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IMPACT OF USING MOBILE PHONE IN RURAL DEVELOPMENT - A FACTOR ANALYSIS

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Abstract

Rural Development is the way toward improving the personal satisfaction and monetary prosperity of individuals living in moderately disengaged and inadequately populated areas. India is rising as a significant force with the economy enlisting high development rates and Indian urban areas and urban focuses starting to show characteristics of prosperity. However, there is no uniform turn of events, the country surrounding area not having the option to walk connect with urban India. More than 70 percent of individuals live in towns and 80 percent of poor additionally live in rustic territories. The advantages of financial development are not permeating to more than 66% of the individuals. The noticeable images of advancement ought not to cause us to overlook the issues of the local regions.

I. Introduction

Information technology (IT) plays an important role in rural development. IT's main role in rural development is to provide people with information of any kind they require because information is necessary for development. For example, information technology can help farmers in rural areas to know about new means and techniques of farming that leads to more production and thus more income; information technology can help people consult physicians in urban areas thus reducing health issues, and educate child by using distant learning methodology and many more.

The present study is an attempt to know how information technology is playing a significant role in the development of the rural society. The present world is engulfed

in IT development. If one sees developed nations then it is known that India is lagging far behind in the usage of IT resources for rural development. Making all the public and private enterprises IT enabled is the demand of today. Every citizen wants transparency and fast and timely services from public and private enterprises. This can be achieved only by using internet and other IT based services like different IT tools and customized software. Government has to make access of each facility as simple as possible. More

and more information should be available on websites of Government departments and other organizations.

II. Statement of the Problem

In India, the present strategy of rural development mainly focuses on poverty alleviation, better livelihood opportunities, provision of basic amenities and infrastructure facilities through innovative programmes of self-employment. The above goal is accomplished by the significant role played by the rapid growth of information technology.

The financial, manpower and managerial resources devoted to the implementation of rural development programmes are utterly inadequate. Better implementation of rural development programmes can be ensured only if those responsible for actual implementation are paid reasonably well, appropriately trained, and sufficiently motivated. But this has not been done as yet.

It is being increasingly observed that the objectives of one programme conflict with those of others, and there is no institutional mechanism for reconciling them. Consequently, many programmes miserably fail in fulfilling their objectives. In addition, they also affect other programmes. In many cases, instruments of rural development are not properly selected, and their levels are not consistent with the objectives they seek to achieve. This results in the wastage of valuable public resources, and unnecessary delays in achieving the objectives.

III. Objectives of the Study

The objectives of the study are furnished hereunder.

1. To study the impact of using mobile phones in rural development of the study region.
2. To offer suitable suggestions based on the findings of the study.

IV. Research Design

Research is a systematic and methodical process of enquiry and investigation with a view to increasing knowledge. A research is undertaken to discover, check and ascertain relationships between variables of a selected and identified scope of study.

Research design is a plan of action to be carried out for research work. The research design is a conceptual structure within which research is conducted; it constitutes the blueprint for collection, measurement and analysis of data.

V. Sampling Framework

The data was collected from the in and around Tirupur District. The method for selecting the sample was non-probability - judgment sampling method was used. Judgmental sampling is a non-probability sampling technique where the researcher selects units to be sampled based on their knowledge and professional judgment. In this study, the entire population is the agriculturalist using technology. It is viable to use judgmental sampling if the researcher knows a reliable professional or authority that he thinks is capable of assembling a representative sample. Based on the literature review and secondary sources researcher arrived at judgment that computer / Information Technology and internet savvy people are capable as representative sample. The questionnaire was given to the entire agriculturalist those who prefer technology.

5.1 Data Collection

The research was conducted in Tirupur District. The researcher would have liked to cover other cities also but for the want of time and other constraints, the research was restricted to particular place. The questionnaire was filled by personally meeting and interviewing the respondents.

5.2 Data Processing

After the pilot study, the questionnaire was further fine-tuned. This questionnaire was distributed to 950 respondents, out of which 908 questionnaires were returned filled-in. Post receipt of questionnaire, from the respondents using technology, each form was checked thoroughly for any incomplete information. Further, missing information was collected on phone for incomplete forms. Out of the total 950 forms distributed, 908 fully filled up forms were received. Post evaluation of 908 forms, 42 forms was rejected for lack of consistency and non-filling of vital information requested. In this connection, selection of sample size the researcher used Mogan's table to fix the sample size.

5.3 Techniques of Data Analysis

The primary data gathered from the respondents were analyzed and presented in the form of tables The total statistical test in this study was carried out at 5% and 1% level of significance. In the present study the following statistical tools are used.

5.3.1 Factor Analysis

Mathematically, Factor Analysis is somewhat similar to multiple regression analysis, in which each variable is expressed as a linear combination of underlying factors. The amount of variance a variable share with all other variables included in the analysis is referred to communality. The co-variation among the variables is described in terms of a small number of common factors plus a unique factor for each variable. These factors are not over observed. If the variables are standardized, the factor model may be represented as:

$$X_1 = A_1F_1 + A_2F_2 + A_3F_3 + \ldots\ldots + A_{im}\,F_m + V_i\,U_i$$

Where,

X_1 = i^{th} standardized variable,

A_1 = Standardized multiple regression coefficient of variable i on Common factor j

F = Common factor,

V_i = Standardized regression coefficient of variable i on unique factor i

U_i = The unique factor for variable i

m = Number of common factors

The unique factors are uncorrelated with each other and with the common factors. The common factors themselves can be expressed as linear combination the observed variables.

$$F_1 = W_{i1}X_1 + W_{i2}X_2 + W_{i3}X_3 + \ldots.. + W_{ik} + X_k$$

Where,

F_1 = Estimate of i^{th} factor

W_i = Weight or factor score coefficient

K = Number of variables

VI. Limitations of the Study

The study is restricted to Tirupur district only. However, the study district fairly represents the other rural based regions of Tamilnadu state.

The study covers only the one major segments of rural development, namely, agriculture allied activities. The study does not cover the other segments like education and health care.

VI. Review of Literature

The literature review section examines recent research studies, technology information and various reports that act as a basis for the proposed study. This research study began with discussion of the related literature and relevant secondary data from a comprehensive perspective, moving to more specific studies that are associated with the problem of the study. This section supplied the required secondary data to help form the basic concept of this study.

Naveen Balaji, Nandhini, Mithra, Priya and Naveena (2018)[1] As new technologies has been introduced and utilized in modern world, there is a need to bring advancement in the field of agriculture also. Various Researches have been undergone to

improve crop cultivation and have been widely used. In order to improve the crop productivity efficiently, it is necessary to monitor the environmental conditions in and around the field. The parameter that has to be properly monitored to enhance the yield are soil characteristics, weather conditions, moisture, temperature, etc., Internet of Things (IOT) is being used in several real time applications. The introduction of IOT along with the sensor network in agriculture refurbishes the traditional way of farming. Online crop monitoring using IOT helps the farmers to stay connected to his field from anywhere and anytime. Various sensors are used to monitor and collect information about the field conditions. Collectively the about the farm condition is sent to the farmer through GSM technology.

Raja and Nagasubramani (2018)[2] Technology is a gift of God. After the gift of life it is perhaps the greatest of God's gifts. It is the mother of civilizations, of arts and of sciences. Technology has certainly changed the way we live. It has impacted different facets of life and redefined living. Undoubtedly, technology plays an important role in every sphere of life. Several manual tasks can be automated, thanks to technology. Also, many complex and critical processes can be carried out with ease and greater efficiency with the help of modern technology. Thanks to the application of technology, living has changed and it has changed for better. Technology has revolutionized the field of education. The importance of technology in schools cannot be ignored. In fact, with the onset of computers in education, it has become easier for teachers to impart knowledge and for students to acquire it. The use of technology has made the process of teaching and learning all the more enjoyable.

Peter Jones, MartinWynn, David Hillier and Daphne Comfort (2017)[3] The Sustainable Development Goals (SDGs) are a wide range of global sustainable development targets for the environment, society and economy and they were launched by the United Nations in 2015. In launching the SDGs, the United Nations called on all member states to embrace what are an ambitious and demanding set of challenges but it also emphasized the vital role that businesses, would have to play if these challenges were to be met. The aim of this preliminary commentary paper is to review a number of the ways the Information Communication and Technology industry believes it can contribute to the achievement of the SDGs. The paper outlines the characteristics of the concept of sustainable development and how ICT relates to sustainable development, reviews a number of the ways two leading ICT companies, namely Ericsson and Microsoft and two industry bodies, namely the GSMA which represents the interests of mobile operators worldwide, and the Global e-Sustainability Initiative, believe they can contribute to the achievement of the SDGs. The paper also examines some of the challenges the industry may face in making such a contribution and offers some reflections on the role of ICT in promoting the transition to a more sustainable future for people and the planet.

Erick Fernando, Setiawan Assegaff and Hetty Rohayani (2016)[4] ICT development is currently so fast, these developments affect the developing technology in all aspects, to the development of agriculture. Where the development of ICT transform traditional agriculture to modern. The purpose of this paper is to survey and analyze the available literature on Trend of Information technology in E-agriculture and also to identify gaps and state-of-the-art in research. This study use the Systematic literature reviews study by collecting the article from reputable database journals. We used recognize database journal such as "Emerald", "Science Direct", "IEEE xplore", "Springer", "Saga Publication" and "Google Scholar" to collect the articles. "Information technology in E-agriculture" is used as a keyword to search the

relevant article. The selected articles are reviewed and analyzed. The result of analysis that e-commerce is the Trend research in information technology in agriculture. That is famous study by researchers, e-commerce to agriculture requires good marketing processes and successful in order to impact income of farmers. In addition, researching the sensor area helps a process of agriculture to increase yields from such a farm. With the use of information technology a trend is became agriculture more modern.

Abdul Rehman, Luan Jingdong, Rafia Khatoon and Imran Hussain (2016)[5] The main purpose of this paper is to introduce the modern technology adoption its importance, usage and role in agriculture improvement. In the last century, the basic agriculture technology like machines has changed a little. Though the modern technology, planters and harvesters do a better job or are slightly tweaked from their predecessors. The US$250,000 combine of today still cuts, threshes and separates grain in the same way it has always been done. However, the modern technology is changing the way that humans operate the machines, GPS locators, as computer monitoring systems and self-steer programs allow the most advanced tractors and implements to be more precise and less wasteful in the use of fuel, fertilizer or seed. In future, there may be mass production of driverless tractors and other agriculture machinery which use electronic sensors and GPS maps.

Dereje Derso and Ekuogbe Ejiro (2015)[6] Agricultural extension is an educational service which brings information and new technologies to farming communities to enable them improve their production, incomes and standards of living. The experience in Ethiopia rapid development of Information and Communication Technologies, which facilitates the flow of data and information, has tremendously enhanced the knowledge management practice in agriculture. The objective of this paper is to assess the contribution of information and communication technologies to the Ethiopian agricultural extension system and review the recently developed agricultural knowledge systems in Ethiopia. The study is based on a systematic review of existing literature of agricultural knowledge management work in the country. The respite of the paper is organized in four sections. Section II focuses on contribution of Information and Communication Technologies to the Ethiopian agricultural extension system. The third section discusses the forms of Information and Communication Technologies for agricultural extension service provision in Ethiopia. The fourth section examines generation and use of agricultural information in Ethiopia. The findings of this study reveal that the various forms of Information and Communication technology have been used in agricultural service delivery and were more in tune with the circumstances and requirements of smallholder farmers.

Salemink, Strijker and Bosworth (2015)[7] This paper presents a systematic review of 157 papers on digital developments and rural development in advanced countries. It focuses on the general conclusions, in order to better understand the potential impacts of the coming Next Generation Access revolution. We distinguish two major strands of research: connectivity research and inclusion research. In the connectivity theme, the conclusion is that there are persistent and growing differences in data infrastructure quality between urban and rural areas. Public policies to promote the availability or improvement of data infrastructure are essentially responsive, and rapidly outdated by market developments. For inclusion, the hampered diffusion of technologies, and the lower average levels of education and skills in rural areas have a negative impact on adoption and use. Generic policies in this field neglect specific local needs. The paradox is that

rural communities are most in need of improved digital connectivity to compensate for their remoteness, but they are least connected and included. Future research should therefore focus on specific places and communities – combining both connectivity and inclusion issues – in order to inform 'customized policies' for poorly connected and digitally excluded rural communities.

Shinde and Wandre (2015)[8] Irrigation is a well established procedure on many farms and is practiced on various levels around the world. It allows diversification of crops, while increasing crop yields. However, typical irrigation systems consume a great amount of conventional energy through the use of electric motors and generators powered by fuel. Photovoltaic energy can find many applications in agriculture, providing electrical energy in various cases, particularly in areas without an electric grid. In this paper the description of reviews on a photovoltaic irrigation system, is presented. Photovoltaic water pumping system is one of the best alternative methods for irrigation. The variation of spatial and temporal distribution of available water for irrigation makes significant demand on water conservation techniques. Hence solar powered Automated Irrigation System provides a sustainable solution to enhance water use efficiency in the agricultural fields using renewable energy system removes workmanship that is needed for flooding irrigation. The use of this photo-irrigation system will be able to contribute to the socio-economic development. It is the proposed solution for the energy crisis for the Indian farmers. This system conserves electricity by reducing the usage of grid power and easy to implement and environment friendly solution for irrigating fields.

Pinak Ranade, Sunil Londhe and Asima Mishra (2015)[9] Human society is developing with rapid momentum and achieved various successes for making its livelihood better. The civilization is witness for various changes related to it's the development through different catalysts like industrial development, green revaluation, science and technology, etc. The present era is augmented on Information and Communication Technology. This technology has proved its potential in various sectors of development in urban and rural landscapes. Urban areas are seems to more inclined to accept and adopt Information and Communication Technology due to advantages of literacy and better infrastructure as compared to rural areas. Due to such suitable situations of urban landscapes good amount of success of this technology is visible in the form of smart cities and better livelihood of residing human beings. he present research article discusses about rural development in developing world for the up-liftment of livelihood of the rural masses and to take a 'look ahead' at scientific developments and technologies that might be influential over the next 10-20 years. The driving motivation behind the concept on "Smart Village" is that the technology should acts as a catalyst for development, enabling education and local business opportunities, improving health and welfare, enhancing democratic engagement and overall enhancement of rural village dwellers. The "Smart Village" concept aims to realize its goal through providing policymakers with insightful, bottom–up analyses of the challenges of village development.

Sami Patel and Sayyed I.U (2014)[10] Present study deals with role of IT in Agriculture. There are many ways in which Information Technology can be used to exchange the information rather effective communication like information kiosks which provide not only the basic services like email, helps in education, health services, Agriculture and Irrigation, online trading, community services etc., expert systems which helps in determining marketing alternatives and optimal strategies for producers, integrated crop management systems for different

crops, Farm-level Intelligent Decision Support system developed to assist in determining optimal machinery management practices for farm-level system. Information technology helps to predicts the results related to the agriculture specially plant physiology. Leaf protein study is an important study which helps to solve protein deficiency and malnutrition.

VII. Results and Discussions

Factor Analysis

Factor analysis is a multivariate analysis procedure that attempts to identify any underlying 'factors' that are responsible for the co-variation among group independent variables. The goals of a factor analysis are typically to reduce the number of variables used to explain a relationship or to determine which variables show a relationship. The variables must represent indicators of some common underlying dimension or concept such that they can be grouped together theoretically as well as mathematically.

The impact of using mobile phone in rural development is discussed with the factor analysis multivariate technique. However, before applying factor analysis, the data were tested for its appropriateness. For this purpose, nineteen variables has been selected viz., Var 1 (Making Call), Var 2 (Sending SMS), Var 3 (Playing Games), Var 4 (Mobile banking), Var 5 (Sending Mail), Var 6 (Watching Movies), Var 7 (Hearing Songs), Var 8 (Using Social Network), Var 9 (Chatting), Var 10 (Making Video Call), Var 11 (Spending Time), Var 12 (Receiving information via SMS), Var 13 (Using as a Clock), Var 14 (Using Alarm), Var 15 (Reading News), Var 16 (Taking Photos), Var 17 (Recording Videos), Var 18 (Hearing FM) and Var 19 (Use Government websites). All the 19 factors were selected for factor analysis by using principle component extraction with an orthogonal (Varimax) rotation. The factor matrix is a matrix of loading and correlations between the variables and the factors.

The table 1 specifies that the communalities of the selected 19 variables have good reliability 0.893 and are keenly checked that no one variable has low loading, ie., less than 0.5. Thus finally, the 19 variables are selected for the factor analysis. The appropriateness of the data for the factor analysis is discussed in the following KMO and Bartletts' test.

The Kaiser-Meyer-Oklin (KMO) Measure of Sampling Adequacy (MSA) and Bartletts test of Sphericity are applied to verify the adequacy or appropriateness of the data for factor analysis. In this study, (Table 2) the value of KMO for overall matrix is found to be good (0.917) and Bartletts test of Sphericity is highly significant ($p < 0.001$). The results thus indicate that the samples taken are appropriate to proceed with the factor analysis. Also, the Bartletts Test of Sphericity, the KMO Measure of Sampling Adequacy and Communality values of all the variables are observed.

Further, to define the factors clearly, it was decided to delete any variable that had loading below ± 0.50. With this criterion, a series of factor analysis was performed on the data. Following each analysis, items which did not meet the criteria were deleted from the analysis. After this preliminary step, factor analysis with principal component analysis as an extraction method was performed on the remaining items.

Total Variance Explained

The following table 3 depicts the total variance explained with rotation. The Eigen values for the factors 1, 2 and 3 are 4.935, 3.153 and 1.610 respectively. Percentage of variance after the rotation for the factors 1, 2 and 3 are 23.858, 17.065 and 10.117 respectively. Cumulative percentage for the factors 1, 2 and 3 after the rotation are 23.858, 40.923 and 51.040

respectively. It indicates that the 3 factors extracted from the total of 19 variables have a cumulative percentage up to 51.040 per cent of the total variance.

Rotated Component Matrix b).

After obtaining the factor solutions, in which all the variables have a significant loading on a factor, the researcher attempted to assign meanings to the pattern of factor loadings. Variables with higher loadings are considered more important and have a greater influence on the name or the label selected to represent a factor. The researcher has already examined all the underlined variables for a particular factor and placed greater emphasis on those variables with higher loadings to assign a name or a label to a factor that accurately reflects the variables' loading on that factor. The names or labels are not derived or assigned by the factor analysis computer programme, rather, the label is intuitively developed by the factor analyst based on its appropriateness for representing the underlying dimension of a particular factor. All the three factors are given appropriate names on the basis of the variables represented in each case.

The table 4 explains the rotated component matrix, in which the extracted factors are assigned a new name related together. Based on the fixing criteria, it is noted that no one loading variable are having the loading value less than 0.5 and so no variables are removed from this analysis. Further three factors have been taken for naming of new variables.

Factor 1 is the most important factor which explains 23.858 per cent of the variation. The variables such as Making Call (0.652), Sending SMS (0.677), Sending Mail (0.684), Using Social Network (0.466) and Receiving information via SMS (0.494), shows highly inter-correlated with together. These statements reflect the using mobile phone in agricultural business helpful to communication in rural development of the selected respondents in the study area. Hence, the researcher names this segment of **Communication associated with Rural Development.** The reliability of these twelve variables is measured by using Cronbach's Alpha and its value is 0.872.

Factor 2 explains 40.923 per cent of the variation and consist of eight variables. The variables such as Playing Games (0.720), Watching Movies (0.454), Hearing Songs (0.596), Chatting (0.742), Making Video Call (0.574), Using as a Clock (0.255), Using Alarm (0.340) and Taking Photos (0.798) shows highly inter-correlated with together. The eight variables reflect the services related to rural development among the selected respondents in the study area. Hence the researcher names this segment is **Services associated with Rural Development.** The reliability of these eight variables is measured by using Cronbach's Alpha and its value is 0.911.

Factor 3 explains 51.040 per cent of the variation and consist of six variables. The variables such as Mobile banking (0.589), Spending Time (0.655), Reading News (0.620), Recording Videos (0.785), Hearing FM (0.861) and Use Government websites (0.753) shows highly inter-correlated with together. The six variables reflect the information related to rural development among the selected respondents in the study area. Hence the researcher names this segment is **Information associated with Rural Development.** The reliability of these eight variables is measured by using Cronbach's Alpha and its value is 0.891.

An impact of using mobile in rural development in the present study composes three actors namely communication, services and information associated with rural development. The initial instrument which is having 19 variables was adjusted to account for 3 factors.

Table of total variance explained shows that, the total composition of each factor that provides information regarding the items that constituted these three factors with their factor loadings, eigen values and the variance explained by each factor. The three

factors solution accounted for 51.040 per cent of the explained variance. The three factors solution might be suggested for the impact of using mobile in rural development in the study area. All the dimensions are named on the basis of the contents of final items making up each of the three dimensions. The commonly used procedure of Varimax Orthogonal Rotation for the factors whose eigen values are greater than 1.0, is employed in the analysis. The factors so generated have the eigen values 4.935, 3.153 and 1.610 respectively. All the items are found highly loaded under these three factors, which indicate that, the impact of using mobile in rural development are mainly dominated in the agricultural business. The values of communalities (h^2) range from 0.516 to 0.788 for various factors. It means that the factor analysis extracted a good amount of variance in the variables.

Regression Analysis

To assess the overall effect of the instrument on impact of using mobile in rural development and to determine the relative importance of the individual dimension of the generated scale, Multiple Regression analysis is performed. For regression analysis, the study adopts the use of a single-item direct measures of overall using mobile phone resources in the study area is excellent at five-point Likert scale. The regression model considers the three dimensions as the independent variables and the overall influencing factors as the dependent variable. The adjusted R^2 of 0.898 ($p=0.000$) indicates that 89.8 per cent of variance in impact of using mobile in rural development is predicted. Further, the results also indicate that all the three variables communication, services and information associated with rural development to be the significant predictors ($p<0.001$) of agricultural business.

The resulted equation is impact of using mobile in rural development

= 1.218

(0.361 × Communication associated with Rural Development) +

(0.316 × Services associated with Rural Development) +

(0.279 × Information associated with Rural Development)

It is found that, (Table 5) one unit increase of impact of using mobile phone in rural development is predicted from 0.361 unit increases of Communication associated with Rural Development, 0.316 unit increases of Services associated with Rural Development and 0.279 unit increases of Information associated with Rural Development in the study area.

Conclusion

As of from the factor analysis that the selected 19 factors related to impact of using mobile phone in rural development into three major factors representing communication, services and information associated with rural development and noticed that impact of using mobile phone in rural development is predicted from 0.361 unit increases of Communication associated with Rural Development, 0.316 unit increases of Services associated with Rural Development and 0.279 unit increases of Information associated with Rural Development in the study area and these three factors are having significant impact on the overall impact of using mobile phone in rural development in the study area. Further, among the three factors, communication associated with rural development of the using mobile phone is one of the major factor than the services and information associated with rural development of the information technology in agricultural business among the selected study area.

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Table 1

Communalities - Before removal of low loading variables

S.No	Variable	Initial	Extraction
1	Making Call	1.000	0.669
2	Sending SMS	1.000	0.596
3	Playing Games	1.000	0.556
4	Mobile banking	1.000	0.693
5	Sending Mail	1.000	0.680
6	Watching Movies	1.000	0.570
7	Hearing Songs	1.000	0.599
8	Using Social Network	1.000	0.655
9	Chatting	1.000	0.658
10	Making Video Call	1.000	0.557
11	Spending Time	1.000	0.759
12	Receiving information via SMS	1.000	0.788
13	Using as a Clock	1.000	0.643
14	Using Alarm	1.000	0.516
15	Reading News	1.000	0.696
16	Taking Photos	1.000	0.664
17	Recording Videos	1.000	0.649
18	Hearing FM	1.000	0.745
19	Use Government websites	1.000	0.604
Cronbach's Alpha (α) = 0.893			

Sources: Computed

Table 2

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		**0.917**
Bartlett's Test of Sphericity	Approx. Chi-Square	8.628
	DF	171
	Sig.	0.000

Sources: Computed

Table 3

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	4.935	25.973	25.973	4.935	25.973	25.973	4.533	23.858	23.858
2	3.153	16.593	42.565	3.153	16.593	42.565	3.242	17.065	40.923
3	1.610	8.474	51.040	1.610	08.474	51.040	1.922	10.117	51.040
4	1.484	7.812	58.852						
5	1.328	6.988	65.839						
6	1.196	6.297	72.136						
7	1.048	5.515	77.652						
8	0.862	4.539	82.191						
9	0.695	3.657	85.848						
10	0.646	3.401	89.249						
11	0.477	2.511	91.760						
12	0.370	1.947	93.707						
13	0.354	1.864	95.571						
14	0.300	1.581	97.153						
15	0.163	0.859	98.011						
16	0.150	0.789	98.800						
17	0.102	0.537	99.337						
18	0.068	0.359	99.696						
19	0.058	0.304	100.000						
Extraction Method: Principal Component Analysis									

Sources: Computed

Table 4

Rotated Component Matrix

S.No	Factors	Components		
		F1	F2	F3
1	Making Call	0.652		
2	Sending SMS	0.677		
3	Playing Games		0.720	
4	Mobile banking			0.589
5	Sending Mail	0.684		
6	Watching Movies		0.454	
7	Hearing Songs		0.596	
8	Using Social Network	0.466		
9	Chatting		0.742	
10	Making Video Call		0.574	
11	Spending Time			0.655
12	Receiving information via SMS	0.494		
13	Using as a Clock		0.255	
14	Using Alarm		0.340	
15	Reading News			0.620
16	Taking Photos		0.798	
17	Recording Videos			0.785
18	Hearing FM			0.861
19	Use Government websites			0.753
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.				
Rotation converged in 4 iterations.				

Sources: Computed

Table 5

Effect and Relative Importance of the Individual Dimensions of Impact of Using Mobile in Rural Development - Multiple Regression Analysis

S.No	Factor	Unstandardized Coefficients		Standardized Coefficients	t	Sig
		B	Std. Error	Beta		
	(Constant)	1.218	0.117			
1	Communication associated with Rural Development	0.361	0.014	0.568	25.555	0.000
2	Services associated with Rural Development	0.316	0.015	0.454	20.547	0.000
3	Information associated with Rural Development	0.279	0.022	0.283	12.678	0.000

Sources: Computed