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Symbolic adoption of Kisan call centre services among farmers in Mahaboob Nagar district of Telangana state

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Abstract

Kisan Call Centre (KCC) is one of the major initiatives taken by Ministry of Agriculture, Government of India to give agriculture services at door step of farmer. The study was conducted in Mahaboob nagar district of Telangana with the objective of analyzing symbolic adoption of Kisan Call Centre Services among farmers. Ex-post facto research design was adopted for the study with the sample size of 90 respondents. Data was collected from the respondents with the help of well-structured interview schedule. The result indicated that majority (86.67%) of the respondents symbolically accepted seed varieties information followed by market information (86.67%), Govt. schemes (83.33%), plant protection related information (80.00%), water management practices (63.33%), sowing time and weather information (60.00%) and crop insurance advisories (56.67%). The study result concluded that the Department of Agriculture, KVKs and State Agricultural Universities (SAUs) may be provided with additional responsibilities of popularization of KCC services through their all on-going training and capacity building programmes. At regular interval KCC operators may contact feedback surveys which will enhance their services in an improved manner. Besides, success stories and short video modules may be prepared by the m-kisan team in the respective regional languages and it has to be shared to the smart phone using farmers as like social media tools.

Keywords: Symbolic adoption, Kisan call centre (KCC), farmers, ICT tools, mass Media

Introduction

Developing countries like India, Information and Communication Technology Tools (ICT) is gaining more importance. In the present situations transfer of technologies should not only depend on conventional systems viz., farm and home visit, radio, TV broadcasts, demonstrations, trainings but it also depends on ICT because, farmer's needs are growing day by day. Hence, to meet the needs of farmers, it is appropriate to harness the power and potential of ICT tools and techniques.

Anderson and Feder (2003)^[1] indicated that extension helps to reduce the differential between potential and actual yields in farmers' fields by accelerating technology transfer (i.e., to reduce the technology gap) and helping farmers become better farm managers (i.e., to reduce the management gap). It also has an important role to play in helping the research establishment tailor technology to the agro ecological and resource circumstances of farmers.

Extension thus has a dual function in bridging blocked channels between scientists and farmers: it facilitates both the adoption of technology and the adaptation of technology to local conditions. The first involves translating information from the store of knowledge and from new research to farmers, and the second by helping to articulate for research systems the problems and constraints faced by farmers.

The Ministry of Agriculture and Farmers Welfare, Government of India initiates various outreach activities on the phase of global development. One such unique scheme is Kisan Call Centre (KCC) which was launched on January 21, 2004 throughout the country with a toll free option of calling. Important purpose of the project is to answer farmers' queries on a telephone call in their own dialect. The KCC centres are working in 14 different locations covering all the States and Union Territories. A National level common eleven digit Toll Free number 1800-180-1551 has been allotted for Kisan Call Centre. This number is accessible through mobile phones and landlines of all telecom networks including private service providers. Replies to the farmers' queries are given in 22 local languages.

Call center services are available from 6.00 am to 10.00 pm on all seven days of the week at each KCC location. Kisan Call Centre agents known as Farm Tele Advisor (FTAs), are graduates or above (i.e. PG or Doctorate) in Agriculture or allied (Horticulture, Animal Husbandry, Fisheries, Poultry, Bee-keeping, Sericulture, Aquaculture, Agricultural

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Engineering, Agricultural Marketing, Bio-technology, Home Science etc. and possess excellent communication skills in respective local language. Queries which cannot be answered by Farm Tele Advisor (FTAs) are transferred to higher level experts in a call conferencing mode. These experts are subject matter specialists of State Agriculture Departments, ICAR and State Agricultural Universities.

Among ICT tools, mobile telecommunication services have been recognized as an important tool for socio-economic development of a nation. Telephones and mobile connectivity in the rural areas were becoming quite popular both with farmers and farm women (Manhas *et al.*). With advantages of various telecom companies, the rural connectivity is good and cost wise call usage are came down drastically. Kisan call centre is one of the most important tele-agri advisory service provider in India. A recent survey among Indian women by the Internet and Mobile Association of India (IAMAI, 2006) [6] found that the state of Tamil Nadu ranks third in terms of women online users.

Prathap and Ponnusamy (2007) [8] illustrated the effectiveness of mass media in terms of symbolic adoption and compared them. Significant variations were observed in the effectiveness of mass media channels in influencing the symbolic adoption behaviour of rural women. Further, the study has offered certain guidelines for use by the extension agents using mass media for information dissemination. Newer technologies such as rabbit farming need to find more adopters. In order to find more potential adopters, the agencies involved in extension of rabbit production technologies can utilize radio predominantly, since its effectiveness in influencing symbolic adoption has been experimentally proved. Since there was not much significant difference in the effectiveness of television, print and internet, they can be utilized interchangeably depending on their availability and cost effectiveness

Considering the importance of KCC, a research study scheduled to assess the symbolic adoption behavior of KCC services. Klonglan & Coward (1970) [7] had explained the concept of symbolic adoption in the context of individual adoption theory, which says, "the adoption process has two important elements, the symbolic adoption component, in which the idea is accepted, and the use adoption component, in which the practice is accepted".

Operational definition Symbolic adoption

The term "symbolic adoption" was used by Klonglan and Coward (1970) [7] to describe the mental acceptance of an innovation as a good idea. They argued that any new artifact or idea involves both an "idea" component and an "object" component, corresponding respectively to symbolic and action forms of adoption. As a consequence, a potential adopter or user is faced with at least two decisions: to accept or reject the idea, and to use or not use the artifact. The "acceptance-of-the-idea" stage in the adoption process has been referred to by Beal and Bohlen (1957) [9] as the stage of mental trial. They suggest that at this stage, the adopting unit determines the appropriateness of the innovation by abstractly applying the innovation to a specific situation or contingency. This evaluation stage then results in either mental acceptance or mental rejection of the idea.

Mental acceptance or "symbolic adoption" is presumed to lead to trial use and ultimately, if the trial is successful, to continued use (Klonglan and Coward, 1970) [7]. Therefore, where use is voluntary, symbolic adoption can be viewed as a necessary prerequisite to continued use, and by implication, to

performance and exploration. Symbolic adoption and continued use are not always consonant, however. For instance, impediments to adoption can prevent individuals from using a technology that they have symbolically adopted. Thus, for volitional uses of technology, symbolic adoption is a necessary but not sufficient condition to progress to eventual use (Mittelstaedt *et al.*, 1970). For example, a user may view a particular IT such as a tax preparation program as desirable, but may be unable to acquire it because of budgetary constraints. Here symbolic adoption has occurred, although the behavioral intention to use as well as actual use is not likely to materialize. In other words, for voluntary technologies, symbolic adoption may not result in substantive use, if personal and situational obstacles cannot be overcome.

Methodology

The research study was conducted in Mahaboob nagar district of Telangana State. It was selected purposely for the study because of the highest registered numbers of calls from call centre during 2014-15. Two mandals (blocks) were selected from Mahaboob nagar district by using simple random technique. In each mandal three villages selected for the study comprises of six villages. Ex-post facto research design was followed for the study. Again by adopting the simple random sampling technique, 15 KCC user farmers were identified, totally the sample size was 90 respondents. Data were collected and analyzed through well-structured interview schedule and data was presented through percentage analysis method.

Results and Discussion: Overall Symbolic adoption

Symbolic adoption was operationalized as the positive decision taken by the respondent to accept and adopt an innovation, which symbolically reflected her / his adoption behaviour. After exposing each respondent to the treatment, she / he was asked to state (i) whether she / he has decided to adopt the recommended farm practices in her farm, (ii) whether she / he intends to use the recommended technology in a stipulated time and (iii) whether she / he proposes to adopt the recommendations fully or partially.

Then the total score for symbolic adoption was computed for each respondent. The possible score range for each question was between one and ten and Interview schedule was the data collection tool used for the study. A pilot study was conducted prior to the experiment, to test verify the understandability of the interview schedule and relevant corrections were made accordingly.

Overall Symbolic adoptions of beneficiary respondents were assessed. The analysis of the results is presented in Table.

Table 1: Distribution of Respondents according to Overall Symbolic adoption (n = 90)

Sl. No.	Extent of Symbolic Adoption	Beneficiaries	
		No. (n = 90)	Per cent
1.	Low	3	3.33
2.	Medium	18	20.00
3.	High	69	76.67
	Total	90	100.00

The Table 1 reported that the majority (76.77%) of the beneficiary respondents were accepted KCC services symbolically followed by 20.00 per cent medium level and low level (3.33%). The credible reason may be due to the service extended by the agricultural graduates who is working from 6.00 am to 10.00 pm in two shifts.

Further, the call attender enrolls first time caller profile which includes farm size, crop cultivation, cropping pattern, source of water, variety grows, nearest market and major issues in the farm. Subsequent calls, the farmer number will appear in the call screen and the details are being updated in the m-kisan database.

The solutions provided by KCC call operators are appreciated by the beneficiary farmers during the data collection time. Mostly, the farmers seek plant protection measures,

availability of inputs, new government schemes, weather updates and market prices.

Response of KCC and Symbolic adoption

The Kisan Call Centre is providing various services namely voice over call, text messages on weather and market information, Government Scheme details, phone call messages. Considering the variety of solutions extended by KCC, the paper discusses symbolic adoption of advices given by KCC and the same is presented in Table 2.

Table 2: Distribution of the respondents based on Symbolic adoption of advices given by KCC Services

Sl. No	Symbolic adoption	Number	Per cent	Rank
1	Use of recommended Seed rate by KCC	78	86.67	I
2	Use of the recommended sowing time and following the weather advisory information	54	60.00	V
3	Use of information on recommended Water management practices by KCC	57	63.33	IV
4	Application of recommended chemical fertilizers by KCC	42	46.67	VII
5	Usage of the recommended Plant Protection measures by KCC	72	80.00	III
6	Following Post harvest management practices by KCC	24	26.67	IX
7	Hiring Farm Mechanization by KCC	27	30.00	VIII
8	Following and usage of Market information by KCC	78	86.67	I
9	Availed the Crop Insurance recommended by KCC	51	56.67	VI
10	Availed benefits out of Govt. Schemes by KCC	75	83.33	II

The table 2 reported that more than three fourth (86.67%) of respondents symbolically accepted seed rates and varieties. Good seeds and varieties may improves the quality of the standing crop, enhanced germination percentage and uniformity able to ensure optimal plant population leads to better yield. Market information (86.67%) has been accepted symbolically by majority of the respondents because of the analysis of market rates, so that the farmers can get more income to their produce. The authentic market information enables the farmers for better bargaining behavior with middle man on showing the message received from KCC through mobile handsets.

Considerable number of farmers (83.33%) were availing the services of both State and Central Government Schemes in Agriculture and allied enterprises. Even though, lot of advertisement and press release done by government machineries, the KCC users seeks updated information from the Centre. The plant protection measure advices were well received by exactly four-fifth (80.00%) respondents. The plausible reason for that pest and disease occurrence was most predominant in study locality. Due to wrong guidance and financial assistance by the input dealers, farmers have been forced use exorbitant amount of toxic elements. Now, with the guidance of KCC, farmers are educated to avail appropriate chemical based on the level of Economic Threshold Limit (ETL). Initial advice from KCC was physical and biological control followed by the chemical spray to eradicate the pest and disease.

More than three-fifth (63.33%) respondents symbolically satisfied water management techniques and advices includes drip and fertigation techniques, critical waters stages and water requirement. Besides, farmers are raising questions and availing information on schemes and subsidies related to drip irrigation equipments and management of salt which often affects the drippers. Again, exactly three-sixth (60.00%) of the respondents symbolically referring KCC for its timely information on Monsoon and weather parameters with appropriate forecast warnings and messages. More than half (56.67%) of the respondents symbolically benefited with news schemes of crop insurance both at Kharif and Rabi seasons with premium amount and due dates.

Conclusion

The study respondents were symbolically adopted KCC services namely seed rate varieties and market information (86.67%), the State and Central Government Schemes in Agriculture and allied enterprises (83.33%), plant protection measures (80.00%), mater management techniques (63.33%) and weather forecast and warning messages (60.00%). By viewing the study result, it is suggested that the Department of Agriculture, KVKs and State Agricultural Universities (SAUs) may be provided with additional responsibilities of popularization of KCC services through their all on-going training and capacity building programmes. At regular interval KCC operators may contact feedback surveys which will enhance their services in an improved manner. Besides, success stories and short video modules may be prepared by the m-kisan team in the respective regional languages and it has to be shared to the smart phone using farmers as like social media tools.

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