# A Scale to Measure Client Satisfaction and Accountability of Extension Personnel

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## ABSTRACT

Considering the paramount importance of client accountability of extension personnel, client satisfaction and agricultural knowledge dissemination, summated rating scales have been developed through five stages. Based on review of literature, discussion with extension experts and farmers, 27 statements were developed and subjected to judges rating on a three-point continuum. Considering relevancy percentage of 75, relevant items were selected and subjected for item analysis. The scales were tested for their reliability and validity. The scale to has measure client accountability comprises 18 terms and clients satisfaction scale has 26 items.

## INTRODUCTION

Assessing the impact of extension on farm productivity is a complex task. A detailed review of various studies has pointed out that a common measurement problem is the inability to isolate the contribution of extension from other factors affecting productivity (Feder et. al. 1987). In this direction, clientele satisfaction as also the client accountability of the extension personnel act as measurement indicators of extension service. Further, survival of emerging private and NGOs extension services mostly depend on these two aspects. Hence, an attempt was made to develop scales to measure the client accountability of extension personnel and clientele satisfaction in public and private extension.

## METHODOLOGY

**Operational definition of client- accountability** It is the degree of responsibility of the extension personnel to serve the interest of the clientele.

**Operational definition of client satisfaction** It is the degree of satisfaction of the client in respect of relevancy, quality, usefulness and customer (client) service of the extension service.

The method of Likert summated rating scale was followed through five stages, viz, collection of items, relevancy test, item analysis, establishing reliability and validity.

**Collection of statements** A large number of statements on each attribute component were collected from review of literature, discussion with extension experts, agricultural scientists and farmers. Care was taken to include approximately equal number of positive and negative statements. Those statements were carefully edited in the light of fourteen criteria suggested by Edwards (1969) and statements were revised, restricted to avoid ambiguity and duplication. Thus 25 statements representing client accountability and 36 statements representing four demensions of client satisfaction in terms of relevancy, quality, usefulness and customer service were selected for further analysis.

**Relevancy analysis** The selected two sets of statements were mailed with appropriate instructions to 110 judges, experts in the field of extension education for their judgement on each items relevancy on three point continuum, viz., Most Relevant (MR), Relevant (R) and Not Relevant (NR). The judges were also requested to make necessary modification and addition or deletion of statements, if they so desired. The judges considered for this purpose were the extension experts in the SAUs, ICAR institutes, National Institute of Agricultural Extension Management (MANAGE), Hyderabad, National Institute of Rural Development (NIRD), Hyderabad and Indian Institute of Plantation Management (IIPM), Bangalore. The responses were received from 74 judges (67.27 per cent) in time. The relevancy score for each statement was worked out by using following formula.:

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Relevancy percentage (RP) was worked out by summing up the scores of Most Relevant (MR) and Relevant (R) categories, which was converted into percentage.

Relevancy percentage =

$$\frac{\text{More Relevant responses} \times 2 + \text{Relevant responses} \times 1}{\text{Maximum possible score } (74 \times 2 - 148)} \times 100$$

**Relevancy weightage** was btained by the standard formula.

Relevancy weightage =

$$\frac{\text{More Relevant responses} \times 2 + \text{Relevant responses} \times 1}{\text{Maximum possible score}}$$

**Mean relevancy score (MRS)** was obtained by the standard mula.

Mean relevancy score (MRS) =

$$\frac{\text{More Relevant responses} \times 2 + \text{Relevant responses} \times 1}{\text{Number of judges responded } (74)}$$

The statements having relevancy percentage of more than 75 per cent, relevancy weightage of more than 0.75 and mean relevancy score of more than one were considered for final selection of statements. Accordingly, 22 statements were selected for clientete accountability and 29 statements for client satisfaction. Further, based on suggestions, of the judges the statements were modified after critical review and discussion with experts.

**Item analysis** For the purpose of item analysis the two sets of selected statements were administered seperately to two groups. The first set on client accountability to 60 extension personnel working in the state department of agriculture, state department horticulture, private agricultural consultancies, agri-business tirms and Non Governmental Organisations (NGOs) in non-sample area, Bangalore district. The other set of 29 statements selected for client satisfaction scale were administered to 90 farmer clients of the state Dept. of agriculture horticulture, etc. The responses were obtained on a three point continuum viz., Agree (A), Some What Agree (SWA) and Dis Agree (DA) with a score of 2, 1 and 0 for positive statements and for negative statements reverse scoring was adopted, i.e., 0, 1 and 2 respectively. The client- accountability score for each individual on the scale was computed by summing up of all the statement responses for the first group . And client satisfaction scores were worked on each individual farmer for the second set on satisfaction.

**Computing 't' values** For the purpose of evaluating the statements, the respondents were arranged in ascending order based on individual perception scores for each set of statements comprising criterion group. 25 percent of the respondents having the high score and 25 per cent of the respondents having the low score were taken.

The 't' value for each statement in the two scales was calculated seperately by using the following formula :

$$t = \frac{X_H - X_L}{\dfrac{\sqrt{\sum X^2_H - (\sum X_H)2 / n + \sum X^2_L - (\sum X_L)^2 / n}}{n\,(n-1)}}$$

Where,

$X_H$ - The mean score on a given statement for high score group

$X_L$ - The mean score on a given statement for low score group

$\sum X^2_H$ - Sum of the squares of the individual scores in the high score group

$\sum X^2_L$ - Sum of the squares of the individuals scores in the low score group

n - number of respondents in each group.

The 't' value is a measure of the extent to which a given statement differentiates between the high score and low score groups. The 't' value equal to or greater than 2.05 ($n_1 + n_2 - 2$ df at 5 per cent) in case of client accountability scale and 1.96 in case of client satisfaction scale indicating the average response of high and low groups to a statement differed significantly. Thus 18 statements on five attributes (12 positive and 6 negative) statements with discriminating values were retained in the final scale to measure client accountability and 26 statements on 5 attributes (15 positive and 11 negative) with discriminating values were retained in the scale on client satisfaction.

**Reliability** Consistency of the two scales was measured by employing test-retest method. which indicates the stability and consistency of the item responses by the same respondents over time. The test were conducted on 30 respondents from non-study area (Bangalore district) on two occasions at a gap of f 30 days after the first administration. The Pearson product moment correlation co-efficient (r) between two scores was worked out for both the scales seperately and the r values were, .89 and .87 for clientele accountability and client satisfaction scales respectively. As the co-efficient was very high, both the scales are reliable tools.

**The split - half method** was also used for assessing internal consistency of the scales developed. The half -test reliability co-efficient was calculated by using Pearson product moment correlation co-efficient, it was found to be 0.83 for client-accountability scale and .76 for client satisfaction scale.

The reliability co-efficient for the whole test ($r_{11}$) were estimated by applying 'Spearman Brown Prophecy Formula' which were 0.91 and .86 for client accountabiliy and client satisfaction scales respectivity. As the co-efficients were relatively high, the tests developed are reliable.

**Validity** The face validity and content validity of the two scales were ensured by following meticulously all the steps in item collection and their selection for inclusion in the scale.

**Intrinsic validity** Guilford (1954) defined intrinsic validity as "the degree to which a scale/test measures what it measures". ╮ s can also be stated in terms of how well the obtained scores measure the scale's true-score components. The validity is indicated by the square root of the proportion of true variance, which is also known as the square-root of reliability. Another name for this statistic is the index of reliability (Guilford, 1954). The intrinsic validity of the scale on accountability worked out to be $\sqrt{0.89} = 0.94$, and for the scale on client satisfaction it worked out to be $\sqrt{0.87} = 0.93$, which indicated that the two scale possessed high intrinsic validity.

**Method of scoring** The final scale to measure client accountability (annexure 1) consisting of 21 (10 positive and 11 negative) statements can be administered to the respondents on a three point continuum viz., Agree (A), Some What Agree (SWA) and Disagree (DA) with a weightage of 2, 1 and 0 for positive statements and reverse scoring system for negative statements.

Based on the scores o ained by the respondents they may be categoried in to three categories (≥ Low = mean - 1/2 SD, Medium = Mean ≥1/2 SD & High = ≥Mean + 1/2 SD) taking mean and standard deviation as measure of check.

The standardized scale will have practical applicability in ascertaining the client-accountability of extension personnel in public and private extension organisations.

The final scale to measure client satisfaction (annexure 2) consisting of 26 (15 positive and 11 negative) statements can be administered to the respondents on a three point continuum viz., Agree (A), Some What Agree (SWA) and Disagree (DA) with a weightage of 2, 1 and 0 for positive statements and reverse scoring system for negative statements. The dimension wise the possible maximum and minimum score ranges as follows;

| Dimensions | Maximum score | Minimum score |
|---|---|---|
| Relevancy | 12 | 0 |
| Quality | 12 | 0 |
| Usefulness | 14 | 0 |
| Customer service | 14 | 0 |

Overall client satisfaction score ranges from 52 and zero. Based on the scores obtained by the respondents in each dimension, they were categories in to three categories (≥ Low = mean - ½ SD, Medium = Mean ± ½ SD & High = ≥ Mean + ½ SD) taking mean and standard deviation as measure of check. Further, based on the overall client satisfaction scores obtained by the respondents, they were categories in to three categories (Less satisfied = ≤ mean - ½ SD, Satisfied = Mean ± ½ SD & Highly Satisfied = ≥ Mean + ½ SD).

The standardized scale will have practical applicability in ascertaining the client satisfaction in public and private extension organisations.

**Standardized scale to measure the Client - accountability of extension personnel in public and private extension.**

Here is a list of client - accountability statements. Please record your responses by putting a mark (√) in one of the three-point continuum, viz., Agree (A), Un Decided (UD) and Dis Agree.

| Client - accountability statements | Response categories A UD DA |
|---|---|
| I provide appropriate advisory services to clientele. I keep myself upto date with scientific information, which are useful to clientele | |
| I collect information from different possible sources to solve the problems of clientele | |
| I don't have defined objectives for serving my clientele | |
| I take the responsibility for cliental's success or failure | |
| I am competent to provide the required services for my clientele | |
| I don't accept increasing workload to fulfill the needs of the clientele | |
| I am not motivated to serve to the satisfaction of clientele | |
| I feel, serving my clientele is a better opportunity to me in my life. | |
| I feel, it is possible to increase client's income by my continuous guidance | |
| Before advising my client, I do a lot of exercise to take correct decision. | |
| I am not concerned about my clientele's over all development | |
| I enjoy serving for the betterment of my clientele I am not confined to only advising on transfer of technology to my clientele | |

I am not interested also, I work more for my clientele

Without incentives also, I work more for my clientele

My decisions and suggestions are always in consultation with clientele.

I give more importance to meet the organizational target rather than clientele's requirements.

**Standardized scale to measure the Client- satisfaction in the public and private extesnion** Here is a list of statements under each dimension of the client satisfaction. Please record your response by putting a mark ($\sqrt{}$) in one of the three-point response continuum viz., Agree (A), Un-Decided (UD) and Dis Agree (DA).

| Client - accountability statements | Response categories A UD DA |
|---|---|
| **Relevancy of Extension Service** | |
| Distributes relevant literature | |
| Services are compatible with the overall farming system | |
| Services exhibit less practicability | |
| Timely availability of relevant inputs is difficult | |
| Provides relevant market information | |
| Services are not client need based | |
| **Quality of Extension Service** | |
| Information provided is up to date | |

Information communicated is not understandable

Employs less appropriate teaching methods

Ensures unbiased information

Subject matter presented is not well organized

Ensures timely service

**Usefulness of Extension Service**

Creates general agricultural development awareness

Impart information on routine old technologies

Provide limited help to make timely decision

Help to solve farming problems

Promotes eco-friendly and sustainable technology transfer

Develops vocational efficiency

Develops new forms of local institutional like SHGs

**Customer Services of the Agency**

Friendly and courteous extension personnel

Farm visits are not convenient for clientele

Extension personnel take care on clientele

Extension personnel are less motivated to serve

Ensures regular and continous farm visits

Services are flexible in nature

Extension personnel are less accountable to clientele

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