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THE SELECTION OF 3G SERVICE PROVIDERS AMONG INDIAN CONSUMERS A STATISTICAL INTROSPECTION

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FACTORS INFLUENCING THE SELECTION OF 3G AMONG INDIAN CONSUMERS : A STATISTICAL INTROSPECTION

ABSTRACT

The International Telecommunications Union (ITU) defines the third generation (3G) of mobile telephony standards IMT-2000 to "facilitate growth, increase bandwidth, and support more diverse applications". Urban consumers form a total of thirty percent tele- density of the total phone user –base in India thereby indicating a huge scope for future growth. The study was conducted with an objective to identify the factors influencing the selection of mobile phone service provider among urban users and also the role that demographic factors play in selection of 3G services. A structured questionnaire was drafted to collect data regarding the customer opinion on 3G services. The sample size of 150 was taken from Delhi and NCR. The data contains the personal details, demographic details and factors influencing customers to select the 3G service. To achieve the objective reliability test, factor analysis, KMO Bartlett's, Variance Analysis was conducted. This study brought out clearly that the major factors influencing the choice of service providers were value added services, low cost, speed, customer service. Call drop was observed to be the most important reason for switching over to other mobile phone service provider.

Keywords : Urban customers, Mobile phone service Providers, Network Coverage.

INTRODUCTION

Globalization has made drastic changes in world economy and it has offered loads of opportunities for business houses and industries especially telecommunication industry. 3G or 3rd generation mobile telecommunications, is a generation of standards for mobile phones and mobile telecommunications services fulfilling the International Mobile Telecommunications-2000 (IMT — 2000) specifications by the International Telecommunication Union The main enabler of modern economy is Telecommunication sector and its growth is critical for acceleration of the economic development of any country. The government of India recognizes that the provision of a world class telecommunications and information infrastructure is the key to rapid economic and social development of the country. Telecommunication is critical not only for the development of the information technology industry but also has widespread implications for the entire economy of the country. Cellular Mobile services .There has been unhindered growth in the Indian telecom market.

The government of India run Bharat Sanchar Nigam ltd (BSNL) launched the 3G enabled mobile and data services in the year 2008.MTNL, another government of India owned company launched 3G in Delhi and Mumbaiafterwards.The auction of 3G wireless spectrum was announced in April 2010 all over the country.On November 5,2010 Tata DoCoMo,was the first private sector service provider that launched 3G services,Reliance Communications was the second company to join the league.Bharti Airtel launched their 3G services in Bengaluru on the 24th of January 2011 it later launched its 3G services in Delhi and Jaipur on March 4, 2011. AIRCEL another service provider launched its 3Gservices in Kolkata in the month of February. Vodaphone and Idea are other service providers who would be launchingtheir 3Gservices bythe first quarter of 2011.3G is a third generation cellular mobile technology.The third generation is a far more advanced technology than the earlier ones. 3G mobile phones not only have the feature that they are most known for but also have conventional voice, facts and data services , video and data services which can be used while on the move but are also supported by higher resolution video. It includes virtual banking and online billing, access to internet, online entertainment, video conferencing and other mobile office services. 3G technologies in your mobile phone are not only limited to help you out while you are on the move but also when you are stationed at home. 3G has many different applications, such as it can help you shop for your daily needs way in advance at your local store, you can order your goods which would be saving a lot of your precious time.

With 3G on the horizon, things are going to change, it will completely change the way people today communicate with one another. A user would find multiple new ways of using his mobile phone. It wouldn't be a dream anymore to watch your favourite television show on your phone and have a video conference with your near and dear ones or business associates who have access to 3G technology. 3G technology has a lot to offer in terms of new technique and latest advancements in the field of telecommunication like the amazing teleconferencing, but there are a few things that make 3G telecommunication technology as disadvantageous, the main being 3G phones are far more expensive

another disadvantage is that 3G phones can avail the video conferencing feature only with other people who are 3G subscribers.

3G as a product has revolutionized the Indian telephony market,through 3G Indian consumer of today get true mobile broadband with better than before speed faster data transfer ,enhanced internet usage on the move .3G not only brings features like video calling but also it will be able to garner a lot of respect for the Indian telecom sector. Indian consumer is a whole new market which is hungry for purchasing, downloading features and applications for their mobiles. Already the consumer of today is downloading songs, wallpapers, ringtones, but with advent of 3G, it will be a different ball game all together. The late arrival of 3G technology in the Indian market may prove beneficial for the country as most operators are already aware of the loopholes and the factors inhibiting the adoption of 3G services in the international markets.

CHALLENGES OF ADOPTION AND IMPLEMENTION OF 3G SERVICES

There are number of challenges that need to be overcome and rationally addressed by the Indian operators for successful implementation of 3G adoptions and implementation. Rules and regulations set up by the TRAI and the Indian government, such as pricing issues for the auction of 3G spectrum and standards for mobile number portability, could impede the pace of adoption of 3G services in India. The Indian consumer is highly price sensitive in terms of adopting new services, thereby affecting the widespread adoption of 3G services. The relatively higher price of 3G-enabled handsets as compared with its non-3G counterparts may inhibit the adoption of 3G services in the Indian market.3G Subscriber Base believes that the number of 3G subscribers in India will grow at a rapid pace by 2013, See (figure 1). This growth will be fuelled primarily by a decline in the price of 3G services, resulting from fierce competition among private players.

The launch of 3G services in India will improve consumers' experience by providing high-speed Internet access and better quality of voice and data services. The services will be available in both urban and rural areas, with initial focus on urban customers and will penetrate more in urban sectors, See (figure 2). The following are some of the major factors that are likely to drive the adoption of 3G services in India: Demographic Factors, Income Level, Lower pricing strategy and higher disposable income of customers will result in increasing adoption of 3G services. Service Domain – 3G services such as video telephony, banking services, mobile- learning and mobile- governance provide convenience and mobility. Easy access to banking services is expected to attract urban consumers, while mobile governance will be more popular among rural consumers. The growth in the 3G subscriber base will be driven primarily by the adoption of the service by the Urban (Above Poverty Line) customer segment. This segment is expected to be the fastest adopter of this new technology,(Khanna& Gupta ,2009).

OBJECTIVES OF THE STUDY

1) To study the factors influencing the selection of mobile phone service provider and 3G services.
2) To study the inter-relation between social, economic and entertainment factors in selection of 3G service.

REVIEW OF LITERATURE

Clark, Robert (2004) discussed the latest mobile phone technology, 3G or 3GSM in Asia. Increase in the number of mobile phones offering 3G in the marketplace; Companies who have decided to focus on the new technology; Advantages of 3G. Pagani (2004) conducted a study to identify the determinants of adoption of 3G mobile multimedia services and found that perceived usefulness, ease of use, price, and speed of use are the most important determinants of adoption of 3G multimedia mobile services.3. Erlanger, Leon (2006) outlined the advantages of 3G over wireless-fidelity by citing several 3G subscription options. Et,el (2009) analyzed the mass adoption of third-generation (3G) mobile phones that is hypothesized to comprise three consumer perceptions: new technology, new service, and new handset. Based on the theoretical framework of a consumer's decision making process, an empirical study of the mass adoption of 3G mobile phones in Taiwan was conducted. This study demonstrated that perceived utility of a new mobile service was a key factor that resulted in mass adoption. Further, it was found that perceived utility of a new handset directly stimulate consumers to purchase 3G mobile phones. Perceived risk and perceived expense are not negatively correlated with intentions as hypothesized. Moreover, perceived no need was another key factor that inhibited adoption and purchase intention.

Chong,et el (2010) analyzed the factors influencing the usage of 3G technology in Malaysia. By extending the Technology Acceptance Model (TAM) and Diffusion of Innovation (DOI) model, this study found that perceived advantages, perceived ease of use, variety of service and social influence are able to predict the adoption of 3G among Malaysian consumers. This study allows 3G service providers to understand which factors influenced the usage of 3G in Malaysia. Other developing countries that plan to deploy 3G can also formulate business strategies using the results from this study.

Ramnath (2010) discussed the move of the telecommunication companies to embrace third-generation (3G) applications and technologies in India. It outlines the advantages of 3G services which provide better quality voice calls as well as 10 times more efficient use of spectrum than the second-generation (2G) phone systems. However, it mentions the skepticism of the phone service and equipment vendors as well as the handset manufacturers regarding the complexities of implementing the system. Suki (2011) analysed the factors influencing subscribers' intention towards using 3G mobile services with the Technology Acceptance Model (TAM) as the guiding principle. Also, Perceived Usefulness was found as a key factor influences subscribers' intention to use 3G mobile services.

RESEARCH METHODOLOGY

Achieving accuracy in any research requires in depth study regarding the subject. As the prime objective of the project is to analyze the factors that make customers subscribe for 3G services, Primary & Secondary both data was used wherever needed.

The population of the study covered over all the network connection subscribers in Delhi and NCR. An individual respondent were the sampling element.The sample size was 150 respondents. For the purpose of identifying the underlying factors which leads to the selection of 3G service, a self designed questionnaire was used.

Following are the tools and techniques used for the analysis:

1) The measure was standardized through the calculation of reliability.
2) KMO and Bartlett's test was carried out in order to help arriving at a decision whether factor analysis can be conducted or not.
3) Factor Analysis was carried out in order to identify the key underlying factors that are responsible for the consumer preference regarding the selection of 3G.
4) Total variance analysis
5) Related Component Matrix

RESULTS AND DISCUSSION

This section deals with the findings related to classification of respondents on the basis of type of billing plan, duration of subscription, mobile number service provider, company wise classification of respondents for perceptions towards various parameters of quality of service. The data that is represented shows that the sample is male dominated as male respondents are 62.7% of the total sample size, see (Panel1: Table 1a). The respondents age analysis shows that most of the respondents are in the 22 to 25years of age group, i.e about 77.3% of the sample. Looking at the network connection used by the respondents it is found that majority of the respondents are Airtel subscribers i.e. 37.3% and it is closely followed by Vodafone subscribers which is 28.7%. Majority of the respondents were subscribers for prepaid connection i.e. 78% .In order to accurately capture the customer's response reliability analysis is carried out. See (Panel1: table1b) the Cronbach's Alpha value is .812 which is greater than 0.5 thus we can safely conclude that the sample size and the data collected are reliable and also the reliability is shown to be good using all 13 items.

FACTORS INFLUENCING THE SELECTION OF 3G SERVICE.

After the analysis we can find the descriptive statistics of mean and standard deviation of various factors that influence the selection of 3G services by the consumers in Delhi. It has been found that low cost rate (with Mean=5.97) has been an important factor that drives customers to use 3G services on their handsets. It is then followed by video calling (with Mean=5.73), which implies that other than

cost, customers also, want to use 3G for video calling service. Thereafter, Followed by that customers use 3G services for faster audio and video downloads (with Mean=5.43). Using 3G in order to get fast internet connection has found place among one of the reasons why the customers want to use 3G, it had scored a (Mean=5.10). Using 3G service for better voice clarity has a high standard deviation of 1.803 which shows that some of the customers choose 3G for voice clarity, while others don't, as this factor shows high variation, See (Panel 2: Table No.2a).

KMO and Bartlett's test scores varies between 0 to 1. Closer the score is to 1 the better it is considered. This test is done to arrive at a decision whether to conduct Factor Analysis or not. As in the case above KMO value is .826 which is greater than 0.5 and a significant Chi-Square value tells us that we can proceed with the Factor Analysis, see (Panel3: Table3b) .On conducting the variance Analysis we can see in (Panel 2:Table No.2b) that 62.895% of the cumulative variance is achieved with 3 components, i.e. we can summarize the 13 variables into 3 major factors, see (Panel 3:Table 3c). After a close examination of all the factor loadings in (Panel 3:Table No.3c), the above 13 variables were found to be associated with the respective dimensions as shown in the (Panel 3:Table 3a). From Table No.3a it can be analyzed that:

- The social factors are interrelated to the dimensions like value added services, low cost, faster Internet and better network.
- The ability to watch live TV and ability to play games with the help of the 3G services play an important role in showing how the factor of entertainment is related to the use of 3G services, however 3G is not easy to use.
- When it comes to the economical and convenience value related to the 3G services live information on the mobile supplemented by better customer care and less call drop shows how 3G is a technology for the future.

CONCLUSION AND RECOMMENDATIONS

The study highlighted that the respondents considered value added services, low cost, faster internet, better network, gaming, watching Live TV, Live information on Mobile, Better Customer care and less call drop as relatively important factors influencing the selection of a Mobile phone service Provider and 3G service. The factors which were taken into consideration were social, economic and entertainment, so for the mobile service operators to create a wide customer base through their 3G services, they should aim at providing low cost, better connectivity and better customer care services. The respondents relatively perceived comprehensive network coverage i.e. less call drop as more important factor than other factors. The existing mobile phone service providers should improve their network coverage to satisfy their present subscribers and add new ones. The mobile phone service providers should offer recharge schemes on the basis of average monthly expenditure capacity of their subscribers. The company should market its offerings highlighting attractive pricing. As the study says

the customers prefer low cost so , the service providers should take care of this also and minimize their billing inaccuracies in order to retain their customers.

ANNEXURE:

FIGURES

FIGURE1

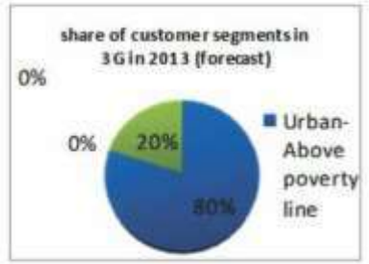
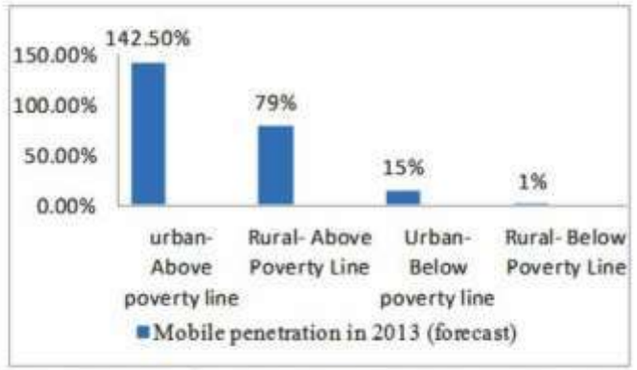


FIGURE 2



Panel -1

Table No.1a: Details of Respondents

	Categories	Count	Percentage
Gender	Male	94	62.7
	Female	56	37.3
Age	18 to 21 years	22	14.7
	22 to 25 years	116	77.3
	26 to 31 years	10	6.6
	32 to 56 years	2	1.4
Network	Airtel	56	37.3
	Vodafone	43	28.7
	Idea	15	10.0
	Reliance	14	9.3
	Aircel	8	5.3
	Tata Indicom	4	2.7
	MTNL/BSNL	9	6
	Virgin	1	.7
Plan	Prepaid	117	78
	Postpaid	33	22

Table No.1b: Reliability Analysis

Cronbach's Alpha	No. of Items
.812	13

Panel -2

Table No. 2a: Factors influencing the selection of 3G service.

	Mean	Std. Deviation
Value Added Services	3.31	1.259
Low cost	5.97	1.145
faster Internet	5.10	1.151
Gaming	4.10	1.218
video calling	5.73	1.183
easy to use	2.86	1.176
better network	3.58	1.057
watching live TV	3.89	1.157
faster audio and video downloads	5.43	1.198
better voice clarity	3.63	1.803
live information on Mobile	4.67	1.065
better customer care	3.41	1.050
less call drop	3.65	1.068

Table No.2b: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.692	36.096	36.096	4.692	36.096	36.096	4.326	33.277	33.277
2	2.038	15.675	51.771	2.038	15.675	51.771	1.947	14.977	48.253
3	1.446	11.124	62.895	1.446	11.124	62.895	1.903	14.641	62.895
4	.813	6.254	69.149						
5	.697	5.361	74.509						
6	.669	5.149	79.658						
7	.511	3.934	83.592						
8	.482	3.709	87.301						
9	.416	3.198	90.499						
10	.406	3.127	93.626						
11	.310	2.382	96.008						
12	.294	2.260	98.267						
13	.225	1.733	100.000						

Extraction Method: Principal Component Analysis.

Panel -3

PANEL 3SOCIAL FACTORS	ENTERTAINMENT	ECONOMCAL AND CONVINIENCE
VALUE ADDED SERVICES	GAMING	LIVE INFORMATION ON MOBILE
LOW COST	WATCHING LIVE TV	BETTER CUSTOMER CARE
FASTER INTERNET	EASY TO USE	LESS CALL DROP
BETTER NETWORK		

Table No.3b :KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.826
Bartlett's Test of Sphericity	Approx. Chi-Square	772.560
	Df	78
	Sig.	.000

Table No.3c: Rotated Component Matrix

	Component		
	1	2	3
Value Added Services	.808	-.033	.094
Low cost	.795	-.014	.009
faster Internet	.859	.021	-.005
Gaming	.206	.780	.085
video calling	.538	.294	.046
easy to use	-.013	.792	.089
better network	.783	.251	-.086
watching live TV	.452	.608	-.049
faster audio and video downloads	.727	.227	-.135
better voice clarity	.781	.151	-.034
live information on Mobile	-.112	.338	.605
better customer care	.003	.005	.855
less call drop	.046	-.055	.867

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