

DEVELOPMENT OF SCALE TO MEASURE THE ATTITUDE OF FARMERS TOWARDS I-KHEDUT PORTAL

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ABSTRACT

ICT in agricultural is emerging field focusing on agricultural development and rural development which helps in making transfer of technology easy. Government of Gujarat launched i-khedut portal where all needs of farmers fulfill with one click. The i-khedut portal has been in operation since 2014 for benefits of farmers. For understanding the attitude of farmers towards this i-khedut portal attitude scale was developed. In initial stage for developing the scale, large number of statements considering feelings of the farmers towards i-khedut portal were collected from relevant literature, field extension personnel, relevant specialists, major guide and the researcher's own experience. The collected statements were screened and edited by following criteria laid down by Edwards (1957) and finally 20 statements were selected as they were found to be non-ambiguous and non-factual. Based on the median and Q values, 14 statements were finally selected to constitute attitude scale. The scale values ranged from 1.04 to 3.83 and the following statements are selected. The test was found to be reliable (0.84) and valid.

Keywords : i-khedut portal, attitude, farmers

INTRODUCTION

ICT in agricultural is emerging field focusing on agricultural development and rural development which helps in making transfer of technology easy. The government has taken various initiatives for agricultural development as well as making extension system faster in the process of reaching farmers. Government of Gujarat launched i-khedut portal where all needs of farmers fulfill with one click. The i-khedut portal has been in operation since 2014 for benefits of farmers. There is i-khedut portal for agricultural which include agricultural related latest information, contacts of input dealers, lending institute information, government plans, guidance of agricultural, Market price, and weather information etc.

Understanding the attitude of farmers towards this portal is one of the best ways to appreciate their feeling for this portal. It is universally accepted fact that attitude of individual plays an important role in shaping his behavior (Vinaya *et al.*, 2016; Chauhan and Patel, 2020). It is therefore, always important to find out the present status of farmers' attitude and factors responsible for forming attitude towards i-khedut portal. This developed scale can significantly measure attitude of farmer towards i-khedut portal.

OBJECTIVE

To develop a scale to measure the attitude of farmers towards i-khedut portal

METHODOLOGY

Development of attitude scale

To measure the degree of positive or negative feelings of the farmers towards i-khedut portal, a scale was developed by adopting systematic methodology.

Among the techniques available, researcher had selected. 'Scale product method' which combines the Turnstone's technique of equal appearing interval scale (1928) for selection of items and Likert's technique of summated rating (1932) for ascertaining the response on the scale as proposed by Eysenck and Crown (1949).

Steps in development of attitude scale

Item collection

In initial stage of developing the scale, large number statements reflecting feelings of the farmers towards i-khedut portal were collected from relevant literature, major guide, field extension personnel, relevant specialists and the

researcher's own experience. The collected statements were corrected according to the following criteria laid down by Thurston and Chave (1928), Wang (1932), Likert (1932) and Edward and Kilpatrick (1948) and finally 20 statements selected as they were found to be non-ambiguous and non-factual.

- (1) Avoid statements that refer to the past rather than present.
- (2) Avoid the use of double negatives in statements.
- (3) Avoid statements that can be interpreted more than one way.
- (4) Avoid statements that are irrelevant to psychological aspect under consideration.
- (5) Avoid statements that are likely to be endorsed by almost everyone/ almost none.
- (6) Statements containing universal such as All, Always, None & Never often it reduces ambiguity & it should be avoided.
- (7) Keep the language of statements simple, clear and direct.
- (8) The statement should be short rarely exceeding 20 words.
- (9) Each statement should have only one complete thought.
- (10) Select statements that are believed in covering the entire range of affective scale of interest.
- (11) Avoid use of words that may not be understood by those who are to be given the completing scale.
- (12) The statement should be in the straight forward form.
- (13) Avoid statements that are factual/ numerical.

Judges' rating of attitude statements

In order to judge the degree of 'Unfavourableness' to 'Favourableness' of each statement on the five-point equal appearing interval continuum, a panel of judges was selected. Fifty forms of the selected statements were given to the experts working in Department of Extension Education and Directorate of Extension Education of various SAUs and Extension Education Institutes through Google form.

The judges were requested to judge each statement in terms of their most agreement or most disagreement with the statements with the five equal appearing interval continuums. All forms given to the experts returned after duly recording their judgments and were considered for the analysis.

The judges were contacted personally through telephonic call and instructions those for rating the statements in desired manner for each set of the statements were given as seen in Appendix-I.

Determination of scale and quartile value

The five points of the rating scale were assigned score ranking from 1 for most unfavourable and 5 for most favourable. The base on judgment, the median value of the distribution and the Quartile (Q) value for the statement concerned was calculated with the help of following formula.

$$S=L + \frac{0.50-\sum Pb}{Pw} \times i$$

Were,

- S = Scale value
- L = The Lower limit of the interval in which the median falls
- \sum_{pb} = The sum of the proportion below the interval in which the median falls
- P_w = The proportion within the interval in which the median falls
- i = The width of the interval and is assumed to be equal to 1.0 (one).

Thurstone and Chave (Edwards, 1957) used the inter-quartile range Q as a means of the variation of the distribution of the judgments for a given statement. To determine value of Q, two other point were measured, the 75th centile and 25th centile.

The 25th centile was obtained by the formula.

$$C_{25}=L+ \frac{0.25-\sum Pb}{Pw} \times i$$

Were,

- C_{25} = The median or scale value of the statement

- L = The Lower limit of the interval in which the 25th centile falls
- \sum_{pb} = The sum of the proportion below the interval in which the 25th centile falls
- P_w = The proportion within the interval in which the 25th centile falls
- i = The width of the interval and is assumed to be equal to 1.0 (one).

The 75th centile was obtained by the following formula.

$$C_{75} = L + \frac{0.25 - \sum_{pb}}{P_w} \times i$$

C_{75}

Were,

- C_{75} = The median or scale value of the statement
- L = The Lower limit of the interval in which the 75th centile falls
- \sum_{pb} = The sum of the proportion below the interval in which the 75th centile falls
- P_w = The proportion within the interval in which the 75th centile falls
- i = The width of the interval and is assumed to be equal to 1.0 (one).

Then the interquartile range would be given by taking the difference between C_{75} and C_{25} , thus,

$$Q = C_{75} - C_{25}$$

Reliability of the scale

A scale is reliable when it consistently produces the same results (extent of consistent result) when it applied to the same sample. In the present study, due to limited time and resources available to the researcher, only split-half method of testing reliability was used.

The 14 statements were divided into two halves with 7 odd numbered in one half and 7 even-numbered statements in the other. These were administered to 20 respondents. Each of the two sets of statements were treated as a separate scale and then these two sub-scales were

correlated. The co-efficient of reliability was calculated by the following Rulon's formula (Guilford, 1954), which came to be 0.84 with correction factor. Thus, the scale developed was found highly reliable.

$$r_{tt} = 1 - \frac{\sigma^2 d}{\sigma^2 t}$$

Where,

- r_{tt} = Co-efficient of reliability
- $\sigma^2 d$ = Variance of these differences
- $\sigma^2 t$ = Variance of total scores

Correction factor

$$r_{tt} = \frac{2roe}{1+roe}$$

Where,

- r_{tt} = Coefficient of the reliability of the original test
- roe = reliability of coefficients of odd and even score

Validity of scale

A scale is said to be valid when it measures what it is supposed to measure. In the current study, the validity of the scale was tested by following method.

Content validity

The validity of the scale examined for content validity by determining how well content was selected by discussing it with 20 specialists of extension and academicians of Anand agricultural university. Thus, the present scale was also satisfied the content validity.

Administering the scale for measurement of attitude

The final attitude scale was administered on the sample of 120 farmers called respondents. They were asked to express their reactions in terms of their agreement or disagreement with each item by selecting one of five response categories. The positive statements were scored as 5, 4, 3, 2, and 1 for strongly agree, agree, undecided, disagree and strongly disagree respectively. whereas, scoring system was reversed in the case of negative statements.

Final format of selected statements for attitude scale

Sr. No.	Statements	SA	A	UD	DA	SDA
1	I think i-khedut is potential source of farm information. (+)					
2	I feel that use of the i-khedut portal is wastage of time. (-)					
3	I feel that i-khedut portal is the best source to avail advantages of farmers' linked government schemes. (+)					
4	Exploring farm information from the i-khedut portal is never my priority. (-)					
5	I believe that i-khedut portal assists farmers to improve their economic condition. (+)					
6	I am fully unsatisfied with the features of i-khedut portal. (-)					
7	I feel that i-khedut portal facilitates resource-poor farmers. (+)					
8	The i-khedut portal is beyond the reach of poor farmers. (-)					
9	I believe that i-khedut is farmer's friendly portal. (+)					
10	I believe that i-khedut portal encourages youth to adopt farming as profession. (+)					
11	I feel that i-khedut portal facilitates farmers in taking timely farm decisions. (+)					
12	The i-khedut portal is a good source to encourage farmers to implement modern farming. (+)					
13	I would like to advise fellow farmers to explore i-khedut portal for agricultural development. (+)					
14	I think i-khedut portal is excellent source to avail farm marketing related information. (+)					

SA = Strongly Agree, A = Agree, UD = Undecided, D = Disagree, SDA = Strongly Disagree

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