Determinants of Utility Perception of Telecasted Agricultural Technologies

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Introduction

The present agricultural strategy in India calls for speedy dissemination of agricultural information and technical knowledge to the farming community. Mass media are important carriers of information in a modern developing and developed society. Media are important contributors to the ongoing technological changes. Television happens to be the most useful media of modern times. Realizing its importance a countrywide network of television was established in the country to spread information to a large section of population at a high speed. Agriculture being an important sector of the Indian economy, agricultural information is being disseminated through television under its agricultural programme. The value of any programme can only be judged through audience response. Dale (1963) opined that an agricultural expert could influence more farmers by a 10 minutes television demonstration than a week's travel. This emphasizes the role of television in dissemination of agricultural technology. Studies have been undertaken in the past on assessing of effectiveness of agricultural telecast programme on the farming community. In the present study, an attempt has been made to assess the perceived usefulness of selected agricultural technologies telecast through an agricultural programme, "Amchi Mati Amchi Mansa" by the farmers, by developing standardized scales.

Methodology

The study was confined to two districts namely, Akola and Amravati in Vidarbha region of Maharashtra State. From these two districts, four Panchayat Samities namely Akola, Barshitakli, Amravati and Daryapur were selected purposively taking into consideration maximum installation of TV sets. Five villages from each Panchayat Samiti were randomly drawn. From each village, 10 farmers viewing the agriculture programme namely "Amchi Mati Amchi Mansa" were randomly selected. Thus, in all, 200 farmers viewing the agriculture programme were selected as respondents for the study. In order to find out

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the utility, five agricultural technologies telecast through the agricultural programme viz. 1) Pre-seasonal sugarcane cultivation technology 2) Mushroom production technology 3) Compost preparation technology 4) HaNPV preparation technology and 5) Silkworm rearing technology were selected. The standard utility perception scale was developed by using the technique of Summated ratings suggested by Likert (1932) and Edward (1957). The responses were obtained from the respondents on five point continuum viz. strongly agree, agree, undecided, disagree and strongly disagree with scores of 5,4,3,2 and 1 respectively.

Results and Findings

Levels of Utility Perception

The distribution of the respondents according to the levels of utility perception of all the selected five agricultural technologies telecast through the agricultural programme is presented in Table 1.

Table 1. Perceived Utility about the five selected Agricultural Technologies

Sl. No.	Category	Respondents (n=200)	
		Frequency	Percentage
1.	Low	44	22.00
2.	Medium	93	46.50
3.	High	63	31.50
	Total	**200**	**100.00**

It is evident from the data in Table 1 that a higher percentage of the respondents (46.50 per cent) perceived the utility of selected agricultural technologies telecast through "Amchi Mati Amchi Mansa'a Marathi agricultural programme to a moderate extent. A little less than one third (31.50%) of the respondents perceived it high. Looking at the percentages in medium and high category it can be said that the selected agricultural technologies telecast were useful to the respondents under study. This might be because the selected technologies were found to be appropriate and need based by the farmers in the area.

Ranking of Selected Agricultural Technologies on the basis of Utility Perception Indices

It is evident from Table 2 that the respondents perceived higher utility of 'Compost Preparation' programme with mean utility index of 97.42. The second position in respect of utility was given to the telecast on 'Pre-seasonal Sugarcane cultivation'.

The third and fourth positions were accorded to 'HaNPV preparation' and 'Silkworm rearing technology', respectively. The last position was given to 'Mushroom production technology'.

Table 2. Ranking of selected Agricultural Technologies telecast according to Mean Utility Perception Indices

Sl.No.	Name of technology	Mean utility perception index	Rank
1.	Pre-seasonal Sugarcane cultivation	84.27	II
2.	Mushroom production	65.31	V
3.	Compost preparation	97.42	I
4.	HaNPV preparation	78.63	III
5.	Silkworm rearing	73.65	IV

The respondents therefore, perceived telecast technologies concerned with Compost preparation, Pre-seasonal Sugarcane cultivation and HaNPV preparation as comparatively more useful to them. Probably this is because these technology telecasts were need based and were important from the point of view of increase in crop production through use of these technologies. The Silkworm and Mushroom production technologies are not directly related to crop production and are applicable to specific group of farmers. Hence, these technologies were comparatively perceived less useful by the respondent farmers as compared to the other technologies.

Relationship and Influence of selected Characteristics of Respondents on Utility Perception about Agricultural Technologies Telecast

Correlation and Step-down regression analysis was done to find out the relationship of the selected characteristics with utility perception and to determine their contribution jointly and individually. The findings obtained are presented in Table 3 and Table 4.

It is evident from Table 3 that characteristics namely education, land holding, annual income, socio-economic status, social participation, mass media exposure, innovativeness and motives behind viewing TV established positive and significant relationship at 0.01 level of probability and TV viewing behaviour at 0.05 level of probability with utility perception of the respondents about selected agricultural technologies telecast through agricultural programme. Age was found to be negatively and significantly correlated with utility perception.

The socio-economic status, social participation and mass media exposure were significantly associated with the perception of respondents about utility of the agricultural programme telecast. The significant relationship between social participation and utility

perception might be due to the fact that the higher interactions with others in the social system develop an understanding and evaluative ability. The technologies telecast through agriculture programmes might have convinced about its utility and hence the results.

Table 3. Relationship of selected characteristics of Respondents with their Utility Perception about selected Agricultural Technologies

Sl. No.	Characteristics	Coefficient of correlation (r)
A)	**Personal and socio-economic characteristics**	
1.	Age	-0.2180**
2.	Education	0.3088**
3.	Land holding	0.2881**
4.	Annual income	0.3410**
5.	Socio-economic status	0.4765**
6.	Social participation	0.4281**
B)	**Communication characteristics**	
7.	Mass media exposure	0.4192**
8.	Accessibility to TV telecast	0.3287**
C)	**Psychological characteristics**	
9.	Innovativeness	0.4184**
10.	Motive behind viewing TV	0.4461**
11.	TV viewing behaviour	0.1765*

** Significant at 0.01 level of probability *Significant at 0.05 level of probability

For determining the contribution of selected variables in producing variation in utility perception of selected agricultural technologies telecast, stepdown regression analysis was carried out and the results obtained are depicted in Table 4.

The step down regression analysis (Table 4) indicates that the R2 value with all the selected 11 variables (Model-I) comes to 0.3050. It shows that all the 11 selected variables jointly and significantly produced 30.50 per cent variation in utility perception of respondents. Deleting one variable on the basis of low 't' value in further models indicated that the variables namely mass media exposure, TV viewing behavior, education, social participation, annual income, innovativeness and age had a negligible contribution in influencing the perceived utility about the agricultural programme telecast. Finally, retaining two variables namely land holding and socio-economic status in Model-X, the value of Coefficient of Determination (R2) was 0.2847 and significant.

Table 4. Stepdown regression analysis for utility perception showing Coefficient of Determination (R2) for variables under study

Sl. No.	Model No.	Constant	Age	Education	Land holding	Annual Income	Socio-economic status	Social participation	Mass media exposure	Innovativeness	Motive behind TV viewing	Accesibility to TV telecast	TV viewing behaviour	R^2
1.	I	53.36	0.043	0.111	-0.726	0.034	1.030**	0.874	-0.028	-0.570	0.618	-0.947	0.050	0.3050**
			(0.044)	(0.203)	(0.345)	(0.050)	(0.297)	(1.400)	(0.488)	(0.765)	(0.429)	(1.806)	(0.141)	
2.	II	53.46	0.043	0.109	-0.724*	0.034	1.032**	0.855	-	-0.589	0.610	-0.997	0.050	0.3050**
			(0.043)	(0.199)	(0.343)	(0.050)	(0.295)	(1.368)		(0.682)	(0.403)	(1.569)	(0.145)	
3.	III	55.93	0.045	0.111	-0.725*	0.034	1.046**	0.819	-	-0.592	0.615	-1.004	-	0.3045**
			(0.043)	(0.199)	(0.342)	(0.050)	(0.292)	(1.361)		(0.680)	(0.402)	(1.566)		
4.	IV	56.58	0.032	-	-0.740	0.034	1.066**	0.962	-	-06.06	0.645	-0.981	-	0.03045**
			(0.036)		(0.340)	(0.050)	(0.289)	(1.334)		(0.679)	(0.398)	(1.562)		
5.	V	56.48	0.030	-	0.720	0.030	1.087**	0.816	-	-0.662	0.564	-	-	0.3019**
			(0.036)		(0.339)	(0.049)	(0.286)	(1.312)	-	(0.672)	(0.375)	-	-	
6.	VI	56.20	0.031	-	-0.546**	-	1.163**	0.866	-	-0.771	0.585	-	-	0.3006**
			(0.035)		(0.156)		(0.257)	(1.307)		(0.616)	(0.373)			
7.	VII	54.84	0.031	-	-0.546**	-	1.195**	-	-	-0.639	0.640	-	-	0.2990**
			(0.035)		(0.156)		(0.252)			(0.613)	(0.363)			
8.	VIII	57.27	-	-	-0.511**	-	1.170**	-	-	-0.679	0.622	-	-	0.2963**
					(0.151)		(0.250)			(0.611)	(0.362)			
.9	IX	53.35	-	-	-0.551**	-	0.999**	-	-	-	0.475	-	-	0.2939**
					(0.146)		(0.192)				(0.338)			
10.	X	51.80	-	-	-0.579**	-	1.168**	-	-	-	-	-	-	0.2847**
					(0.145)		(0.157)							
11	XI	62.47	-	-	-	-	0.063**	-	-	-	-	-	-	0.2270**
							(0.138)							

*Significant at 0.05 level of probability; ** Significant at 0.01 level of probability; Figures in parenthesis are the standard error of the estimates

Thus these two variables significantly and jointly contributed to the extent of 28.47 per cent of variation in utility perception of respondents about selected agricultural technologies telecast through the Marathi Agriculture telecast programme "Amchi Mati Amchi Mansa". The stepdown regression analysis has, therefore, concluded that the variables land holding and socio-economic status are significant and major determinants of utility of respondents about selected agricultural telecast programmes.

Conclusion

The findings reveal that a higher percentage of respondents (46.50 per cent) perceived the utility of selected agricultural technologies telecast on Doordarshan as moderately useful to them. A higher percentage of respondents perceived moderate utility of Pre-seasonal sugarcane cultivation (44.50 per cent) programme, Mushroom production (44 per cent) programme and HaNPV preparation (44.50 per cent) technologies to them. The variables namely land holding,socio-economic status and innovativeness were observed to be significantly influencing the utility perception and were the major determinants of perceived utility of respondents about selected agricultural technologies telecast through Marathi telecast programme "Amchi Mati Amchi Manse". While planning for agricultural programme telecast, these two factors viz. land holding and socio-economic status need to be considered by the programme planners so as to enhance the response of farmers on the agricultural programme telecast.

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