaction on the diffusion of innovation.

Consumers are involved with products and brands through web tools (chat rooms and forums, virtual communities) at various stages of product development (idea generation, idea selection, design, testing and launching) within the framework of growing personalization and enhancement of the interactive features, typical of digital environments. The web plays a fundamental role: at the beginning of the new product development process, during the stage of customer knowledge absorption for idea generation, and at the end of the process, during the product launch and life cycle management stages (Emanuela Prandelli, Gianmario Verona, Deborah Raccagni (2006)).

The structure of social networks through which potential adopters of innovations find out information about these innovations also help them to adopt these innovations and there is an effect of structure of social networks on the brand choice behavior leading to brand wagon effect. The number of network links, as well as small, seemingly insignificant idiosyncrasies of their structures, may have very large effects on the extent of an innovation's diffusion among members of a social network (Eric Abrahamson, Lori Rosenkopf (1997)).

There are broad array of variables significantly influencing the probability of innovation adoption by an actor. The variables can be grouped into three components (a) characteristics of innovations comprising of public versus private consequences and benefits versus costs (b) characteristics of innovators comprising of societal entity, familiarity with the innovation, status characteristics, socioeconomic characteristics, position in social networks and personal characteristics and (c) Environmental context comprising of geographical settings, societal culture, political conditions and global uniformity. These variables have a stronger impact on the diffusion process (Haste, 2005)

The degree and the direction to which social influences determine the choice to adopt is also a significant area of study. An agent based model can be used to test the effect of VIPs who can have a relatively large impact on many consumers (Sebastiano A. Delre, Wander Jager, Tammo H. A. Bijmolt, and Marco A. Janssen (2010)). The study results indicated that it is more difficult for new products or innovations to take off because as consumers affect each other to adopt or not at the beginning of the diffusion, the new product faces more difficulties to reach the critical mass that is necessary for the product's success. The study also states that the importance of VIPs resides in their capacity to inform many consumers and not in a stronger persuasive power. The study investigated the effects of VIPS (or network hubs) on consumers' individual decision making and on innovations' final market penetration. It stated that if the VIPs have many connections with consumers, they have a large positive effect on

market penetration of the innovation and in the absence of network hubs (VIPS) the level of penetration will remain low.

The adoption process encompasses how an individual encounters an innovation, how he or she engages with it, how decisions are made about it, and the process of actually obtaining the product and then its implementation and use. One model that is widely used is that developed by Rogers in 1962. Rogers identified a number of stages in adoption, taking the concept of adoption away from a simple decision to purchase towards a more complete model that accounts for the long awareness building and evaluation period that may occur before any actual purchase, including the possibility of trial and rejection, the importance of demonstration and recommendation, post-purchase re-evaluation and re-invention, and more creative consumer behavior. Rogers' model emphasizes on five main dimensions embedded in the innovation decision process.

These dimensions include *knowledge, persuasion, decision, implementation and confirmation*. The rate of adoption is stated as the relative speed with which members of a social system accept an innovation. It is generally measured by the time-span required for a certain percentage of the members of a social system to adopt an innovation. An individual's adopter category determines the rates of adoption for innovations. In general those individuals who first adopt an innovation require a shorter adoption period (adoption process) than late adopters.

The two main influences leading to adoption at the individual consumer level are marketing communication and interpersonal communication (Miles (2000). This study focused on simultaneous effect of both influence at individual consumer level and larger societal level. The study was conducted on pharmaceutical industry. It has been conjectured that adoption and usage patterns of a new drug by physicians "*contagion*" acts as a *"consumption externality*," as it allows a given physician to learn about the efficacy and use of the drug. Study results showed that the Manhattan market indicate that both targeted communication and contagion have an effect on the individual physician's adoption decision.

In general, introduction of new attributes, considered to be complex, affects the adoption of high technology products by consumers ((Paulo Henrique Muller Prado, Fabio Pimenta de Padua Junior, Danielle Mantovani Lucena da Silva, & Flávio Freire Souza, (2008)). As such, the relationships between personal characteristics and the interpersonal influences of consumers have been evaluated, considering the difficulties of decision making in the adoption of technological innovations in Cellular phones. The major findings from this research include the following. (1) the higher the level of (a) familiarity, (b) prior knowledge and (c) innovativeness, the higher the adoption of innovations by the consumer.

(2) The higher the level of interpersonal influences, the higher the adoption level of innovation by the consumer. (3) The greater the difficulty to decide, the weaker the relationship between (a) familiarity, (b) prior knowledge,(c) the tendency to innovate and (d) interpersonal influence in the adoption of innovations by the consumer.

Consumer innovativeness is a central element in the studies of diffusion of innovation (Midgley and Dowling (1978), and it identifies early adopters from general consumers (Rice, Kartz 2003). Finding early adopters can accelerate the diffusion of innovation and minimize the chances of new product failure (Russel 1980). Consumer innovativeness studies generally seem to focus on arousal and novelty seeking as the underlying reasons for consumers to seek novel products (Horsky, 1990). However, new products also inherently encompass an element of risks associated with resistance to adoption (Luthje 2000).Consumer innovativeness is the trait that engenders the "adoption" of innovation and new products encompasses resistance to adoption (Tanawat Hirunyawipada, Mohammadali Zolfagharian (2009)). The results confirm that the moderating effect of perceived risk, that is, consumers with high overall perceived risk typically score high on vicarious innovativeness (VCI) (the higher perceived risk, the higher VCI).

Research studies conducted in emerging markets like Brazil to find out how the introduction of new and complex attributes affects the adoption of high technology products such as mobile telephones by consumers (Paulo Henrique Muller Prado, Fabio Pimenta de Padua Junior, Danielle Mantovani Lucena da Silva, and Flávio Freire Souza(2008)). As such, the relationships between personal characteristics and the interpersonal influences of consumers have been evaluated, considering the difficulties of decision making in the adoption of technological innovations in cellular phones. The study involved 303 young (17-23 years) students who own cell phone. The results obtained show that the independent variables (personal characteristics- familiarity, expertise, prior knowledge and the tendency to innovate) - analyzed had a great deal of influence on the adoption of new generation telephones. To the paradigm, they have added another element: "*Difficulty to Decide*". This is a measuring variable. The rationale behind including this variable is to verify how the affective aspects of *Difficulty to Decide* influence the decision-making process. According to Shaw (1985), there are few academic studies that investigate the role of emotions in behavior when it comes to the adoption of technology. The moderating variable "*Difficulty to Decide*" had a relatively heavy influence on the adoption of innovations in cellular phones.

The researchers also tried to cover the relationships between independent variables (*familiarity, prior knowledge, Innovativeness and interpersonal influence*) and dependent

variable "*adoption*" through literature survey. The evaluation of trade off difficulty and the secondary evaluation are affected by the availability of avoidance options and by the cognitive aspects of the context. The absence of an avoidance option and the choice of a low quality option lead to greater tradeoff difficulty, i.e., high rates of negative experiences (Luce, Bettman& Payne, 1999). Furthermore, according to these authors, the final emotional reaction concerning a choice is a function both of the trade-off difficulty and the availability and efficacy of strategies to deal with these difficulties.

Attempts are being made in the past to present simple evolutionary model to study the diffusion patterns of product innovations for consumer goods (Andreas Reinstaller and Bulat Sanditov (2005)). The authors interpreted consumption as a social activity constrained by social norms and class structure. Societies that allowed for more behavioral variety would experience faster adoption of new consumer goods. They also found that the speed of diffusion as well as the saturation levels reached depends greatly on the structure of a society. Combining these two effects, they conclude that a social structure displaying behavioral variety and an even class structure fares better than any other social set-up in terms of the speed of adoption of product innovations and product variety. They analyzed two important behavioral motives: *aspiration* and *distinction*.

The relationship between an innovative personality predisposition (i.e., innate consumer innovativeness [ICI]) and innovative behavior (i.e., new product adoption behavior) was earlier studied to find out how innate consumer innovativeness influences adoption rates (Subin Im, Charlotte H. Mason; Mark B. Houston (2008)). Using data from a panel of consumers (n=296 in a cross-sectional phase, n=147 in a matched, two-phase longitudinal analysis), it is found that ICI does not directly influence adoption behavior but does so indirectly through two of three components of vicarious innovativeness(modeling and engagement in word of mouth but not exposure to advertising).

Various studies have been conducted implementing Rogers's model. One of such studies namely "cultural influences on new product adoption of affluent consumers in India" was done in the Indian food market. The purpose of the study was to explore *how individual/personal* and *group-level factors* influence Indian consumers' adoption of new food products. The results reflected the interdependence of consumers' individual views and beliefs with those of the group. Indian consumers' perceived characteristics of new foods and their innovativeness came out to be key personal-level factors in impacting their new food purchase decisions. Reflecting collectivist tendencies, interpersonal communication sources and subjective norms at the group level emerged as important

mediators of Indian consumers' new food purchases.

In today's marketplace, many of the newer-generation *convergence products* (e.g., camera phones, all-in-one personal digital assistants) offer consumers product performance that rivals dedicated versions. With the increased availability of options, consumers now face another dilemma in their purchase consideration: which product form should they choose—converged, dedicated, or both?

A study investigating the choice patterns for product forms along the technology trajectories (Jin K. Han, She Woong Chung, & Yong Seok Sohn(2009) reveals that at low levels of technological performance, consumers overwhelmingly select convergence products over the dedicated options, whereas the choice pattern is reversed at high levels of technological performance. Despite adding much functionality to the products, there is proposition that the goal congruence of the added functionality (i.e., whether it has similar or different goals as the base product) would affect the relative gain to high versus lower quality brands.

Another study found that when a congruent functionality is added to a base product, lower quality brand would gain incremental value as compared to when no functionality is added and a lower quality brand would gain more incremental value than a high quality one (Taylor, 2010).

There are studies that examine impact of internal competition that occurs when new technology challenges the technology in a firm's existing products (Alva Taylor (2010)). She found that new-technology development projects are traditionally judged by market success—and most fail. If we examine their impact on existing-technology product development, a different interpretation arises.

Research studies based on convergence of technology in the mobile phone (Dano, Mike (2005)) emphasizes on various services integrated in a cell phone. The study states that more than 1.5 billion people subscribe to wireless services. The vast majority of those wireless users see their mobile phone as a device that allows them to talk to other people and nothing more. The wireless industry, however, is spending billions of hours and dollars inventing gadgets that can do much, much more.

It is observed that future belongs to brand diffusion, because brand diffusion is a strongly controlled conceptual design for the application which is solely founded in its brand personality. The role of the brand is to be analyzed with respect to its influence in shifting customer preferences from the technical performances. There are various relevant dimensions in consumer mind when considering decisions regarding technological products (Luca Petruzzellis, 2008). Brand attitudes do relate positively to consumer intention to use (purchase) specific mobile phones over others.

Drawing on the literature review on the influence of social factors on inter firm search and adoption of new technologies, this study argues that similar processes occur at intra firm level also. Evidence from a field study on new-technology product development in high-technology firms showed that internal competition influences existing-technology product development groups to integrate the new technology into the next generation of their own products. The reason is twofold. First, these groups shift their search toward the new technology and allocate resources to gain a deeper understanding of it. Second, access to internal information and the mobility of workers across project boundaries benefits the existing-technology groups. The findings provide a model of innovation that illustrates an endogenous process of internal competition. This often political and contentious process can have a strong influence on technology adoption and integration.

Objective

This research work is undertaken with an objective to find out how diffusion of innovation happens in a social setting in the context of a high technology product like a mobile phone. This research aims to analyze how *far personal characteristics, perceived characteristics, interpersonal influences* and *level of difficulty to decide* affect the adoption of technologically advanced product like a mobile phone within the sample members. The paper also attempts to study product adoption process and how consumers adopt new products and services. A study of contagious consumer behavior and effect of social and cultural factors in new product adoption is also undertaken as a part of this study. This paper also aims to study the overall consumer perception on new products, convergence of technology in mobile phones and role of other influencers in choice of a high technology product (mobile phone).

Hypotheses

The brief literature survey has helped in identifying gaps in the available literature and positing various hypotheses as under:

H_1: The higher the level of (a) familiarity, (b) prior knowledge (c) innovativeness (d) personal influence, the higher the adoption of Innovations of mobile phones by the consumers In India.

H_2: The higher the level of a) web based advertising, b) web based interaction, c) E-WOM d) Brand knowledge, the higher the diffusion of innovation in mobile phones among Indian consumers.

H_3: Mobile phone choice depends on hedonic behavior rather than utilitarian one.

H_4: The contagiousness of the mobile consumer buying behavior is independent of number of network hubs.

H_5: Convergence of technology has no positive influence in adoption of mobile phones.

Research Methodology

Looking at the nature of the research work and non availability of data in Indian market context, the complete work was divided into two phases i.e. exploratory stage and descriptive stage. An instrument was designed based on past studies and already developed scales were used from similar studies. The literature survey helped us in identifying suitable scale variables for the study and they were adapted to Indian environment. The preliminary questionnaire survey at pilot stage was conducted on 25 sample members through a non-random sampling method. As per defined sample plan, the respondents were profiled by using demographic description (as per Table-2).

Respondents were asked to rate on mobile phone motivators i.e. (awareness, technology convergence, purchase behavior, hedonic and utilitarian behavior, and brand diffusion) on 5 point Likert Scale.

The reliability test (Cronbach's alpha) was conducted on all parameters (total 39 items) based on the data collected on the Likert scale. The result of Cronbach's alpha was 0.896, which indicates high reliability.

Table-1 Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No. of Items
0.896	0.893	39

The descriptive research was conducted on a sample of 150 eligible respondents. The data were collected by both personally administered questionnaire as well as an electronic questionnaire. This was done to improve data uniformity, responsiveness and accuracy levels. Data analysis was conducted using SPSS and applying various multivariate methods to arrive at final results. The following table represents the overall demographic spread of the selected sample members.

Table 2: Demographic Distribution of Respondents

Gender	Male (58.94%)	Female (41.06%)				
Age	15-25 (40.4%)	26-45 (56.95%)	>45 (2.65%)			
Income	<10000 (14.57%)	10001-25000 (18.54%)	25001-50000 (41.06%)	>50000 (25.83%)		
Profession	Private Emp (73.51%)	Student (13.91%)	Govt Emp (5.30%)	Self Emp (5.30%)	Others (1.98%)	
Location	Delhi-NCR (31.13%)	Hyderabad (22.52%)	Bangalore (9.3%)	Mumbai (9.27%)	Pune (5.30%)	Others (22.48%)

Results and Discussions

In this section, the researchers discuss the results of the survey conducted in the market. We will analyze each of hypotheses by conducting relevant data analysis.

H_1: The higher the level of (a) familiarity, (b) prior knowledge (c) innovativeness (d) personal influence, the higher the adoption of Innovations of mobile phones by the consumers In India.

For analyzing this hypothesis, level of adoption of innovations in mobile phones was taken as dependent variable; factors like familiarity, prior knowledge, innovativeness and personal influence are taken as independent variable. The regression analysis is done by assuming an equation

Y (Level of adoption of innovations in mobile phone= a+b1X1 (familiarity) + b2X2 (prior brand knowledge) + b3X3 (innovativeness of the product) + b4X4 (personal influence).

In a typical multiple regression model, we need to find out the values of a, b1, b2, b3 and b4. The SPSS outputs helps in formulating the equation as

a (intercept) = -3.451

b1= 0.2285 (p value= 0 .590084)

b2= 0.8194 (p value= 0 .01654)

b3= 0.0696 (p value= 0.031161)

b4= - (0.5496) (p value= 0 .73521)

So level of adoption of innovation= -3.451+0.2285X1+0 .8194X2+0.0696 X4-0.5496 X4

We also analyzed the statistical significance of the model and the R Square value. The calculated R Square value is 0.977194734 and adjusted R Square is 0.9600873. From the analysis of t-tests for significance of individual independent variable indicate that at the significance level of 0.10 (equivalent to confidence level of 90%), only prior brand knowledge and innovativeness of the product are statistically significant. The other two independent variables are not significant. It is possible that we can also use this model to predict about future level of adoption by ascertaining the prior brand knowledge and innovativeness of the product variables. So the hypotheses can be modified as the higher the level of prior knowledge and innovativeness of the product, the higher the adoption of Innovations of mobile phones by the consumers In India

H_2: The higher the level of a) web based advertising, b) web based interaction, c) E-WOM d) Brand knowledge, the higher the diffusion of innovation in mobile phones among Indian consumers.

The regression equation built for this hypothesis is explained as

Y (diffusion of innovation) = a+b1X1 (web based advertising) + b2X2 (web based interaction) + b3X3 (e- word of mouth) + b4X4 (brand knowledge).

This hypothesis is essentially proposed to test the effectiveness of the various internet marketing and promotion tools in increasing diffusion of innovation in mobile phone business. SPSS results indicate the following

a= 7.46

b1= (0.054) (p value=0.6413)

b2= (0.423) (p value=0.0023)

b3= (0.346) (p value= 0.0041)

b4= (0.2415) (p value=0.6716)

The t- test results depict that the value of R Square is 0.95331 and adjusted R Square is 0.91838. The results lead to modification of the equation as

Y (diffusion of innovation) =7.46 +0.054 X1 (web based advertising) +0.423 X2 (web based interaction) +0.346 X3 (e- word of mouth) + 0.2415 X4 (brand knowledge).

From the test of significance it is evident that web based interaction and e-word of mouth communication has significant impact on the diffusion of innovation of new mobile phones in Indian market. Though there is a greater use of tools like web based advertising and e-word of mouth, there is hardly any significant impact on the degree of innovation.

H_3: Mobile phone choice depends on hedonic behavior rather than utilitarian one.

In this case independent samples were not used for testing the hypotheses, but the same sample study was done to research on two variables hedonic behavior and utilitarian behavior. The measurements were on mobile phone choice based on hedonistic and utilitarian behavior. The objective here is to find out if the choice of a mobile phone changed due to behavioral pattern. So a paired sample Z test was conducted as the sample size was more than 30. The rating of behavioral pattern being hedonistic or utilitarian was obtained using a scale. Assuming significance level of .05 and that the null hypotheses is that 'mobile choice behavior is independent of behavioral patterns shown by customers; the output is shown in the table below

Table 3: Hypothesis Testing Statistics

Mean Differ-ence	Standard Deviation	Test statis -tics value	d.f	2 tail signific ance
2.43	1.341	7.96	94	0.000

The above table shows that the 2 tailed significance of the test is 0.000. This is the *p*-value and it is less than the level of 0.05 that was set. Therefore as per the decision rules, the null hypothesis is rejected at a significance level of 0.05 and concludes that there exists a significant difference in the mobile choice based on the hedonistic or utilitarian behavior shown by the consumers while choosing a phone.

H_4: The contagiousness of the mobile consumer buying behavior is independent of number of network hubs.

Contagiousness is defined as spreading or tending to spread of one event, product, and disease from one to another which is infectious in nature. In this case contagiousness is defined as influences of others in the social system in making a desired choice of product or brand. This hypotheses is based on a proposition that higher are the number of network hubs, greater is the likelihood of mobile purchase. If a person's social network is longer than his mobile choice is contagious in nature. The results of the Chi Square test are presented in the table below.

Table 4: Hypothesis Testing Statistics

Chi Square	Value	Degrees of Freedom	Significance Level
Person	12.7513	8	0.079
Likelihood Ratio	14.497	8	0.0461
Liner by Linear Association	3.613	1	0.589
Contingency Coefficient	0.5459		0.0789 (aaprox)

From the above table, we can find that there is a significant association between the contagiousness of the mobile phone buying behavior with the number of network hubs of consumers. The output table indicates that as significance level of 0.079 (Pearson's) is achieved i.e. a significant association exists between above two variables at (100-7.9=92.1%) confidence level. From the contingency coefficient of 0.5459, it can be inferred that the association between the contagiousness behavior and available social network hubs of individuals is significant as the value of 0.5459 is closer to absolute value of 1. So the null hypothesis is rejected and alternate hypothesis is accepted and there exists a significant relationship between contagious mobile buying behaviors with social network hubs of individual buyers.

H_5: Convergence of technology has no positive influence in adoption of mobile phones.

Chi Square test was undertaken to test this hypothesis. The results of the test are shown in the table below.

Table 5: Hypothesis Testing Statistics

Chi Square	Value	DF	Significance
Pearson	16.3281	29	0.0793
Likelihood ratio	24.3652	29	0.03879
Mantel-Haenszel test for Liner Association	0.1326	1	0.0691
Contingency Coefficient Lambda	0.5979		0.08134

From the output table, the Chi square test reads a significance level of 0.0793 at 90% confidence level. For 90%, significance level is .1 (1-0.9), so the above result shows that at 0.079 (which is less than 0.1), there is a significant relationship between the two variables. If contingency coefficient values are greater than 0.5 then the variables are strongly associated. In the above case the contingency coefficients value being 0.59, which is greater than 0.5, hence the variables are strongly associated. So there is a positive and strong

association that exists between convergence of technology and adoption of mobile phones among sample members. The null hypothesis is rejected and alternative hypothesis is accepted. The adoption of mobile phone technology has a strong association with the convergence of various technologies to a mobile phone.

Scope for Future Research

Though it is an acceptable phenomenon that rate of adoption varies across individuals, there is no well established empirical evidence on the amount and rate at which new production adoption happens in a social setting. The common source of contagiousness was opinion leadership. But due to advent of social media marketing and increase in the levels of social mobility, viral marketing plays a significant role in influencing the rate at which new technology is contagious in nature. There is a need to study the level of contagiousness due to social media marketing and influence of social media in increasing the rate of adoption of high technology products.

High technology products have also planned obsolescence. It is important on the part of the marketers to evaluate the degree and speed of planned obsolescence and balance the communication effects to reduce the level of consumer dissonance. High technology products have a high level of convergence of various technology platforms. In the case of a mobile phone, it is no more a communication device as it comes with an inbuilt camera, music system, internet accessibility and many other features. It will be important to know how this convergence phenomenon is influencing consumer decision making and also giving a direction to the speed of adoption of new products and services in a social setting.

It will also be important to see how contagiousness changes at different level of technological sophistication. A working hypothesis can be developed by linking the level of technological sophistication with the contagiousness of adoption behavior. It will be interesting to analyze the impact of hedonistic versus utilitarian value in the overall technological up gradation across product categories. This research is a study focusing on mobile phones as they are the most visible and mass appeal products. It will be important to see how new generation products like i-pads, mini tabs and tokens which are currently in niche markets get wider acceptability in the due course. Learning about adoption of new technology enabled products will always be an intriguing area in the field of marketing and such learning will help modern marketers not only to plan their marketing strategies but also in deciding the rate which these high tech products can move through stages of planned obsolescence.

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