

## “USAGE OF MOBILE SERVICES BY AGRI LABORS IN ADILABAD ZONE : AN EMPIRICAL STUDY.”

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### Abstract:

In the context of the rapid growth of mobile phone penetration in developing countries, mobile telephony is currently considered to be particularly important for development. Yet, until recently, very little systematic evidence was available that shed light on the developmental impacts of mobile telecommunication. As urban markets become increasingly saturated and as mobile telecommunications transcend technologies, standards, operators and operational zones, the largely untapped rural markets for Value Added Services (VAS) can no longer be ignored. Short Message Service (SMS) lets users send messages from their mobile phones to other mobiles and to email, paging or voice-mail systems. It needs little bandwidth, works well in poor signal areas, is easy and inexpensive to implement.

Indeed, the proportion of new mobile subscribers from rural areas indicates the importance of this market segment to sustained mobile growth in India. The increasing popularity of mobile phones among Agriculture Labors, especially among younger generation, is attributed to its low cost and handiness for their basic communication needs.

**Keywords:** Value Added Services, Base of Pyramid, Rural Markets, Agri labors, mobile services.

### Introduction:

Background India has over 1.1 billion people with an average gross national per capita income of less than US\$550. The Indian economy started liberalizing in 1991. However, there are several factors responsible for the Indian economy's slow movement and the difficulties it has reaching its full potential. The urban Indian economy is progressing faster than the rural Indian economy, but 70 per cent of the country's population lives in rural India. Mobile networks are growing, and ultra low cost handsets and electronic micro-recharge services to pay for minutes makes it increasingly easy for those at the bottom of the socio-economic pyramid to afford mobile service. Soon, 60 per cent of India's expected 650 million subscribers will be rural. By 2012, 65 per cent or close to 450 million of India's projected 700 million total mobile subscriber base, will be rural subscribers. What is more, access to mobile communications has a major impact on economic well-being and growth. The challenge is to adapt VAS to provide services that positively impact the lives of rural and 'base of the pyramid' (BOP) segments by enhancing their livelihoods and enriching their lives. As mobile networks are rolled out to an increasing number of villages and small towns, the infrastructure issue is being addressed. The development and distribution of ultra low cost handsets is also a prerequisite for greater penetration of BOP segments - again, such phones are now widely available, though still beyond the means of many individuals.

Once individuals have access to a mobile phone service, the issue of payment for such services arises. Critical in supporting uptake of mobile usage is provision of micro-recharge services, such as electronic recharge- a pre-paid top-up service that enables low-income mobile users to recharge their accounts using very small denominations. Experience from rapidly expanding markets indicates that an electronic pre-paid recharge service can enhance the uptake of mobile phone subscription- generating increased revenues for operators. Equally important is the fact that operators are able to expand services profitably. Without the costs of printing vouchers, storage, transportation, potential loss, expiry or fraud, operators significantly reduce their overheads in the delivery of pre-paid top-up. Whilst the rural segment will benefit from practical information and financial services, the need for entertainment also exists. The mobile can be used to listen to songs downloaded to the phone by following voice prompts, whether popular Bollywood movie songs, regional language songs, or folk music. The popularity of ring back tones among this segment shows that where a value is perceived, rural and low-income segments will pay for that service.

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### Review of literature:

H. Verkasalo 2008 defined a hand-set based method for analyzing mobile service usage; the approach provided a scalable and novel market research approach. In addition to descriptive adoption statistics, a path analysis model is developed that explains mobile service adoption contingent on a set of explanatory variables and also explained several indices that measure time-varying characteristics of mobile services. Hannu Verkasalo 2008 studied on the emergence of mobile multimedia services and its applications in US and Europe, R Kumar and Hammainen 2007 in their paper identify three different types of IMR clusters and their characteristics. Strategies for competition and cooperation among clusters are discussed. M. Tall berg, Hammainen, J. Toyli, S. Kamppari and A. Kivi, 2007 studied on impacts of handset bundling on mobile data usage, T. Smura, A. Kiiski and H. Hammainen, 2007 studied on Virtual operators in the mobile industry, H. Verkasalo and H. Hammainen, 2007 studied on A Handset-Based Platform for Measuring Mobile Service Usage and A Cross-Country Comparison of Mobile Service and Handset Usage, H. Verkasalo 2008, first discussed the future of mobile internet voice and possible technical services evaluation paths, and also studied on evaluation of mobile market. H. Verkasalo 2008 also studied on the Mobile Internet and E-Commerce. Antero Kivi 2007 in his paper Measuring Mobile User Behavior and Service Usage discussed about the alternative data collection methods are analyzed based on literature study and practical experiences, and also studied on data adaptation and mobile internet usage in Finland. Hannu Verkasalo 2008, in this paper identifies several measures that reflect the diffusion of the mobile internet and the results indicate that the mobile internet has not yet emerged on a large scale in Finland. On the contrary operators have slightly increased their power, potentially because handset bundling with mobile subscriptions is now allowed in Finland. Eric Bellman says Demand Among Poor Farmers Keeps an Industry Growing as Other Sectors of the Economy Are Jolted, Dr.J.S.Giri.Rao, Dr.S.N..Pattnaik, 2006 studied on technology for rural development: role of telecommunications media in India. Srinivasan.G, 2001 studied on Rural Telephony, Mishra, and S.N. etal 2002 studied impacts on rural health rural infrastructure and telecommunications. Sarah Lucas pouezevara and Rubina khan 2007 studied on learning technologies enabled by mobile technology in distance learning, Priyanka Matanhelia 2010 study explored the use of mobile phones among young adults in India. Librero, F., Ramos, A., Ranga, A. I., Triñona, J. & Lambert, D 2007 studied usage of cell phones and mentioned in their studies that it is virtually certain that not too far in the future all of the world's students will have a cell phone. This is sufficient reason and motivation for educators to explore the possibility of making the cell phone an important tool in the educational systems of developed and developing countries. Kumar, A., Tewari, A., Shroff, G., Chittamuru, D., Kam, M., and Canny, J 2010 studied on mobile learning in rural India to examine the feasibility of mobile learning in out-of-school settings in rural, underdeveloped areas, and to help more researchers learn how to undertake similarly difficult studies around mobile computing in the developing world. John-Harmen Valk, Ahmed T. Rashid, and Laurent Elder, 2010, studied on using mobile phones to improve educational outcomes in Asia, Rohit Singh, 2009 studied on Mobile Phones for Development and Profit: A Win-Win Scenario for African countries.

### Research Methodology:

#### Scope of the study:

This paper focuses on the usage of Mobile Services by Agri Labors in Adilabad Zone.

#### Research questions:

- To what extent the agri labors are using the mobiles?
- To what extent money is being spent monthly on mobiles services?

#### Objectives:

The objectives of this paper are to

- To examine the usage rate of mobile phones
- To evaluate how much money has been spent monthly on mobiles services.
- To know the time period of usage.
- Factors to provoke use mobile phones services.

**Methodology :**

The data was collected from 100 agricultural labor of Adilabad zone through questionnaire constitutes the sample frame through direct personal interview method was adopted considering on an average of 25 house in each cluster (north, south, east, west) .it was in this context, that a research study was worked out to study the usage of Mobile Services by Agri Labors in Adilabad Zone.

**Analysis of Results**

**Chi-Square Test**

Table 1: Mobile connection

Test Statistics	
	Mobile Connection
Chi-Square	92.160 <sup>a</sup>
Df	1
Asymp. Sig.	.000

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 50.0.

**Inference:** The obtained chi -square value is 92.160 at 1 degr ees of freedom, the significance value is less than 0.05 suggests that there is significant importance for Mobile connection on usage of mobile phone services by Agri Labors in Adilabad Zone

**Chi-Square Test**

Table 2: Monthly income

Test Statistics	
	Monthly income
Chi-Square	8.960 <sup>a</sup>
Df	3
Asymp. Sig.	.030

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 25.0.  
b.

**Inference:** The obtained chi -square value is 8.960 at 3 degrees of freedom, the significance value is greater than 0.05 suggests that **there is no** significant importance for Monthly income on usage of mobile phone services by Agri Labors in Adilabad Zone

**Chi-Square Test**

Table 3: Purpose

Test Statistics	
	Purpose
Chi-Square	87.440 <sup>a</sup>
df	3
Asymp. Sig.	.000

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 25.0.

**Inference:** The obtained chi-square value is 87.440 at 3 degrees of freedom, the significance value is less than 0.05 suggests that there is significant importance for Purpose of usage of mobile phone services by Agri Labors in Adilabad Zone

**Chi-Square Test**

Table 4: Monthly bill

**Test Statistics**

	Monthly bill
Chi-Square	29.360 <sup>a</sup>
df	3
Asymp. Sig.	.000

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 25.0.

**Inference:** The obtained chi -square value is 29.360 at 3 degrees of freedom, the significance value is less than 0.05 suggests that there is significant importance for Monthly bill on usage of mobile phone services by Agri Labors in Adilabad Zone

**Chi-Square Test**

Table 5: Time period

<b>Test Statistics</b>	
	Time period
Chi-Square	23.360 <sup>a</sup>
df	3
Asymp. Sig.	.000

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 25.0.

**Inference:** The obtained chi -square value is 23.360 at 3 degrees of freedom, the significance value is less than 0.05 suggests that there is significant importance for Time period on usage of mobile phone services by Agri Labors in Adilabad Zone

**Chi-Square Test**

Table 6: Initiation

**Test Statistics**

	Initiation
Chi-Square	25.200 <sup>a</sup>
df	3
Asymp. Sig.	.000

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 25.0.

**Inference:** The obtained chi-square value is 25.200 at 3 degrees of freedom, the significance value is less than 0.05 suggests that there is significant importance for Initiation of usage of mobile phone services by Agri Labors in Adilabad Zone

**Chi-Square Test**

Table 7: Statusaa

**Test Statistics**

	Status
Chi-Square	66.000 <sup>a</sup>
df	4
Asymp. Sig.	.000

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 20.0.

**Inference:** The obtained chi-square value is 66.000 at 4 degrees of freedom, the significance value is less than 0.05 suggests that there is significant importance for Status on usage of mobile phone services by Agri Labors in Adilabad Zone

**Chi-Square Test**

Table 8: Usefulness

**Test Statistics**

	Usefulness
Chi-Square	33.600 <sup>a</sup>
df	3
Asymp. Sig.	.000

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 25.0.

**Inference:** The obtained chi-square value is 33.600 at 3 degrees of freedom, the significance value is less than 0.05 suggests that there is significant importance for Usefulness on usage of mobile phone services by Agri Labors in Adilabad Zone

**Various factors dependency for usage of mobile phone services:**

**Dependent variable**

Y= Monthly income of agri labors in Adilabad Zone (Monthly income)

**Independent variables**

- X<sub>1</sub>= the mobile connection they are using (Mobile connection)
- X<sub>2</sub>= mostly use mobile phone for (Purpose)
- X<sub>3</sub>= the average monthly bill (Monthly bill)
- X<sub>4</sub>= the usage of mobile phones since (Time period)
- X<sub>5</sub>= the person who initiated the usage (Initiation)
- X<sub>6</sub>= do the usage of mobile phones represents status (Status)

X<sub>7</sub> the usefulness of mobile phones for being in touch with (Usefulness)

**Correlations**  
Table 9

**Correlations**

		Monthly income	Mobile connection	Purpose	Monthly bill
Monthly income	Pearson Correlation	1	.189	.832**	.865**
	Sig. (2-tailed)		.060	.000	.000
	N	100	100	100	100
connection	Pearson Correlation	.189	1	.274**	.296**
	Sig. (2-tailed)	.060		.006	.003
	N	100	100	100	100
purpose	Pearson Correlation	.832**	.274**	1	.791**
	Sig. (2-tailed)	.000	.006		.000
	N	100	100	100	100
Monthly bill	Pearson Correlation	.865**	.296**	.791**	1
	Sig. (2-tailed)	.000	.003	.000	
	N	100	100	100	100
Time peroid	Pearson Correlation	.936**	.184	.859**	.840**
	Sig. (2-tailed)	.000	.067	.000	.000
	N	100	100	100	100
Inititation	Pearson Correlation	.913**	.196	.713**	.883**
	Sig. (2-tailed)	.000	.051	.000	.000
	N	100	100	100	100
Status	Pearson Correlation	.833**	.319**	.565**	.794**
	Sig. (2-tailed)	.000	.001	.000	.000
	N	100	100	100	100
Usefulness	Pearson Correlation	.873**	.293**	.791**	.882**
	Sig. (2-tailed)	.000	.003	.000	.000
	N	100	100	100	100

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**Correlations**

		Time period	Initiation	Status	Usefulness
Monthly income	Pearson Correlation	.936**	.913**	.833**	.873**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	100	100	100	100
connection	Pearson Correlation	.184	.196	.319**	.293**
	Sig. (2-tailed)	.067	.051	.001	.003
	N	100	100	100	100
Purpose	Pearson Correlation	.859**	.713**	.565**	.791**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	100	100	100	100
Monthly bill	Pearson Correlation	.840**	.883**	.794**	.882**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	100	100	100	100
Time period	Pearson Correlation	1	.879**	.786**	.833**
	Sig. (2-tailed)		.000	.000	.000
	N	100	100	100	100
Initiation	Pearson Correlation	.879**	1	.840**	.871**
	Sig. (2-tailed)	.000		.000	.000
	N	100	100	100	100
Status	Pearson Correlation	.786**	.840**	1	.790**
	Sig. (2-tailed)	.000	.000		.000
	N	100	100	100	100
Usefulness	Pearson Correlation	.833**	.871**	.790**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	100	100	100	100

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**Inference :**

first let us first check the correlation of all variables with each other .The above correlation table is indicating that the value from 0 to 1 (+ve). By observing all columns the analysis indicates that Monthly income and Time period is highly positively correlated and monthly income and mobile connection is weakly correlated. Connection and status are highly positively correlated, and connection and time period is weakly correlated. Purpose and time period are highly positively correlated, and purpose and mobile connection is weakly correlated. Monthly bill and initiation are highly positively correlated, and monthly bill and mobile connection are weakly correlated. Time period and monthly income is highly positively correlated and time period and mobile connection is weakly correlated. Initiation and monthly income is highly positively correlated and initiation and mobile connection is weakly correlated. Status and initiation is highly positively correlated and status and mobile connection is weakly correlated. Usefulness and monthly bill is highly positively correlated and usefulness and mobile connection is weakly correlated to each other.

**Regression**

Table 10

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.967 <sup>a</sup>	.936	.931	.260

a. Predictors: (Constant), Usefulness, connection, Purpose, Status, Monthly bill, Initiation, Time period

Table 11

**ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	90.794	7	12.971	192.278	.000 <sup>a</sup>
	Residual	6.206	92	.067		
	Total	97.000	99			

a. Predictors: (Constant), Usefulness, connection, Purpose, Status, Monthly bill, Initiation, Time period

b. Dependent Variable: Monthly income

Before we use the equation we need to look at the statistical significance of the model and R<sup>2</sup> value is .936 which is statistically highly significant. We also note that then t - test for significance of individual independent variable indicates that the significance level is .000.

Table 12

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.432	.230		1.878	.064
	connection	-.526	.213	-.075	-2.468	.015
	Purpose	.388	.091	.303	4.251	.000
	Monthly bill	-.084	.083	-.072	-1.013	.314
	Time period	.253	.096	.232	2.631	.010
	Initiation	.295	.077	.302	3.835	.000
	Status	.197	.046	.264	4.322	.000
	Usefulness	.057	.072	.054	.790	.432

a. Dependent Variable: Monthly income

Only monthly income and other tested variables are statistically significant in this model. However for the time being we shall use the model as it is and try to apply it for decision making. The real use of the regression model would be to try and predict whether the usage of mobile phone services influence equation would be like

$$\text{Monthly income} = .432 - .526(\text{connection}) + .388(\text{purpose}) - .084(\text{monthly bill}) + .253(\text{time period}) + .295(\text{initiation}) + .197(\text{status}) + .057(\text{usefulness}).$$

The above equation reveals that the monthly income of agri labors is negatively attracted by connection and monthly bill of usage of mobile phone services by agriculture labor and monthly income of agriculture is positively attracted by purpose, time period, initiation, status, usefulness to each other.

At the same time the 't' value coefficients of variables also strong positive influence of monthly income, purpose, time period, initiation, status usefulness.

**Factor Analysis**  
Table 13

**KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.853
Bartlett's Test of Sphericity	1054.698
df	28
Sig.	.000

Table 14

**Communalities**

	Initial	Extraction
Monthly income	1.000	.928
connection	1.000	.101
Purpose	1.000	.738
Monthly bill	1.000	.881
Time peroid	1.000	.892
Inititation	1.000	.885
Status	1.000	.759
Usefulness	1.000	.876

Extraction Method: Principal Component Analysis.

Table 15

**Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.059	75.735	75.735	6.059	75.735	75.735
2	.948	11.848	87.583			
3	.465	5.814	93.397			
4	.202	2.528	95.925			
5	.121	1.518	97.443			
6	.108	1.353	98.796			
7	.056	.705	99.501			
8	.040	.499	100.000			

Extraction Method: Principal Component Analysis.

Table 16

**Component Matrix**

	Component
	1
Monthly income	.963
connection	.317
Purpose	.859
Monthly bill	.938
Time period	.944
Initiation	.941
Status	.871
Usefulness	.936

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Before applying Factor analysis the KMO-Bartlett's test was conducted to check sample Adequacy and test of Sphericity where both are more significant with KMO value is .853 more than 0.5 which indicate statistically significant and Bartlett value is highly significant with .000. This is less than 0.05.

The Extraction Sums of Squared Loadings are at 75 % which indicate 25% data was extracted From the study which is nearly significant.

After conducting this entire test we approached for factor analysis where the 1<sup>st</sup> most influencing factor is Monthly income.

### Limitations of the study:

- The sample was a representative of the population of Adilabad Zone of Andhra Pradesh; findings may not generalize for other places.
- *Agri labor and Families of agriculture less than 05 acres with non irrigated land are only taken into consideration.*
- Due to uneducated Some times Unwilling ness and unable to fill data by respondents.
- Lack of time on the part of respondents.
- Future researcher could generate a bigger sample size.

### Conclusion:

The qualitative analysis of the data showed that agri labor cities used cell phones for a variety of communication, and entertainment needs. Additionally, they considered cell phones as a status symbol for their family. Further, the analysis showed that they used the tiny cell phone more as a personal accessory, especially for young people. With falling prices and increasing functionality, however, it is virtually certain that not too far in the future all of the rural people will have a cell phone.

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