Research Journal of Management Sciences ISSN 2319–1171
Vol. **3(8),** 18-21, August **(2014)** *Res. J. Management Sci.*

Factors that Motivate the Mobile Phone Users to Switch from 2G to 3G Technologies in Karachi

Ahmed Rizwan Raheem[1], Ahmad Nawaz[1], Mirza Mujeeb[1], Khoso Imamuddin[2] and Parmar Vishnu[2]
[1]Department of Business Administration, Indus University, PAKISTAN
[2]Institute of Business Administration, Sindh University, PAKISTAN

Available online at: www.isca.in, www.isca.me
Received 3rd April 2014, revised 23rd June 2014, accepted 5th August 2014

Abstract

In this study, the researchers have tried to investigate the motivational factors that lead to change their mind to switch from 2G to 3G technologies (Mobile Telecommunication Technology) in Karachi. The main objective of this research is to find out the motivational factors that lead to change their mind to switch from 2G to 3G technologies in Karachi and the research question of the study is also addresses the factors that motivate the mobile phone users to switch 3G technology. The study was originated by taking some previous literatures and tried to find out the research gap. This subject was never studied in Karachi context and this was the main purpose of this researchto identify the major gapsof undertaken subject in Pakistan's context. Quantitative research approach was used with 219 sample of respondents participated in the study. Data was collected from the university going students of the Karachi. Reliability was tested through reliability test, which shows 79.8%, so, it showsthe sample data is reliable. This reliability allowed us to further analyze the data, Chi square test was applied on collected sample. The findings of the study showed that respondents and 3G technology users are not likely to be adopting this technology in Karachi context.

Keywords: 2G Technology, Chi Square, 3G Technology, Motivational factors, Reliability Test.

Introduction

3G called as third generation term is used to describe in cellular services and mobile networking. It offers higher speed to the users as compare to 1G (first generation) and 2G (second generation). 3G data rates for cellular users in vehicles is 144 Kbps, for pedestrian users is 384 Kbps and for fixed location it offers 2 Mbps speed[1]. As compared to 1G and 2G, 3G-started working from 2006 but 1G emerged its services from 1940s and 2G from 1990s and their speed up to 10 and 20 Kbps respectively. 3G can be used for SMS (short messaging services) and also for voice communication[2]. The steady growth in 3G technologies has been found in different countries like Japan, Italy, Korea and Hong Kong are the top 5 countries that are growing with 3G technologies[3]. According to their official report, Korea is the biggest penetrating country with the rate of 25.95% among the top 5. The report also showed that the 3G subscribers in Asia region are close to half of the top 5 countries.

Figure-1
How 3G works with mobile phone

In Pakistan, Cellular phone services progressing continuously and the advancement of technology is the value addition. Service providers offering their products with the demands of their users. Therefore, the demand for the high-speed data services is now increasing. So the study in 3G technologies is very important in Pakistan to understand the demand and requirements of the users to implement this technology.

The main objective of this research is to find out the motivational factors that lead to change their mind to switch from 2G to 3G technologies in Karachi. There are many researches have been conducted in the context of 3G technology. The results of some studies showed the perceived quality of 3G technology is significant with the use to this service and some of the studies results showed that payment and gender type do not have significant relationship with 3G technologies[4]. Celebrity endorsement has also impact on consumers mind to select 3G networks[5]. But no such research has been found in Pakistani context. Therefore there is a need to complete this gap and the study should be conducted.

Zhu et.al[6] empirically investigated that the consumer adoption on 3G technology as a value addition in their services. The study was conducted on Chinese population. They have used Technology acceptance model (TAM) with 9 important factors that attracts customers on their concerns towards 3G technologies. Sample data was collected through questionnaire on large scale and regression and factor analysis has been used with SPSS software. Results of the study showed that social influence and security in using 3G is very important. Study also found gender wise factors. Male demand 3G as a factor of enjoyment compatibility while female consider for the usefulness and price.

Casal et.al[7] find out the prospects of beyond 3G technologies. The researchers conducted that study in Europe and they have applied a qualitative approach. They conducted interviews with different users of the 3G technologies. The findings of the study showed that European users are not good at 3G but the service providers should not underestimate them because the users in Europe are more enthusiastic towards 3G.

Harno, J.[8] investigated the techno economic analysis that is beyond the 3G and its alternatives. The study was conducted on quantitative approach by using cost and revenue side on the basis of GSM, EDGE and GPRS. The result of the research shows that the approach to adopt wi-max and UMTS path are more feasible for the business whereas, large operators of UMTS generate more profits from the business.

Lee et.al[9]find out the contribution of the cellular industry for the economic development in Romania by taking a case study approach at market economy. Results of the study show that if cellular service providers pay attention on the basic services then positive and significant results will be achieved. The study of Martin[10] also indicated that the tariff reforms and the delay in services.

Saugstrup and Henten[11]analyze the competition between CDMA and WCDMA in the context of 3G standards. They have applied a qualitative approach to conduct the study and examined manufacturers, policies, end users and equipment's of the technology. The findings of the research suggested that WCDMA technology is far better than CDMA technology. This technology is more useful for 3G and will dominate the market share as well.

Methodology

Research approach: The research approach of the study is based upon quantitative. This approach is adopted to use numbers and understand the behavior of consumers in order to adopt 3G technologies.

Data Collection Tool: The data collection tool for the study is sample questionnaire; consists on five point likert scales. This questionnaire is then distributed to the population for data collection.

Target population: The target population of this research is university students of Karachi City that are most likely to adopt 3G services as a first mover.

Sample Size: Total 119 questionnaires were distributed to the target population in order to get the respond for the adoption of 3G technologies.

Sampling Technique: Convenience sampling technique has been used in this study. As it is the limitation of the study that geographical constraints, therefore this technique is adopted.

Statistical Technique: The Statistical research technique in this study is chi-square.Chi-square is applied when you have one categorical variable from a single population. It is used in order to determine whether sample data are consistent with a hypothesized distribution.

Research Design: The research design of the study is correlation research design. This design was adopted because study was conducted to check the relationship between motivational factors and consumer's behavior for adopting 3G technologies.

Results and Discussion

Data Analysis: In this section of the study, we have analyzed the data, which was collected through questionnaire. SPSS software has been used to determine the results from the collected data.

Table-1
Reliability Test

Reliability Statistics	
Cronbach's Alpha	N of Items
0.789	10

Table-2
Model Frequency Table

Model Frequency			
Variable	**Option**	**Frequency**	**Percentage**
Service Quality	Most Preferred	43	36%
Data Rate	Most Preferred	38	32%
Voice Quality	Most Preferred	50	42%
Video Quality	Most Preferred	43	36%
Mobile TV	Preferred	37	31%
Advance Mobile Banking	Preferred	38	32%
Real Time Location Finder	Preferred	44	37%
Verity of Service	Most Preferred	48	40%

Table-3
Chi Square Table

Chi Square			
Pairs	**Chi-Square**	**Signal**	**Result**
Gender * 3G Preference	24.941	0.353	Fail to Reject
Marital Status 3G Preference	19.048	0.698	Fail to Reject
District of Respondent 3G Preference	99.171	0.286	Fail to Reject
Profession of Respondent 3G Preference	61.48	0.728	Fail to Reject
Age Group 3G Preference	107.593	0.127	Fail to Reject
Qualification 3G Preference	83.556	0.112	Fail to Reject

Reliability Test (Cronbach's Test): Reliability test has been applied on the study to check the reliability of the collected data. This test is mostly used where the research data is collected through primary sources. To check whether the data is reliable or not, there is a significant parameter i.e. chronbach's alpha value. This value should be greater than or equal to 0.7 or 70%. The more the value exceeding 70% the more reliable data we have. In this case, the value of chronbach's alpha is 0.789 i.e. 78.9% showing that the data we have collected is fair enough to perform the further analysis.

Frequencies Tabulation: The above table shows the frequency distribution of the model. Initially data was in a unstructured form but after collecting and analyzing, variables data is converted into structured form. The above table is showing the most preferred and preferred variables for adopting 3G technologies. Service quality, data rate, voice quality, video quality and variety of service are showing the most preferred variables with 36%, 32%, 42%, 36% and 40% respectively. Whereas, mobile TV, advance mobile banking and real time location finder showed preferred option in adopting 3G technologies with 31%, 32% and 37%.

Chi Square Test: The above table shows the chi square values, which is based upon actual and estimated results. Chi square value will be greater if there will be a difference between actual and estimated data but if the difference is less between actual and estimated data, the chi square value will be smaller. Therefore if the chi square value is greater or larger then there is a chance of probability that the difference is really a significant. In our case, the chi square value of all the variables is greater than the critical value, which means that there is a significant difference between adoption of 3G technology and our respondents of the sample. Therefore on the basis of study results and findings, we can conclude that our respondents and 3G technology users are not likely to adopt this technology in our sample.

Conclusion

In this study researchers have tried to investigate the motivational factors that lead to change their mind to switch from 2G to 3G technologies in Karachi City. The main objective of this research was to find out the motivational factors that lead to change their mind to switch from 2G to 3G technologies in Karachi and the research question of the study is the factors that motivate the mobile phone users to switch 3G technology. The study was originated by taking some previous literatures and tried to find out the research gap. The topic taken in the study was never studied before in Karachi context and this was the

main purpose and gap for the study. Quantitative research approach was used with 219 sample of respondents participated in the study. Data was collected from the university going students of the Karachi. Reliability was tested through reliability test, which shows 79.8% for sample data, which is reliable. This reliability allowed us to further analysis of the data. Chi square test was then applied to collected sample, which shows that the respondents and 3G technology users are not likely to be adopting this technology in Karachi City's context. In Pakistan, Cellular phone services progressing continuously and the advancement of technology is the value addition. Service providers offering their products with the demands of their users. Therefore the demand for the high-speed data services is now increasing. So the study in 3G technologies is very important in Pakistan to understand the demand and requirements of the users to implement this technology.

Recommendations: Following are the recommendations based upon the results originated for the collected data: i. Gender preferences are not likely to be adopted the 3G technologies in university students; therefore service providers should focus and attract them by value added services. ii. Age group also not likely to be adopted the 3G technology therefore 3G technology awareness should be market among the teenagers. iii. Since professionals are keener to adopt technology, but in our case they also denied which is an alarming situation because this class can generate more revenue for the companies. Therefore 3G technology service providers should focus on this area.

References

1. Peha J. and Satapathy D., Spectrum sharing without licenses: Opportunities and Dangers. In G. Rosston and D. Waterman (Eds.), Interconnection and the Internet: Selected papers from the 1996 telecommunications research **(1997)**

2. William Lehr, and Lee W McKnight, Wireless Internet access: 3G vs. Wi-Fi? *Telecommunication Policy,* **27 (5),** 351-370 **(2003)**

3. International Union of Telecommunication, Resolution 25 Rev. Plenipotentiary Conference, Antalya **(2006)**

4. Mardikyan S., Beşiroğlu B. and Uzmaya G., Behavioral Intention towards the Use of 3G Technology, *Communications of the IBIMA,* 10 **(2012)**

5. Noam E., The next frontier for openness: Wireless communications. Draft paper presented at 2001, *Telecommunications Policy Research Conference*, Alexandria, VA, October **(2001)**

6. Du H., Zhu G., Zhao L. and Lv. T., An empirical study of consumer adoption on 3G value-added services in China, *Emerald Research journal,* **3(3)**, 257-283 **(2012)**

7. Casal C.R., Burgelman F.C. and Bohlin E., Prospects beyond 3E, *Emerald Research Journal,* **6(6)**, 359-362 **(2004)**

8. Harno J., Techno-economic analysis of beyond 3G mobile technology alternatives, *Emerald Research Journal,* **11 (3)**, 45-63 **(2009)**

9. Lee S., Sylvia M. Chan-Olmsted and Kim, H., the Deployment of Third-Generation Mobile Services, 1-32 **(2009)**

10. Martin M., Verizon wireless gets closer to 3G. Network World, February 4 **(2002)**

11. Dan Saugstrup, Anders Henten, 3G Standards: the battle between WCDMA and CDMA 2000, info, **8 (4)**, 10–20 **(2006)**

12. Mahdi Safaa A., Muhsin Asaad H. and Al-Mosawi Ali I, Using Ultrasonic Sensor for Blind and Deaf persons Combines Voice Alert and Vibration Properties, *Research Journal of Recent Sciences,* **1(11)**, 50-52 **(2012)**

13. Seena Abraham, Quality of life Among Adolescents with Physical Disability Undergoing Integrated Education, *Research Journal of Social Sciences,* **2(5)**, 1-5 **(2013)**

14. Eskandar J., Intellectual Capital and its Effects on Firms' market value and Financial Performance in Iran: An Investigating Public Model, *Research Journal of Recent Sciences,* **2(3)**, 1-6 **(2013)**

15. Mangang P.N., Health Beliefs and Perception of Well-being among the Lois of Thanga in Manipur, India, *Research Journal of Recent Sciences,* **1(4)**, 46-52 **(2012)**

16. Nwajei G.E., Okwagi P., Nwajei R.I. and Obi-Iyeke G.E., Analytical Assessment of Trace Elements in Soils, Tomato Leaves and Fruits in the Vicinity of Paint Industry, Nigeria, *Research Journal of Recent Sciences,* **1(4)**, 22-26 **(2012)**