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A STUDY ON CUSTOMERS AWARNESS LEVEL OF VALUE ADDED SERVICES ON MOBILE PHONE SERVICE PROVIDERS- WITH SPECIAL REFERENCE TO HYDERABAD CITY, TELANGANA STATE

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Abstract
Mobile Value Added Services are those services that are not part of the basic voice offer and are availed separately by the end user. They are used as a tool for differentiation and allow mobile operators to develop other stream of revenue. Mobile VAS, MMS and wireless data services based on wireless data bearer technologies which as WLAN, GPRS, WAP with VAS applications including mobile gaming, mobile VAS also includes voice-based services such as PTT, IVR and WDA. According to a study conducted by IAMAI and IMRB, the Indian Mobile the trend shows that a willingness of users to spend nearly 40 per cent of their bill towards Internet access.

Keywords: Value Added Services, Mobile Value Added Services, Growth Drivers and Average Revenue per User.

Introduction

India will have 130.6 million mobile Internet users by March 2014, according to the Mobile Internet Report by Internet and Mobile Association of India (IAMAI) and IMRB, just published. In December 2012, the number was 87.1 million mobile Internet users. According to the report, in October 2012, there were 78.7 million mobile users who had accessed the Internet through laptops with dongles, tablets, dongles that connect to the Internet. Of this number, there are 61 million off-deck users (accessing sites other than sites of the operator), 15 million on-deck users (accessing only sites specified by the operator) and the rest 2.7 million users accessed the Internet using dongles (i.e., connected to Internet using 2G, 3G or high-speed data cards).

Value-Added Service

A value-added service (VAS) is popular as a telecommunications industry term for non-core services, or in short, all services beyond standard voice calls and fax transmissions. It can be used in any service industry, for services available at little or no cost, to promote their primary business. In the telecommunication industry, on a conceptual level, value-added services add value to the standard, spurring the subscriber to use their phone more and allowing the operator to drive up their Average Revenue per User (ARPU). For mobile phones, while technologies like SMS, MMS and GPRS are usually considered value-added services, a distinction may also be made between standard (peer-to-peer) content and premium-charged content. These are called mobile value-added services (MVAS) which are often simply referred as VAS. Value-added services are supplied either in-house by the mobile network operator themselves or by a third-party Value Added Service Provider (VASP), also known as a Content Provider (CP). VASPs typically connect to the operator using protocols like Short Message Peer-to-Peer Protocol (SMPP), connecting either directly to the Short Message Service Centre (SMSC) or, increasingly, to a messaging gateway that allows the operator to control and charge of the content better. There are many national and international investors are ready to invest in this segment of telecom market.

Value Added Services Provided by the Telecom Operators

News - e.g. Business, sports, politics etc.,
Finance - e.g. Share market, foreign exchange etc.
Entertainment - e.g. Games, jokes, films etc.
Travel - e.g. Railway, airlines etc.

Download - e.g. Caller tunes wallpapers etc.
Astrology - e.g. Horoscope
Contest - e.g. Reality shows
MMS - e.g. Picture messages, video clips etc.
E-mail - e.g. SMS, E-mail etc.
Music - e.g. Ring tones
Cricket - e.g. Score, video clips etc.
GPRS - e.g. Internet, chat etc.
Call Alert - e.g. Missed call alerts when mobile is switched off or busy
Health - e.g. Health tips, beauty tips etc.
M-Commerce - e.g. mobile transactions like mobile banking
Others - e.g. movies, music etc.

Growth drivers of Value Added Services

- India is one of the fastest growing telecom markets globally
- VAS potential as an ARPU enabler
- Increased availability of affordable multifunction handsets with enhanced capabilities
- A need for telecom service providers to differentiate themselves based on key VAS offerings
- High speed networks like 3G and WIMAX likely to drive adoption of VAS

Objectives of the Study

The study has been undertaken with the following objectives

1. To analyse the customers awareness level of Value Added Services on mobile phone.
2. To find the customer level of satisfaction of Value added Services on mobile phone service providers.

Review of Literature

Harvinder Singh (2005) in his study, "Mobile Telephony Need to Knock Multiple Doors" concluded that, Mobile telephony in India has been tremendous growth in terms of subscriber base, tele-density, and usage, in the past six years, but it has not translated into a high Average Revenue per User (ARPU). A gradual but steady shift of mobile service providers towards value added services will help in achieving a higher level of differentiation among service providers. It will also generate an alternative stream of revenue and dependence on voice-call revenue will come down.

Smruti Bulsari (2006) in his study "National Telecom Policy (NTP) 1994 and Structural Change in Telecommunication sector of Gujarat" concluded that, There has been a significant development in the telecommunication sector in the past decade. The reforms in the telecommunications sector its beginning with the liberalization policy in general and the NTP 1994. This policy was revised after having identified the lacunae and it is being revised continuously in tune with the changes in technology and value added services with basic telephony. Since the introduction of the NTP 1994, a significant growth in the telecommunications sector of Gujarat and the growth rate is estimated to be 9.6%.

Jessy John (2011) in his study "An analysis on the customer loyalty in telecom sector: Special reference to Bharath Sanchar Nigam limited, India" concluded that, The purpose of this paper was to investigate the factors that influence customer loyalty of BSNL customers. Trustworthiness, relationship, image, value added services and inconvenience in switching phone no. were found to the key factors that influenced the loyalty of the BSNL customers. Even though the service provided by BSNL is very cost effective it is still loosing its customer base. BSNL must look away from the issue of cost and must try to improve the network quality and the quality of customer services as per the expectations of the customers. New technologies and features are being introduced in mobile services like PDA, MP4, high mega pixel digital camera and others. BSNL need to update itself with

respect to these technologies at the same time take the initiative to market itself as youth friendly as youth are the target universe of any mobile provider. At the same time initiatives should be taken to improve the functional service quality were attention should be given to improve reliability, assurance, empathy and overall satisfaction of the customers. The existing customers should be actually made to feel that the 'BSNL is best hai mere a lie' which means BSNL is the best one.

Sivarthina Mohan. R and Aranganathan, P (2011) in their study "Conceptual framework of Mobile Marketing : Spamming the consumer around the world" found that, Mobile phones can also be an extremely cost effective communication channel as well as an efficient way of delivering a marketing message. Promotion through mobiles has emerged as an integral part of any brand's marketing campaign today. It has become an important engagement tool for brands and aims to fulfill the gap that traditional media has been unable to bridge. With the increasing popularity of the Mobile Internet, this form of marketing is soon on the edge to achieve a significant reach. It is also widely believed that the success of mobile advertising will directly depend upon the penetration and the success of Mobile Internet. There are plentiful opportunities for content and service providers to generate mobile value added services (MVAS) revenues from this nascent market.

Mallikarjuna .V, Krishna Mohan .G and Pradeep Kumar .D (2011) in their study "Customer switching in mobile industry - an analysis of pre-paid mobile customers in AP circle of India" found that, Switching is quite high in the pre-paid customer segment due to low switching costs and competitive tariff plans. With entry barriers easing and mobile number portability around the corner, there is a high probability for switching especially in the prepaid segment. As network coverage, tariff plans, service play a vital role in retaining customers; the mobile operators should employ a number of strategies to manage the challenges. New levels of customer interaction at various stages are necessary to ensure customer intimacy and loyalty. Providing information on different plans, value added services, provision and activation of additional services, and customer friendly environment at all points of interaction are necessary to ensure customer delight. Network coverage and access are the key factors that influence the customer retention. Hence, investment in network and technology should go on to improve the geographic coverage, seamless connectivity and speed. Improvement in the quality of basic service – the voice calls will prove to be an excellent strategy for enhancing customer loyalty.

The Value Added Services industry in India is at nascent stage. At present, the telecommunications industry was revolutionized by the rapid penetration of 'Mobile', and the next level of growth-cum-revolution is undoubtedly marked by the value-added services (VAS) market. Mobile VAS has gained significance as it has been emerging as a potential alternative revenue stream. VAS enables the subscriber to use the mobile phone for a host of purposes such as for sending short messages, pictures, to surf the Internet, for mobile banking including mobile payments, to read news headlines, astrology, to listen to music, to play games and to seek various other types of information. The current Indian MVAS market can be gauged into two categories that are Current MVAS and Emerging MVAS. The current MVAS category covers 63 percent of the total industry, whereas emerging MVAS covers the remaining share of 37 percent. The current MVAS consists of CRBT (27 percent) and SMS Based application (17 percent). On the other hand, the emerging MVAS consist mostly of Mobile Apps (10 percent) and Games (8 percent). MVAS growth further, affordable mobile devices and cheaper data subscription rates will play a crucial role in the market.

Methodology

The purpose of the present study was to study the awareness level of Value Added Services in the telecom sector. Mobile phone service providers taken for the study were BSNL, Airtel, Reliance, Aircel and Vodafone.

Selection of the Population

For the purpose of this study Hyderabad city is selected. It is convenient place to collect the sample to the research and sample design is determined before data was collected.

Selection of Sample

For the study a sample of 100 respondents was taken based on randomly. These respondents were interviewed and collected the data by using the structured questionnaire in Hyderabad City.

Methods of Data Collection

Both primary and secondary sources of data were used. The primary data required for the study were collected through questionnaire. Primary data has been collected from different mobile phone service provider users in Hyderabad City. The main service providers are BSNL, Airtel, Reliance, Aircel and Vodafone. Secondary data was collected from the Annual reports of the companies, Magazines, Journals and Websites.

Analysis of Data

To arrive at certain conclusions regarding the hypothesis advanced in the present investigation, the following statistical tools for analysis of data were employed to consolidate, classify and analyse the data with reference to the selected objectives of the study. i.e., Simple Percentage Analysis, Factor Analysis, Chi- Square Test. Statistical calculations have been made making extensive use of Microsoft Excel and SPSS Software Packages on the computer.

Table - 1:Mobile phone service users VAS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	87	87.0	87.0	87.0
	No	13	13.0	13.0	100.0
	Total	100	100.0	100.0	

Source: Primary data

The above table reveals that usage of value added services. Out of 100 mobile phone service provider users, 87 percent of the mobile phone service provider users are using value added services and remaining 13 percent of the mobile phone service provider users are not using value added services. It is cleared that maximum numbers of mobile phone service provider users are using Value Added Services.

Factor Analysis

Factor analysis is a multivariate statistical technique used to condense and simplify the set of large number of variables to smaller number of variables called factors. This technique is helpful to identify the underlying factors that determine the relationship between the observed variables and provides an empirical classification scheme of clustering of statements into groups called factors. Using all the 15 awareness on value added services namely X1, X2,….and X15 factor analysis is performed in order to group these variables on priority basis based on the strength of inter-correlation between them called 'Factors' and cluster these variables in to the factors extracted and the results are presented in the following tables.

Analysis on Valued Added Services

Rotated Component Matrix[a]

	Component		
	1	2	3
SMS Q1	**0.261**	0.15	0.732
Ring_tones Q2	**0.689**	0.474	-0.1
MMS Q3	**0.68**	-0.096	0.519
Internet_GPRS Q4	**0.874**	0.161	0.053
Chatting Q5	**0.835**	0.139	0.241
Vedio_Clips Q6	**0.774**	-0.12	0.551
Contest_In_TV_Through_SMS Q7	**0.695**	0.418	0.126
Voice_bsed_SMS Q8	**0.658**	0.288	0.214

Horoscope_Astrology Q9	0.12	**0.899**	0.168
Opinion_Pools Q10	0.127	0.297	**0.844**
Quiz_Contest Q11	0.255	**0.796**	0.212
CityInfoLine Q12	0.161	0.446	**0.736**
Criket_Games Q13	0.199	**0.815**	0.29
Information_Service Q14	0.155	**0.66**	0.641
Third_Party_Conference Q15	0.14	**0.655**	0.643

Source: Primary Data

The above table gives the rotated factor loadings explained by the factors. Out of the 15 awareness on value added services, 3 factors have been extracted and these 3 factors put together explain the %. In order to reduce the number of factors and enhance the interpretability, the factors are rotated. The rotation increases the quality of interpretation of the factors. There are several methods of the initial factor matrix to attain simple structure of the data. The varimax rotation is one such method to obtain better result for interpretation is employed and the results are given below.

Clustering Of Value Added Services into Factors

Awareness on value added services	Rotated factor loadings
Ring_tones Q2	**0.689**
MMS Q3	**0.68**
Internet_GPRS Q4	**0.874**
Chatting Q5	**0.835**
Vedio_Clips Q6	**0.774**
ContestTVThrough_SMS Q7	**0.695**
Voice_bsed_SMS Q8	**0.658**
Horoscope_Astrology Q9	**0.899**
Quiz_Contest Q11	**0.796**
Criket_Games Q13	**0.815**
Information_Service Q14	**0.66**
Third_Party_Conference Q15	**0.655**
Opinion_Pools Q10	**0.844**
CityInfoLine Q12	**0.736**

Source: Primary data.

The three factors were identified as being maximum percentage variance accounted. The 7 awareness on value added services Q2, Q3, Q4, Q5, Q6, Q7, and Q8 were grouped together as factor I and accounts 50 percent of the total variance. The 5 awareness on value added services Q9, Q11, Q13, Q14, and Q15 the factor II and accounts 36% percent of the total variance. The two awareness on value added service Q10, Q12 constituted the factor III and accounts 9.61 percent of the total variance. Thus the factor analysis condensed and simplified the 15 value added services and grouped into 3 factors explaining 50% percent of the variability of all the 15 value added services.

Hypothesis Testing - Chi-Square Test

Ho: there is no association between Gender and Customer level of Awareness

Gender * Customer_Level_of_Awareness Crosstabulation

		Customer_Level_of_Awareness			Total
		Low	Medium	High	
Gender	Male	8	30	29	67
	Female	2	13	18	33
Total		10	43	47	100

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.510[a]	2	.470
Likelihood Ratio	1.568	2	.457
Linear-by-Linear Association	1.485	1	.223
N of Valid Cases	100		
a. 1 cells (16.7%) have expected count less than 5. The minimum expected count is 3.30.			

It is observed from the above table that the calculated value is 0.4705 of $\chi 2$ is less than the 0.5. Hence the null hypothesis is accepted. It is concluded that there is no significant relationship between sex and level of awareness of value added services.

H0: There is no significant association between age and awareness on value added services.

Age * Customer_Level_of_Awareness Crosstabulation					
Count					
		Customer_Level_of_Awareness			Total
		Low	Medium	High	
Age	Below 25 Years	4	21	24	49
	25 - 35 Years	3	16	15	34
	Above 35 Years	3	6	8	17
Total		10	43	47	100

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.673[a]	4	.796
Likelihood Ratio	1.512	4	.825
Linear-by-Linear Association	.409	1	.522
N of Valid Cases	100		
a. 3 cells (33.3%) have expected count less than 5. The minimum expected count is 1.70.			

It is observed from the above table that the calculated value .795 is of $\chi 2$ is more than the 0.5 Hence the null hypothesis is rejected. It is concluded that there is a significant relationship between age and level of awareness of value added services.

H0: There is no significant association between educational qualification and awareness on value added services.

Education * Customer_Level_of_Awareness Crosstabulation					
Count					
		Customer_Level_of_Awareness			Total
		Low	Medium	High	
Education	Primary Education	3	16	17	36
	Intermediate	0	13	15	28
	Under Graduate	7	6	12	25
	Post Graduate	0	8	3	11
Total		10	43	47	100

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	17.727[a]	6	.007
Likelihood Ratio	19.109	6	.004
Linear-by-Linear Association	1.101	1	.294
N of Valid Cases	100		
a. 5 cells (41.7%) have expected count less than 5. The minimum expected count is 1.10.			

It is observed from the above table that the calculated value is .007 of $\chi 2$ is less than the 0.5. Hence the null hypothesis is accepted. It is concluded that there is no significant relationship between educational qualification and level of awareness of value added services

H0: There is no significant association between occupation and awareness on value added services.

Occupation * Customer_Level_of_Awareness Cross tabulation					
Count					
		Customer_Level_of_Awareness			Total
		Low	Medium	High	
Occupation	Employee	1	12	9	22
	Professional	4	7	11	22
	Student	1	10	11	22
	Business Man	2	10	11	23
	Home Maker	2	4	5	11
Total		10	43	47	100

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.291[a]	8	.726
Likelihood Ratio	5.217	8	.734
Linear-by-Linear Association	.001	1	.979
N of Valid Cases	100		
a. 6 cells (40.0%) have expected count less than 5. The minimum expected count is 1.10.			

It is observed from the above table that the calculated value is 0.726 of $\chi 2$ is more than the 0.5. Hence the null hypothesis is rejected. It is concluded that there is a significant relationship between occupation and level of awareness of value added services.

H0: There is no significant association between family income and awareness on value added services.

Family_Income * Customer_Level_of_Awareness Crosstabulation					
Count					
		Customer_Level_of_Awareness			Total
		Low	Medium	High	
Family_Income	Below Rs.10000	4	12	10	26
	Rs.10001-Rs.20000	1	8	12	21
	Rs. 20001-Rs.30000	1	13	12	26
	Above Rs. 30001	4	10	13	27
Total		10	43	47	100

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.512[a]	6	.608
Likelihood Ratio	4.764	6	.574
Linear-by-Linear Association	.159	1	.690
N of Valid Cases	100		
a. 4 cells (33.3%) have expected count less than 5. The minimum expected count is 2.10.			

It is observed from the above table that the calculated value is 0.608 of $\chi 2$ is more than the 0.5. Hence reject the null hypothesis. It is concluded that there is a significant relationship between family income and level of awareness of value added services.

Findings of the Study

1. Maximum numbers of mobile phone service providers users are using Value Added Services.
2. Maximum number of users is familiar with prepaid and post paid services, which are offered to them by their respective service providers.
3. The factor analysis considered and simplified the 15 value added services and 14 factors are grouped in to 3 factors explaining 50% of the variability of all the all 14 value added services.
4. Maximum number of mobile phone service provider users are availing the valued added services. But now everyone frequently uses some Value Added services like SMS, ring-tone downloading, internet connection and gaming, etc.
5. Majority of mobile phone service provider users are satisfied with charges for value added services and very few of mobile phone service provider users are neutral, dissatisfied and highly dissatisfied with internet connection, activation time for value added services, free SMS and delivery of notification.

Results of Hypothesis Testing

- There is no significant relationship between sex and level of awareness of value added services.
- There is a significant relationship between age and level of awareness of value added services.
- There is no significant relationship between educational qualification and level of awareness of value added services.
- There is significant relationship between occupation and level of awareness of value added services.
- There is a significant relationship between family income and level of awareness of value added services.
- There is significant relationship in the satisfaction scores on the value added services among the mobile phone service provider users.

Conclusion

The Value Added Services industry in Telangana State is at growing stage. At present, the telecommunications industry was revolutionized by the rapid penetration of 'Mobile', and the next level of growth-cum-revolution is undoubtedly marked by the value-added services (VAS) market. Mobile VAS has gained significance as it has been emerging as a potential alternative revenue stream. VAS enables the subscriber to use the mobile phone for a host of purposes such as for sending short messages, pictures, to surf the Internet, for mobile banking including mobile payments, to read news headlines, astrology, to listen to music, to play games and to seek various other types of information.

Currently, India is considered to be a nation with one of the largest youth population with over 64% of its citizens below the age of 34 years and with literacy rate of around 80% amongst the age group of 15-24 years. Also, it is the second largest country in terms of mobile user base next to China.

However, the current VAS adoption is limited to a certain set of services with service providers facing challenges such as maintaining a balanced portfolio of services with high price vs low cost services, channelizing promotion of services to potential targeted users, investment into new 3G/4G verticals vs profitable applications on current 2G networks, etc. But, looking at the analysts latest predictions, growing inclination of youth towards internet and rising income, the combination seems to promise a good future ahead.

According to a report published by Wipro and IAMAI earlier this year, the MVAS market will reach $9.5 billion in 2015, with Mobile Entertainment being the largest contributor to operator MVAS revenues.

MVAS growth further, affordable mobile devices and cheaper data subscription rates will play a crucial role in the market.

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