Perceived attributes of home science technologies

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ABSTRACT

Women in rural areas suffer from many grave disadvantages and are subjected to great deal of hardship and drudgery. The jobs done by them are often physically arduous, time consuming and repetitive, resulting in fatigue and drudgery. So women need new technologies and practices to improve upon the old ones. Technology transfer and adoption process work simultaneously. The rate of adoption depends on the evaluation of innovation in terms of its perceived characteristics such as relative advantage, compatibility, complexity, trialability and observability. To study the perceived attributes of homestead technologies the present study was carried out during 2016-17 in the villages of Dharwad district of Karnataka state. The total sample size was 80 rural women. The study found that most of the respondents (62.50%) perceived balanced diet as advantageous, compatible (68.75%), easy to understand and use (70.00%) and small scale trialability (96.25%). Whereas 82.50 per cent of the respondents felt that the results of the technology are not observable. Similarly stain removal techniques and care and storage practices for clothes were perceived as favourable technologies.

INTRODUCTION

Home science technology means a suitable technology to assist the home makers in performing jobs in the house in an efficient and effective manner. A number of technologies have been developed by the home scientists and recommended for use by rural women. These technologies should not be confined to the laboratories but should be transferred to the end users who in this case are rural women who manage their homes and families. Technology transfer according to Verma and Kaushik (2006) is a highly complex process.

Adoption of technology is often dependent on the characteristics of innovation. The perception of the characteristics of innovations by the individuals often determine rate of adoption. Rate of adoption is the relative speed with which an innovation is adopted by the members of the social system. According to Rogers (1962) the rate of adoption depends on the perceived attributes of an innovation namely; relative advantage, compatibility, complexity, trialability and observability. Rogers further says that except complexity all other attributes are directly proportional to the rate of adoption. Whereas, complexity is inversely related to the rate of adoption of an innovation. In view of the above facts the present study was taken up.

MATERIAL AND METHODS

The study was conducted during 2016-17 in

Dharwad taluk of Dharwad district of Karnataka state. Two small villages namely Varanagalavi and Belur-Heggeri with 214 and 94 households respectively, were selected. Home science technologies namely balanced diet, health and safety practices and stain removal techniques were diffused into the social system of the two villages by the experts from Rural Home Science College. Diffusion was carried out by lecture cum demonstration and lecture cum exhibition. Each and every household was contacted to know the acceptance of the above said technologies. Eighty rural women who were accepted the technology constituted the sample size for the study. The attributes of the technology as identified Rogers (1962) namely relative advantage, compatibility, complexity, trialability and observability were considered for the study. The perceived attributes influencing adoption were studied following the method used by Mohanty and Mohanty (2008).

OBSERVATIONS AND ANALYSIS

The results obtained from the present investigation as well as relevant discussion have been summarized under following heads :

Perceived attributes of balanced diet :

Table 1 shows the attributes of balanced diet as perceived by the rural women. Most of the respondents (62.50 %) perceived balanced diet as advantageous followed by compatible (68.75 %) less complex (70.00 %) and amenable for small scale trialability (96.25 %). Whereas 82.50 per cent felt that the results of the technology are not observable.

After intervention, the women became aware that good food is required for a healthy body and sound mind. They also realized that eating a balanced diet does not require expensive or exotic foods, balanced diet does not differ much in its traditional way of preparation. So

Table 1 : Perceived attributes of balanced diet			(n=80)
Sr. No.	Attributes	Frequency	Percentage
Relative advantage			
1.	Most advantageous	06	7.50
2.	Advantageous	50	62.50
3.	Somewhat advantageous	20	25.00
4.	Least advantageous	02	2.50
5.	Not at all advantageous	02	2.50
Compatibility			
1.	Most compatible	08	10.00
2.	Compatible	55	68.75
3.	Somewhat compatible	15	18.80
4.	Least compatible	01	1.20
5.	Not at all compatible	01	1.20
Complexity-Simplicity			
1.	Very easy to understand and use	04	5.00
2.	Easy to understand and use	56	70.00
3.	Neither very easy nor difficult to understand use	16	20.00
4.	Difficult to understand and use	03	3.80
5.	Very difficult to understand and use	01	1.20
Trialiability			
1.	Can be tried on small scale	77	96.25
2.	Cannot be tried on small scale	03	3.80
Observability			
1.	Most observable	-	-
2.	Observable	01	1.20
3.	Somewhat observable	06	7.50
4.	Least observable	66	82.50
5.	Not at all observable	07	8.80

they found this technology to be compatible and simple to prepare. The women felt that they could prepare a balanced diet on a small scale and not necessarily in large qualities. Thus they found the technology to be relatively advantageous, compatible, simple and trialiable. However with regard to observability, women felt that consuming a balanced diet did not show immediate results. Many women feel that irrespective of the food eaten, growth and development of a person will take place. The lack of visibility is probably the first and foremost reason why home science technologies fail to get adopted get easily.

Perceived attributes of health and safety practices:

Regarding the perceived attributes of health and safety practices by the rural women, 63.80 per cent of the women perceived this technology as advantageous (63.80 %), 71.25 per cent thought it was culturally

compatible, 61.20 per cent felt that it was not a complex technology, 90 per cent said that it could be easily tried out and 63.80 per cent said that the results were most observable.

Regarding the perceived attributes of health and safety practices by the rural women, it is heartening to note that the technology have been perceived quite favourably on only the five attributes.

Now a day's people are more conscious about the health and infectious diseases. Knowledge transferred by anganawadi worker and ASHA worker through conducting mothers meeting and home visits and the knowledge intervention in the present study on health and safety practices have increased the awareness. These practices can be followed within the available resources of rural women without much expense and time. Since the sanitary pads are distributed by ASHA workers and anagawadi workers women can try these on a small scale.

Table 2: Perceived attributes of health and safety practices for women			(n=80)
Sr. No.	Attributes	Frequency	Percentage
Relative advantage			
1.	Most advantageous	25	31.25
2.	Advantageous	50	63.80
3.	Somewhat advantageous	03	3.80
4.	Least advantageous	01	1.20
5.	Not at all advantageous	01	1.20
Compatibility			
1.	Most compatible	17	21.20
2.	Compatible	57	71.25
3.	Somewhat compatible	04	5.00
4.	Least compatible	01	1.20
5.	Not at all compatible	01	1.20
Complexity-Simplicity			
1.	Very easy to understand and use	12	15.00
2.	Easy to understand and use	49	61.20
3.	Neither very easy nor difficult to understand use	10	12.50
4.	Difficult to understand and use	07	8.80
5.	Very difficult to understand and use	02	2.50
Triliability			
1.	Can be tried on small scale	72	90.00
2.	Cannot be tried on small scale	08	10.00
Observability			
1.	Most observable	-	-
2.	Observable	50	63.80
3.	Somewhat observable	20	25.00
4.	Least observable	05	6.20
5.	Not at all observable	05	6.20

Trialiability was therefore considered to the extent of 98 per cent (Table 2).

Perceived attributes of stain removal techniques by the rural women :

Table 3 reveals perceived attributes of stain removal techniques as perceived by the respondents. With respect to stain removal techniques, 52.50 per cent of rural women perceived that there were advantageous in using the technology, it was compatible to the existing situations (58.80 %), was easy to understand and use (50.00 %), could be tried on small scale (95.00 %) and results were observable (75.00 %).

It could be observed from the attributes of stain removal technology that only about 50 per cent of the respondents perceived these technologies as relatively advantageous, compatible and simple to understand and use. They have not perceived the technology very well because rural women have been using soaps and detergents for a long time for quick and easy removal of stains. They have no time and patience to wash stains by using herbal materials like lemon, tomato etc. They thought that these methods would spoil their clothes. Moreover these techniques are less easy to understand. However they perceived that it can be tried out on a small scale as they were willing to try once or twice.

Relationship between independent variables and perceived attributes of technologies :

The correlation values in the Table 4, 5 and 6 showed there is significant and positive relationship between independent variables namely cosmopoliteness, economic motivation, scientific orientation and risk orientation and the perceived attributes. We could also found positive and significant relationship between farm size and trailability at 0.005 per cent level of probability.

Table 3: Perceived attributes of stain removal techniques by the rural women			(n=80)
Sr. No	Attributes	Frequency	Percentage
Relative advantage			
1.	Most advantageous	07	8.80
2.	Advantageous	42	52.50
3.	Somewhat advantageous	15	18.80
4.	Least advantageous	08	10.00
5.	Not at all advantageous	02	2.50
Compatibility			
1.	Most compatible	02	2.50
2.	Compatible	47	58.80
3.	Somewhat compatible	20	25.00
4.	Least compatible	08	10.00
5.	Not at all compatible	03	3.80
Complexity-Simplicity			
1.	Very easy to understand and use	04	5.00
2.	Easy to understand and use	40	50.00
3.	Neither very easy nor difficult to understand use	27	33.75
4.	Difficult to understand and use	07	8.80
5.	Very difficult to understand and use	02	2.50
Trialiability			
1.	Can be tried on small scale	76	95.00
2.	Cannot be tried on small scale	04	5.00
Observability			
1.	Most observable	06	7.50
2.	Observable	60	75.00
3.	Somewhat observable	12	15.00
4.	Least observable	02	2.50
5.	Not at all observable	-	-

Table 4: Correlation between independent variables and perceived attributes of balanced diet (n=80)

Independent variables	Relative advantage	Compatibility	Complexity	Trialability	Observability
Age	0.068NS	0.068NS	.073NS	.019NS	.103NS
Education	-0.070NS	-0.069NS	-.161NS	.009NS	-.043NS
Farm size	-0.174NS	-.170NS	-.157NS	.372**	-.161NS
Annual income	0.075NS	.025NS	.038NS	-.018NS	.037NS
Family size	-0.110NS	-.141NS	-.125NS	-.282*	.166NS
Mass media participation	-0.198NS	-.196NS	-.150NS	.011NS	.153NS
Cosmopoliteness	0.261*	.264*	.271*	-.203NS	-.193NS
Economic motivation	0.506**	.495**	.560**	.242*	.466**
Scientific orientation	0.508**	.524**	.531**	.361**	.521**
Risk orientation	0.322**	.268*	.194NS	.179NS	.226*

* and ** indicate significance of values at P=0.05 and 0.01, respectively   NS=Non-significant

Table 5: Correlation between independent variables and perceived attributes of health and safety practices for women (n=80)

Independent variables	Relative advantage	Compatibility	Complexity	Trialability	Observability
Age	.116NS	.045NS	.060NS	-.045NS	.061NS
Education	-.046NS	-.074NS	-.009NS	-.078NS	-.050NS
Farm size	-.154NS	-.178NS	-.173NS	.251*	-.199NS
Annual income	.023NS	.044NS	.042NS	.002NS	.066NS
Family size	.019NS	-.125NS	-.118NS	-.309**	-.148NS
Mass media participation	.071NS	-.121NS	-.149NS	-.057NS	-.143NS
Cosmopoliteness	.296**	.306**	.228*	-.217NS	.330**
Economic motivation	.490**	.528**	.431**	.372**	.520**
Scientific orientation	.486**	.520**	.516**	.512**	.509**
Risk orientation	.310**	.202NS	.374**	.394**	.322**

* and ** indicate significance of values at P=0.05 and 0.01, respectively   NS=Non-significant

Table 6: Correlation between independent variables and perceived attributes of stain removal techniques (n=80)

Independent variables	Relative advantage	Compatibility	Complexity	Trialability	Observability
Age	.103NS	.113NS	.153NS	-.071NS	.125NS
Education	-.209NS	-.079NS	-.042NS	.127NS	-.093NS
Farm size	-.143NS	-.179NS	-.108NS	.286*	-.178NS
Annual income	-.003NS	.058NS	-.037NS	-.063NS	-.036NS
Family size	-.114NS	-.130NS	-.015NS	-.279*	-.147NS
Mass media participation	-.171NS	-.132NS	-.098NS	-.066NS	-.122NS
Cosmopoliteness	-.112NS	.230*	-.131NS	-.180NS	.302NS
Economic motivation	.416**	.465**	.450**	.312**	.490NS
Scientific orientation	.417**	.476**	.470**	.417**	.538NS
Risk orientation	.327**	.366**	.316**	.246*	.201NS

* and ** indicate significance of values at P=0.05 and 0.01, respectively   NS=Non-significant

Table 7 : Correlation between perceived attributes and rate of adoption of technologies (n=80)

Perceived attributes	Rate of adoption of technologies		
	Balanced diet	Stain removal techniques	Health and safety practices for women
Relative advantage	0.728**	0.740**	0.418**
Compatibility	0.671**	0.775**	0.462**
Complexity	-0.645**	-0.828**	-0.351**
Trialiability	0.272*	0.325**	0.351**
Observability	0.460**	0.613**	0.442**

* and ** indicate significance of values at P=0.05 and 0.01, respectively

There is negative and significant relationship between family size and the attribute triliability at 0.001 per cent level of probability regarding balanced diet, health and safety practices for women and stain removal techniques.

The results in the Table 7 shows that the correlation between perceived attributes of the selected home science technologies and the rate of adoption was found significant at both 0.005 and 0.001 per cent level of probability. The findings of the present are perfectly intoned with Rogers (1962) suggested as there is increase in the relative advantage, compatibility, trialability and observability of a technology, the rate of adoption also increases. Whereas, as complexity increases the rate of adoption of the technology decreases.

Conclusion :

The diffused homestead technologies namely balanced diet and stain removal were perceived favourable by the rural women in terms of relative advantage, compatibility, complexity, simplicity, trialability and observability, but their rate of adoption was less. On the contrary to this the technology health and safety practice for women was perceived favourable and hence the rate of adoption was also high. The technologies which are really interested, need based and within the resources of rural women are adopted more quickly

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