



# ASSESSING THE FARMER'S OPINION TOWARDS USAGE OF MOBILE PHONE SMS SERVICE : A STUDY OF UTTAR PRADESH, INDIA

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## Abstract

Telecommunications, especially mobile phones, have the potential to provide solution to the existing information asymmetry in various sectors like agriculture. Study focused on the opinion of the farmers regarding IKSL service through mobile phone. To study the socio-personal and communication characteristics of mobile SMS alert/ user farmers. To find out farmers' opinion towards mobile based IKSL service. Uttar Pradesh was selected purposively, where large majority of the subscribers were benefitting from this service. Maximum number of IKSL subscribers from Lucknow and Kanpur followed by other districts in the eastern Uttar Pradesh. Therefore, Lucknow and Kanpur dehat were selected purposively. From each selected districts, 80 subscribers (who received more than 25 Voice SMS in a month and have used the service for at least two years) were randomly selected (using Probability Proportionate to Size Sampling). Therefore, total sample size was 160 subscribers. Descriptive as well as analytical research design was used. Data was collected using structured interview schedule. Frequency, Percentages, Weighted Mean Scores, Standard Deviation, Range and number of statements was used for data analysis. The study findings revealed that majority of the respondents were male, belonging to middle age group, educated upto intermediate, medium farmers, involved insubsistence farming as well as commercial farming. It was indicated that mobile phone was ranked first closely followed by other media. It is evident that majority (78.13 per cent) of the respondents were most favorable opinion regarding service. It was observed that farmers have positive opinion regarding IKSL service, which is one of the innovative service, provide timely, relevant and trustworthy information to farmers.

**Key words :** Farmers, opinion, usage, mobile phone, opinion towards usage of service.

## Introduction

### Problem statement

Telecommunications, especially mobile phones and its SMS alerts service have the potential to provide solution to the existing information asymmetry in various sectors like agriculture.

Hence, the specific point is that how mobile based SMS alerts service reaches target people (e.g. farmers). The purpose of the present study was to find out the status of mobile SMS service in India in terms of access to service and its usage pattern by the subscribing farmers. Study focused on the opinion of the farmers regarding usage of SMS based mobile services, which is providing by IFFCO Kisan Sanchar Limited.

The study attempted to find out answers to the following generic questions: Can Short Message Service (SMS) be an excellent advisory service? Is new ICTs, especially mobile phone a communication tool for new generation only? Does farmer community depend on advice from IKSL service? Whether information provided by IKSL to the farmer is of high value? etc.

The answers to these questions and many other related issues would have important implications for mobile phone operators, information service providers, and policymakers. The present study was undertaken with the following specific objectives: (1) To study the socio-personal and communication characteristics of mobile SMS alert users/farmers. (2) To find out farmers' opinion towards mobile based SMS alert services.

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## Materials and Methods

Initially, under IKSL programme, mobile based voice-SMS alert services were started in the state of Uttar Pradesh, Uttarakhand, Maharashtra, Rajasthan, New Delhi and Pondicherry, but later gradually extended to 18 states of the country. IKSL service has emerged as one of the success story in Uttar Pradesh, where largest numbers of farmers were benefiting from this service than others. Therefore, Uttar Pradesh was selected purposively for the present study. The study was carried out in two purposively selected districts Kanpur Dehat and Lucknow district and the sample size consisted of 160 farmers selected randomly but spread over four blocks, two in each district. Data was collected with the help of pre-tested interview schedule. Frequency, Percentages, Weight age Mean Scores, Standard Deviation, Range and used a number of statements expressing a degree of favourable or unfavourable opinion towards the given object or service of which the respondent is asked to react. For example, when we asked the respondents about whether IKSL service is better than others, the respondents were responding in anyone of the following ways: SA = Strongly Agree, A = Agree, UD = Undecided, DA = Disagree, SD = Strongly Disagree. This way were seeking respondent's perception about all the statements, and then work out their opinion towards service.

## Results and Discussion

The findings of the study are presented below:

### Profile characteristics of the respondents

Socio economic characteristics possessed by respondents are presented in table 1.

The findings of present investigation indicate that 40 per cent of respondents aged between 36-49 years were the highest users of the mobile SMS alerts service followed by young and old (30 per cent each). This is also not a surprising trend because if people have high level of interaction with others, they would be adopting the desired innovation earlier than others. So, age does not matter for this. Majority of respondents who were taking benefits of mobile SMS service, were from middle age group (36-49 years). Similar findings have been reported by Das *et al.* (2012) that the majority of the respondents (75 per cent) were of medium age group between 27-41 years were using IKSL voice messaging service. In the context of old age group, they are like a late starter

for using the new and innovative information technology.

It is evident from the above table 1 that majority (78.75 per cent) of the respondents in the study sample were male and the remaining 21.25 per cent were female. The findings are supported by Pandey and Ansari (2011) found that a large majority of the farmers visiting *kisan mela* at Pantvarcity campus were male (98.34 per cent) and rest were female (1.66 per cent). It appears that the society here follows patriarchal system i.e. males earn the bread for family and females take care of the household responsibilities.

The above table reveals that as regards the educational level of the respondent, (33.12 per cent) were educated up to Intermediate level followed by those who were graduate (29.38 per cent), high school (19.37 per cent) and 11.88 per cent were educated up to primary level. Remaining 5 per cent of respondents were educated up to middle level of education and few others were illiterate. Sreevalsan *et al.* (2012) also observed that nearly three-

**Table 1** : Distribution of respondents according to their socio economic characteristics.

(N=160)

S. no.	Variables	Categories	Percentage
1.	Age	Young (<35 years)	48(30)
		Middle (36-49)	64(40)
		Old (>50 years)	48(30)
2.	Gender	Male	126(78.75)
		Female	34(21.25)
3.	Education	Illiterate	02(1.25)
		Primary	19(11.88)
		Middle	08(5.00)
		High School	31(19.37)
		Intermediate	53(33.12)
		Graduate & above	47(29.38)
4.	Personal occupation	Primary Occupation	20(12.50)
		Secondary Occupation	2(1.25)
		Both	138(86.25)
5.	Income (per capita per annum)	Low (<1,00000)	77(48.13)
		Middle(1,00001-150001)	65(40.62)
		High (>1,50002)	18(11.25)
6.	Type of Farming	Subsistence Farming	15(9.37)
		Commercial Farming	3(1.87)
		Both	142(88.76)

**Note:** Figures in parenthesis are percentage.

fourths of the respondents had completed their pre-degree, with a good number of them having Bachelor's and Master's degree. The relatively high educational status of the respondents in Kerala is a boon for mobile phone usage.

As regards occupation of the respondents, a large majority of the respondent (86.25 per cent) were found to be involved in two occupations – primary occupation farming as well as secondary occupation. Further, 12.50 per cent and 2.25 per cent were involved in primary occupation (farming) and secondary occupation, respectively. Researcher found that although agriculture was main occupation of the selected SMS users/farmers, but at the time of inquiry respondents told that only primary occupation is not providing adequate income. Therefore, people were also involved in secondary occupation such as tea shop, cycle repairing, small book shop, carpenter etc.

Analysis of income of respondents indicates that 48.13 per cent were from low income group, 40.62 per cent were from middle income group, and only 11.25 per cent respondents were from high income group.

It is evident from the table, majority (88.76 per cent) of the respondents were involved in subsistence as well as commercial farming; and only 9.37 per cent and 1.87 per cent were engaged in subsistence and commercial farming, respectively. Poverty is major problem in rural areas; users were not only engaged in farming practice for earning their livelihood, but agriculture was prominent profession of income generation.

### Media ownership and exposure

In the contemporary society, newspaper, radio, telephone, television, mobile phone and dish TV are the important media owned and frequently used by the individuals for seeking/sharing the information. The results regarding the media exposure are given in table 2.

The above tables clearly indicate that mobile phone was ranked first closely followed by television, dish TV, newspaper, radio and telephone, in that order. Even the Standard deviation for mobile phone was the least, which clearly underscores the point that mobile phone was the media most preferred and used by almost all the respondents in the study sample. Rashid and Elder (2009) observed that accurate and timely market information, particularly of perishable items, can significantly reduce transaction and travel costs. Thus, we can conclude that mobile phone is the preferred media of respondents and it can effectively deliver the desired information.

**Table 2 :** Preference of media exposure according to mean score. (N = 160)

S. no.	Media	Mean	Rank	S.D.
1.	Newspaper	1.512	IV	0.179
2.	Radio	1.313	V	1.156
3.	Telephone	0.293	VI	1.602
4.	Television	3.673	II	0.68
5.	Mobile phone	3.975	I	0.157
6.	Dish TV	2.831	III	1.76

### Opinion towards SMS service

Results regarding opinion towards mobile phone and SMS service presented in table 3.

The data presented in table 3 indicated that Short Message Service (SMS) can be an excellent advisory service, thus, most of the respondents ranked it first with the highest mean value of 4.75. At the same time respondents with the second highest mean score value of 4.7 supported the statement that 'Voice Messaging Service is more effective than Text Based Service.' It was really possible mobile based SMS service, can be an alternative to contact with extension workers and ranked it third with a mean score value of 4.1. Most of the respondents (WMS = 3.7, IV<sup>th</sup> rank) understood that SMS alert service can also help in reaching farmers of lower income group as compared to service cannot replace extension advice in face to face situation WMS=2.53 and received V<sup>th</sup> rank. The reason of less mean score that farmers have less time to contacted with extension agent frequently.

It was exciting to note that most of the respondents with little difference or less weight age mean score value (2.3) opinion towards confused about message received through mobile phone and VI<sup>th</sup> rank followed by SMS does not affect farmer's knowledge and practice with a weight age mean score value 2.2 and rank VII<sup>th</sup>. It means that they opined it as a very less cost effective information medium for farming community. Earlier respondents were not in capable to use other media such as television, internet and others, because they have not much time to use these information tools and also affected farmer's knowledge and practice/ adoption of service for used. The statement 'SMS service is available in mobile phone only' with a low weight age mean score value 1.3 and ranked VIII<sup>th</sup>. The reason might be that SMS service is also providing by other media such as internet and other new initiatives.

### Opinion towards IKSL service

IKSL is one of the innovative services. Here, number of statements was used to analysis the opinion of

**Table 3 :** Distribution of respondents according to opinion towards SMS service.

(N=160)

S. no.	Statement	WMS	Rank
1.	Short Message Service (SMS) can be an excellent advisory service.	4.75	I
2.	SMS service is available in mobile phone only.	1.3	VIII
3.	Voice Messaging Service is more effective than Text Based Service.	4.7	II
4.	SMS alert does not affect farmer's knowledge and practice.	2.2	VII
5.	Mobile based SMS service can be an alternative to contact with extension workers.	4.1	III
6.	Farmer gets confused about message received through mobile phone.	2.3	VI
7.	SMS alert service can also help in reaching farmers of lower income group.	3.7	IV
8.	SMS alert service cannot replace extension advice in face to face situation.	2.53	V

**Table 4 :** Distribution of respondents according to Opinion towards IKSL service.

(N= 160)

S. no.	Statement	WMS	Rank
1.	Farmer community depends on advice from IKSL service.	4.5	II
2.	Information provided by IKSL to the farmer is of little value.	2.00	VI
3.	IKSL service is benefitting farmers in improving their knowledge.	5.00	I
4.	Text based SMS service is better than voice based service.	3.00	V
5.	The information received by farmers from IKSL service is reliable.	5.00	I
6.	There should be no limit on the length of SMS alert service.	1.6	VII
7.	Receiving five voice SMS alerts from IKSL is excellent.	5.00	I
8.	Voice SMS is insufficient to enhance farmers' knowledge.	1.00	
9.	Farmers are provided with SIM card by Airtel.	5.00	I
10.	Farmers who subscribe to IKSL service have high level of knowledge.	1.00	VIII
11.	IKSL communicates to subscriber for relevant market price.	5.00	I
12.	SMS alerts from IKSL service are not relevant to farmers' needs.	2.00	VI
13.	Call back facility provided under IKSL service helps the farmer to retrieve lost/ misunderstood message.	4.1	III
14.	Personal calls from Green SIM card cannot be made by farmers.	2.00	VI
15.	Farmers want to receive general and health information by IKSL.	4.00	IV
16.	Everybody should be allowed to use IKSL helpline service.	2.00	VI
17.	Mobile based quizzes provide attractive gifts to winners motivate them to learn more.	5.00	I
18.	Mobile based quizzes are conducted to encourage women participation.	3.00	V
19.	IKSL empowers Indian farmer by providing timely information.	5.00	I
20.	Only progressive farmer pay to use the helpline service.	1.00	VIII
21.	IKSL improves farmer's decision making ability regarding farming.	5.00	I
22.	IKSL service will not motivate other service providers to start SMS alert services.	1.00	VIII
23.	IKSL service increases farmer's income through increased productivity.	5.00	I
24.	IKSL (SMS alert) is an important milestone in the use of mobile phones for women empowerment only.	1.00	VIII

respondents regarding service. The results regarding opinion towards IKSL service are given in table 4.

The data presented in table 4 indicated that IKSL service is playing important role to improve farmer's knowledge, reliable and excellent service, most of the respondents ranked it first with the highest mean score

value of 5.00. Similar, weight age mean and rank were found on the following statements which were: 'farmers are provided with SIM card by Airtel, IKSL communicates to subscriber for relevant market price. Mobile based quizzes provide attractive gifts to winners to motivate them, empowers Indian farmer by providing timely information, increase decision making ability and

**Table 5 :** Distribution of respondents according to overall opinion regarding service. (N= 160)

S. no.	Categories	F	%
1.	Least favorable (Less than 220)	15	9.37
2.	Favorable (221-240)	20	12.50
3.	Most favorable (241 & above)	125	78.13
	<b>Total</b>	<b>160</b>	<b>100.00</b>

increases farmer's income.' Respondents opined that 'farmer community depends on advice from IKSL service' with a weight age mean score value 4.5 and ranked II<sup>nd</sup> followed by call back facility service helps the farmer misunderstood message received weight age mean 4.1 and was III<sup>rd</sup> rank. As regards opinion towards farmers want to receive general and health information by IKSL was ranked as IV<sup>th</sup> with a mean score value of 4.00.

It was observed that text based SMS service is better than voice based service and mobile based quizzes are conducted to encourage women participation were same fifth rank with a mean score value of 3.00. According to respondent's opinion, information of IKSL is of little values as well as these services are not relevant to farmers' needs, personal calls is not possible by this SIM card and also opinion towards everybody should be allowed to use IKSL helpline service, these statements were received similar sixth rank and with a less weight age mean score value of 2.00 followed by there should be no limit on the length of SMS alert service (WMS= 1.6 and VII<sup>th</sup> rank), high knowledge is necessary for receiving SMS service, only progressive farmer pay to use the helpline service and this service would not motivate to other service providers to start service similar less WMS=1.00 and VIII<sup>th</sup> rank were reported at the time of data collection.

This may be because that according to respondents point of view voice messaging service is better because voice SMS is applicable both literate as well as illiterate community and quizzes are organized to encourage not only women but also men participation. Furthermore, IKSL is valuable service, based on farmer's need and subscribers of IKSL can also used SIM card for personal call and allowed to use all people, it is not possible because IKSL initiative mainly for agricultural information dissemination. Unlimited length of message design is very difficult and farmers have limited time to listen the messages. We know that IKSL can also be used among illiterate community and delivered verbally, so that high level of knowledge is not required, all subscribers of IKSL were paying to use the helpline service and this service motivates to other service providers to start this service. It can be seen that respondents were act positive opinion towards IKSL service.

## Overall opinion regarding service

In the context of IKSL service the users/farmers opined the service differently depending their socio-economic context. The results of respondents overall opinion regarding IKSL's voice SMS service are presented in the table 5.

It is evident that majority (78.13 per cent) of the respondents were most favorable opinion regarding service. According to category point of view, 12.5 per cent had favorable opinion toward service. Only 9.37 per cent of the respondents were least favorable opinion regarding SMS alerts service.

## Discussion

Adequate anecdotal evidence exists from India and other developing countries to suggest that mobile phone have become a powerful and pervasive force in the contemporary society. It is also making an impact on the life of rural people in many areas including agriculture and rural development sector. It has supported the concerted efforts for improving agriculture productivity, ensuring rural livelihoods and alleviating rural poverty.

The present study has only reinforced the understanding that mobile telephony can make and has made an impact in contributing towards providing an alternative information delivery mechanism through the use of SMS alert services directed at the farming community. IFFCO Kisan Sanchar Limited (IKSL) has succeeded in making an impact in empowering the farming community with the required knowledge and inducing the adoption of latest and modern agriculture technology.

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