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**STRUCTURED INTERVIEWS AND FIRM
ACCEPTABILITY**

by

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ABSTRACT (within 250 words)

This paper discusses the structured interview technique for cross-cultural studies on the acceptance of fertility regulation methods (FRM). Procedural requirements like purpose, preparation of the schedule, sequencing response structures, scaling reliability, validity and authenticity, interviewer and his personality, respondents, interviewing process, type of data yielded and data collection procedures have been discussed. A methodological note on designing research to study the attributes of fertility regulation methods has also been appended. This deals with a combination of different scaling techniques. This paper has practical relevance to product attribute researches.

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STRUCTURED INTERVIEWS AND FRM ACCEPTABILITY

Udai Pareek and T. Venkateswara Rao

Structured interview as a method of data collection for studying FRM acceptability may be very valuable in cross-cultural researches for several reasons. In many cultures people may not be fully literate to fill out a questionnaire. The motivation to complete a questionnaire may also be low. The interviewer establishes a relationship, and answering questions asked in an interview situation may be easier. However, structured interviews impose some requirements on the interviewers. Many good accounts of the structured interview as a research technique are available (Cannel and Kahn, 1968; Kahn and Cannel, 1957; Richardson et al, 1965).

They are raising some important practical points in this note.

Procedural requirements

Structured interviews involve a careful structuring of questions, and there are many important requirements needing attention. Some of these are mentioned below.

1. Purpose

The purpose of the interview should be very clear from the beginning. The interview schedule may be prepared either to collect preliminary information about the new and potential FRM, or it may be prepared to find out definite attitude of people towards using a particular practice. As far as possible, the interview should be prepared to test certain hypotheses based on some preliminary information about the community in which the FRM research is to be done. For example, if the investigator has a hunch that the culture and habit patterns of a particular community are likely to come in the way of accepting a potential FRM, the study may be designed to test out such a hunch. Or, a study may be designed to find out the preferences for FRM attributes in a given culture. If the purpose of

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interview is to collect preliminary data, then, the form of the interview will be different. However, if the purpose is to test some hypotheses, the form will require preparation of structured questions which may help test such hypotheses.

2. Preparation of the schedule

Since the structured interview depends on the schedule to be used in the interviewing procedure, the schedule should be carefully prepared. One important factor is size of the schedule. An optimum time of duration of the interview should be worked out, based on the experience of the interviewers in the field. Usually, no interview should last more than an hour. Longer interviews are likely to create boredom in both the interviewees and interviewers and affect responses and their interpretation. The size of the schedule should be kept as short as possible. Sometime it may be necessary to include questions which are not used in the final analysis for purposes of establishing rapport, providing logical continuity to questions, maintaining the interest of the interview and for a meaningful termination of the interview. Such questions however, have the danger of unduly prolonging the interview and should be included only after careful weighing of the purpose of they serve vis-a-vis the length.

3. Sequencing

Another aspect of the interview schedule is the sequencing of questions. This requires much attention. Fertility regulation methodology is a very sensitive area, as it has to deal with sexual material directly or indirectly. The benefit of privacy available to the respondent in a questionnaire (mailed or otherwise) is not available to him in a face-to-face structured interview. Getting reliable responses on matters of privacy and taboos requires extra skills and efforts on the part of the interviewer. Ensuring cooperation, helping the respondent to get over inhibitions and give reliable responses puts extra responsibility on the interviewer compared to the usual field investigators. Hence the interview situation in this area needs skillful management. The important aspect of interview management is sequencing of the questions. Questions which are likely to pose some threat to the respondent, or which are likely to be seen with some suspicion, may not be asked in the beginning. Even, questions relating to the socio-economic status of the individual, information about some personal aspects, etc., are likely to be threatening to respondents in some cultures and may be asked at the end of the interview rather than in the beginning. Similarly, some sensitive questions may be

postponed and may be asked only after rapport is established with the respondent. Sequencing also requires some other considerations like linking questions, those that may lead naturally to some other aspects.

4. Question and Response Structures

Another aspect is the structuring of the questions. The interview schedule should be prepared in some stages. In the first stage, the schedule can be prepared tentatively based on the knowledge of the interviewer. However, this should be pre-tested in the field, and responses from some respondents may be analysed to see if the questions kept in the interview schedule require some change. It may be useful if the interviewer in the pre-testing phase asks the respondents whether these questions cause embarrassment to the respondent, whether the respondent finds it difficult to answer honestly these questions, whether the questions are too complicated, vague, etc. This kind of pre-testing may help to modify the questions. Sometimes it may be useful for the interviewer to listen to the responses to certain questions in the field. The use of tape recorder may help in analysing responses from a few respondents and modify the interviewing patterns. Kahn and Cannel (1958) have given examples of some medical practitioners who were amazed at their ineptness of asking questions, after listening to the taped interviews they had conducted. The interviewer may be surprised sometimes to know how he has been asking the questions and what their unintended consequences are. The pre-testing may also involve the getting of information about the length of the interview, sequencing of questions, reaction of the respondents, the way rapport is established with the respondents, etc. It may be necessary to include some information component before a question is asked. For example, before asking the respondent to indicate his preferences for the mechanical, surgical or chemical mode of action of the method it may be necessary to explain these modes giving examples for each. That would ensure control of knowledge factor to some extent in the attribute studies.

The structured interview also requires structuring of the responses to some extent. The advantage of the structured interview is that the various responses can be precoded, and the respondent is required to select one of the several responses. This helps in quantifying the response data and ensure uniformity of data collection. In order to precode the answers, it may be useful to have some field work and explore the possible response categories for each question.

Various categories for precoding answers will have to be developed on the basis of such a preliminary interview. Such categories developed on the basis of field work, and not desk work would make the interviewing process easier and reduce methodological problems. Use of unstructured interview may be made for developing coding categories, and later test these categories in the field work. Pre-coding, of course, will have to be done on the basis of the requirements of data analysis.

5. Scaling

The unstructured interview can very well use some structured techniques like scaling. For this purpose, the various scales to be included should first be tested and standardized before including in the interview schedule. For example, pair comparison methods, and semantic differential may be used in the interview schedule. In fact, various kinds of scales which are usually used for collecting data can be incorporated in the interview schedule. The enclosed interview schedule which is given as a sample included some such scales.

6. Reliability, Validity and Authenticity

The interview schedule of a structured interview needs to be tested for its reliability, validity, and accuracy or authenticity. Well known methods are available for establishing the reliability (both internal consistency and test-retest reliability) and validity. However, a new concept of accuracy or authenticity is important in connection with the structured interview. One of the problems of the structured interview is to know whether the responses given by the respondents to the various questions are genuine responses, or they have been influenced by certain factors. This concept of authenticity is not contained either in validity or reliability. Some way to test the authenticity of the responses is necessary. This can be done in the pre-testing phase. After the preparation of the interview schedule, the respondents can be asked to indicate to what extent they were able to give frank and authentic answers, and to what extent their genuine answers were inhibited. The factors inhibiting such genuine answers may also be noted so that the schedule can be improved further. It is important to establish authenticity of responses for every culture in which interviews are conducted, even when the same standardized interview schedule is used. Cultural factors influencing authentic responses may differ and standardization of the schedule, scales used in the schedule etc. in one culture may not hold good in another culture. Besides the cultural factors various other factors contribute to lack of authenticity of an interview schedule. If care is taken to control these factors, the interview schedule may improve a great deal in its quality. One such factor is social desirability. If the answers are loaded with social desirability, i.e. either they are

highly desirable in a particular community or highly undesirable, the authenticity of the answers is likely to be low. If the structured interview involves multiple choice items, it may be necessary to match the social alternatives on social desirability. Authenticity is also influenced by the size of the interview. If the respondent feels tired and is exhausted with the long interview, he is likely to pay less attention to the questions at the end and give haphazard responses. The motivation of the respondent in answering various questions is also important. If the respondent feels that the topic of the interview is not of much significance, then, he is not likely to take the interview seriously. The interviewer may take some care to communicate in the beginning the importance of the topic to the respondent. Equally important is the significance which is attached to the respondent. If the interviewer is able to communicate in the beginning how important it is to get responses from the respondent to the various questions asked, the respondent is likely to take interest and answer questions seriously. The attitude of the interviewer and the communication of this attitude to the respondent may also influence authenticity of the answers. The interviewer should put questions which do not reflect his bias and his views. In many cases, especially in villages in developing countries, respondents are likely to give answers which they think the interviewer wants from them. They may genuinely try to please the interviewer, and once they know what the interviewer would like to hear, they are likely to give good responses. Bristin et al (1971) have mentioned the following biases as causing problems of communication between the interviewer and the respondent: rudeness bias, I-can-answer-any question bias, courtsey bias, sucker bias, hidden premise bias, reticence-loquaciousness bias, social-desirability bias, status-difference bias, social difference bias, individual-group opinion bias.

7. Interviewer and his Personality

The interviewer is extremely important for the successful use of the structured interview. In FRM acceptability studies, the sex of the interviewer may be a very crucial factor. In some cultures man and woman may like to be interviewed only by the members of their own sex. In a study conducted at the Planning Research and Action Institute, Lucknow the sex of the interviewer (who was a social worker) was found to have great influence on eliciting cooperation and responses.

The personality of the interviewer is also an important factor. Richardson (1965), in a study, has reported that the most competent and experienced field workers in interviews were found to have strong value judgments as reflected in the TAT. This shows that those interviewers who have definite views and commitments are likely to succeed more.

He further reports that "the effective interviewer enjoys people, seek friendly relations with them and has insight in the complex of feeling relationships among widely varying types of people. He is a persistent evaluator and judge of himself and others, and he possesses considerable latent hostility." (Richardson et al, 1965, p.356). The use of such researches on the personality of the interviewers can be made while preparing them for interviews. The interviewer's education, appearance and style are also important factors. Unless the interviewer is well acquainted with the various methods on which he wants to interview people he is not likely to be effective. For example, interviewers working in rural parts of India are likely to encounter several questions from the respondents seeking guidance. People would be eager to share their problems and would perceive the educated interviewer as a source of help. This is specially so because many people identify an educated man as a specialist in everything. If the interviewer cannot be of help in such information and guidance seeking situations, the authenticity of the responses would be affected. It would also be embarrassing for the interviewer, for he is encroaching upon their time without being able to satisfy them and their queries. The commitment of the interviewer to family planning is another crucial factor. In several field studies done in India, it has been found that if the interviewer lacks commitment, he is likely to communicate this to his respondents and he may not succeed in getting authentic answers. The interviewer should learn to be patient and not get annoyed with the answers he may think are not according to his expectations.

The dress, mannerisms, language etc. of the interviewer are likely to have effect on the interview and responses elicited. If he appears like an officer with a suit, necktie and long side burns he is likely to create a distance between himself and the villager if the community has some stereotypes about such appearances. People in general confide in strangers in disclosing personal matters. However, in cultures where strangers are not trusted local investigators will have to be identified and trained.

It may be useful if a separate manual for the guidance of the interviewing is prepared and the interviewers are trained with such a manual. The manual may contain detailed explanations of the items, and instructions for conducting interview and coding responses.

In order to prepare the interviewers to play their role effectively it may be useful to have a good training programme for preparing them. The role playing methods can be used to test how the interviewers behave. Various dimensions can be tested in such role play sessions. The use of tape recorder may also be made by recording some sample interviews and analysing them. The interviewer may learn a great deal while listening to some sample interviews he conducts in the field. Brislin et al (1973) have suggested the following areas of training of interviewers:

lectures on content of the interview schedule and purpose of interview, modelling sessions on effective interviews, demonstrations of survey, bias to ridicule them, information on wording and languages problems practice on other candidates, training in the specific content area, a full scale field test with the possible termination of the interviewer.

8. The Respondents

Equally important is the respondent in the interview situation. It may be important for the interviewer to know how he can get the respondent all alone so that there may be some privacy for the interview. It may be useful for the interviewer to see to what extent the respondent knows the terms he is using. One problem is to communicate some technical terms the interviewer wants to use in the interview. This problem is more so when the respondent is not familiar with different FRMs.

One important consideration is about who should be interviewed. In one field situation, one of the authors realized that some members of the family in the villages in one part of India were better respondents than some other members. After a very unpleasant and disappointing experience, it was revealed that some members of the family played the role of good "public relations" people, and they would sit in their drawing rooms and respond to the various interviews according to what they thought the interviewers wanted them to respond like. So, their responses were not authentic. However, some members from the same family responded more frankly. It may, therefore, be useful for the interviewer to know such likely biases. He may, therefore, consult persons who are likely to be more useful in giving genuine responses.

Related to this is the question of sample selection. The sample to be selected depends upon the design of FRM attribute studies. Acceptance eventually is by the users. Data, therefore, should be collected from the users than the diffusers or change agents. While this is true with most of the innovations in general, FRMs have a special advantage of collection of data from those working in family planning clinics etc. (like the doctors, social workers, nurses, and other paramedical personnel) as they provide important service to the community besides change agents. They have the unique advantage of contacting potential users having problems. Data on FRM attributes contributing to acceptance may be collected from such medical and paramedical personnel also and these should be used to supplement data collected from users through field studies. Roleplay-response-scaling exercises, where the respondent (the doctor etc.) could be asked to imagine himself as an average user and answer questions might help to get better results.

Even when an interview schedule has to be given to potential users their educational background might permit sophistication in questions. For example, a seven-point Semantic Differential may do well with some of them, whereas only a three-point scale could be used with the less educated. Hence, even in a structured schedule, while the questions may remain the same flexibility for all, for minor methodological variations may be made to suit the situations. Such variations would no doubt break the uniformity of data and pose some problems of analysis. But it might provide several theoretical insights. Another variation may be to design special short supplementary questionnaires for educated respondents.

For purposes of cross-cultural comparisons interview schedules to be used should be the same. This requires translation of the schedules into several languages. Translation itself poses a methodological problem specially in using scales like the Semantic Differential where bipolar adjectives should be comparable across cultures. The assumptions inherent in the method contradict with such cross-cultural comparisons. In order to ensure commonness translator reliabilities need to be established. The problem of translation of the questions and suggestions to improve translation have been discussed by Brislin, Lonner and Thorndike (1973). Hynes (1970) suggests that the social scientists carry out a linguistic pre-test before actual interviewing in any culture. Besides the translation reliabilities, inter-interviewer reliabilities need to be established. Training the interviewers on some of the dimensions mentioned above might increase such inter-interviewer reliabilities.

5. The Process of Interviewing

It is very important that the interviewer establishes rapport in the beginning of the interview. The preliminary questions in the interview schedule, therefore, may be for the purpose of establishing such relationships. The preliminary part of the interview may also be devoted to the establishment of the importance of the subject and the importance of the respondent, so that the respondent may feel that by giving responses he is contributing to a significant research or collection of data. This may help to establish high authenticity of the data. The art of listening to the respondents, and getting responses is also important. Even in a structured interview, listening to the respondents is extremely important.

Some respondents are very vocal and eager. In their eagerness they keep on talking several things in response to a single question.

Such cathartic responses might provide authentic data and several insights. But they have the danger of side tracking and prolonging the issues. The interviewer has to deal with them skillfully. When scales are used, it is better to check back with the respondent than to scale the respondent on the basis of his cathartic response.

The interviewer may also learn how to avoid monotony of interviewing. He may also learn after some time to skip certain questions and to change the sequencing of questions according to answers which are being received. The interviewing process should not be taken as rigidly following the same pattern which has been established in the schedule. The schedule is important and all the answers should be taken down according to the precoded categories. However, the sequencing etc., can be changed and the main purpose of the interview should be to code genuine responses and help the respondent give his frank opinions.

Type of Data Yielded

The following broad types of data are obtained through the structured interview techniques of FRM acceptability -

1. Background Data

Background data on variables like age, sex, parity level, socio-economic status, education, occupation, culture, place of living, level of knowledge of current FRMs, intentions to use FRMs etc. As these variables would be potential contributors to variance in FRM preferences and attribute preferences, these should be noted. They may provide equally good insights into the effectiveness of FRMs. These background characteristics of the users in interaction with attributes of methods determine the degree of acceptance of a method. Each of the above variables are important. They do not pose problems of quantification as several techniques of quantifying them are reports in literature. However, differences hypothesized in one culture on the basis of these variables may not hold good in another culture. Secondly uniformity in categorizing the respondents may be possible for some variables but difficult in others. For example, categories of sex, age, educational level can be uniform over cultures compared to socio-economic status. Besides coding the data of some variables into ordinal and nominal scales, data of continuous variables like age etc. could be retained as such for correlational analysis.

Categorical Data of Attributes

Another set of data yielded would be preference data for different categories of attributes. For example, frequencies or proportion of persons preferring mechanical devices to others, or surgical methods to others or chemical administration to others etc. would be known. Preferences for these categories could be further scaled if ranking is used. In this case also we get ranked weightages for each category. For most of the objective attributes such data will be obtained. If the preferences are to be scaled in the interview, using ranking or a similar method, it is possible to have a weighted score of preference for each category for a given sample. Such weighted category scores might be more useful than scores based on frequencies only.

Scaled data for Higher Order Statistical Analysis

Scaled data are also obtained through interview schedules. For example, when Likert techniques, Semantic Differential technique etc. are used it is possible to obtain scale scores for different methods and for some attributes. Such data are more appropriate for scaling methods than the attributes of methods. For example, paired comparison, Thurstone technique and modified Q sort techniques could be used for assessing preferences for different FRMs. A Likert scale of importance could be used for assessing the degree of importance the respondent attaches to each attribute in the selection of a suitable method for use. Such scaled data would be very useful in final analysis and can uncover several theoretical relationships.

Besides these other types of data like follow-up-data on specific methods, hypothetical preference data for hypothetical methods etc. could also be obtained. As mentioned earlier, some data are not to be used for analysis, where questions are included for rapport building and logical purposes.

Data Collection and Processing Requirements

The construction of any interview schedule should have side by side the construction of a response coding sheet for case of response analysis and quantification. Construction of the coding sheet helps clarification of the methodology of framing the question and make the analysis easier at later stages. Frequencies and scale scores are going to be two main types of data from the respondents. The response coding sheet should provide space for the total scale scores. The

possibility of direct transfer of data from the response sheets to computer cards might be kept in mind in designing response coding sheets. This may help save time.

For data in the form of categories non-parametric statistics and for scaled data correlational etc. analysis are likely to be used. Analysis of variance would be based on the respondent background data mentioned earlier. Collection of all the data from each respondent would make the task easier in final analysis. Unfortunately due to high heterogeneity of backgrounds, this can be rarely achieved in cross-cultural research and in a diverse area like FRMs.

It is highly desirable to code the data on the response code sheets on the spot, as the question is answered. This would take time for the interviewer in the beginning. Interviewer might feel that such coding takes away both his and the respondents' time, and he may be tempted to postpone coding after the interview. However, the interviewer may learn to do coding simultaneously with practice. Some training will help learn the skill. The disadvantage of coding after the termination of the interview is the halo effects and other biases acting on the memory of the interviewer. If coding on a separate sheet creates problems coding could be done in the schedule itself, or the schedule could be so designed as to eliminate this problem. Coding on the spot also ensures correct understanding of what the respondent meant.

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Appendix 1DESIGNING RESEARCH TO STUDY THE ATTRIBUTES OF FRM

It may be very useful to identify desirable and undesirable attributes of methods of fertility regulation in a given culture and across cultures. Such knowledge is presumably helpful to biomedical scientists in inventing new methods that can have more acceptability and to redesign the existing methods so that their acceptability is increased. There are several questions raised in the terms of reference of the Task Force in relation to this objective. The designs suggested in this note may help to answer some of these questions.

Acceptability of an FRM is a function of the personality of the user (UP), the perceived attributes of the FRM (MA), the sources of influence (IS), and the process of communication (CP) : Acceptance : f (UP, MA, IS, CP). The attributes of an FRM do not influence the adopter in isolation -- these interact with his personality (knowledge, attributes, values, personality characteristics), the sources of influence (family, friends, community leaders, change agent, medical and para-medical personnel, mass media, etc.), and the process of communication (method of influence, relationship between the user and the source of information, etc.). While studying the attributes, and using the results of such studies, this interactional relationship should be kept in mind. This note, however, focuses only on the attributes.

Attributes of FRM are important only when perceived by the user. So, in a way, while talking about attributes, we are talking about perceived attributes. However, we can classify the attributes in three categories: objective, subjective and stereotypes. Objective attributes are the known attributes of the FRM and are more or less culture-free. The following attributes could be considered to fall under this category: Gender of the user, action (prevents conception or birth), action (chemical, mechanical, surgical, etc.), organ systems implicated, route of administration, circumstances of use, skills required in administration, duration of effect, and other physical properties.

The subjective attributes are those that depend more on the perception of the user than on the facts. For example, the frequency of use (which is linked partly with the frequency with which the client likes to use it), perceived effectiveness (whether he sees it as a risky method or safe method), the client's perceptions and fears about

the side effects, perceived safety of the method, perceived convenience in obtaining it and using it, familiarity, cost, secrecy involved, pain experienced during and after the use of the method, consumption of time, preparation needed for use, tension experienced, disposal requirements, detectability, feelings of its presence and concern created by it, physical and psychological interference with libidinal pleasure, etc.

Stereotypes are the attributes people come to associate with a particular method, and which have no basis. For example, the belief in a particular community that IUD or the condom causes cancer is a stereotype. Although these have no basis, such perceived attributes (stereotypes) greatly influence the use of the method. Before any study of the attributes is undertaken, it may be useful to collect such stereotypes from the community through open-ended interviews.

Attributes can also be classified as positive and negative. Positive attributes are those perceived attributes that help, and the negative attributes are those that hinder the acceptance of a method.

Some Suggested Designs:

Below are briefly mentioned possible studies in this area.

1. Weightages for the Attributes: It may be useful to find out the perceived attributes of the most popular and the least popular methods. The most popular and least popular methods in a given segment of the population can be identified. This merely involves a statistical analysis of data available from several countries. Differences in the perceived attributes (objective, subjective, stereotyped) of both these sets of methods can throw light on the positive and negative attributes. A popularity index could be established for each of the available methods in a given culture, and the contribution of the different attributes of the method to its popularity index could be statistically analysed. It may, however, be noted that the popularity of a method may be influenced by factors like knowledge about the method, its availability, special emphasis given by the Government or other agencies in popularising it, age, socioeconomic status, parity, etc. It may be good to control these factors.

Such a popularity index can be determined by the paired-comparison method, using different FRMs in pairs and scaling the preferences for different methods. While making a preference in a pair, the respondent may be asked to list those attributes that make him

prefer one method, and those that make him not to prefer the other in the pair. From the data the proportion of people mentioning each attribute while preferring or rejecting a method, can be obtained. Multiplying the proportions with the popularity indices of the methods can give the weightage (importance) of the different attributes. The model is presented in Figure 1.

2. Importance of Attributes: The problems associated with each of the methods can be investigated. Taking each method, the respondents may be asked to list attributes of the method under categories: (a) those they consider as totally undesirable and they cannot tolerate, (b) those attributes they can tolerate but would better like if they can be taken care of, (c) those attributes they don't bother about, and (d) those attributes that can add to the acceptance of the method. Collection of such attributes from the population through an open-ended interview can yield two categories of attributes: essential (desirable or undesirable) and marginal. Attributes mentioned for several of the methods under each of these categories could be gathered together for analysis. For each attribute an analysis of the frequency of responses under the various categories may give useful data on the importance of the attributes.

3. Combination of Attributes: A study of the desired combinations of attributes for a hypothetical method may be useful. The respondent can be asked (after an explanation of the different attributes of the methods) to indicate the combination of attributes he would prefer for accepting a hypothetical method of fertility regulation. One method may be to ask the respondent to indicate his preferences for the various attributes listed, in order to accept without hesitation the given hypothetical method. This would yield for each individual a set of preferred attributes. Summing up from a selected sample of people from a given culture those attributes that are most often mentioned may give an indication of their relative strength for the acceptance of the hypothetical method.

A variation of this design would include the presentation of the list of attributes to the respondent and asking him to rate these attributes on a 5-point scale of desirability. However, such rating may not be able to give the desired combination of attributes. In fact assessment of an optimal combination of the preferred attributes is difficult as many permutation and combinations are possible with a given set of attributes. A way out of this difficulty can be found by asking the respondent to indicate the minimum desired attributes if he has to accept the proposed hypothetical method, and the minimum for the tolerance

of the proposed method. Similarly, the combination for rejection of the proposed hypothetical method can be found. Such combinations of attributes would help take out the common attributes and assess their strengths.

4. Scaling of Attributes: Several methods of scaling can be used to find the importance of the attributes. Some of these are suggested below:

(a) Equal-appearing interval technique: A 11-category desirability scale may be presented, the first category representing the most desirable attribute and the 11th category the least desirable attribute of a method. An exhaustive list of the attributes may be prepared with each attribute on a slip. The respondent may be asked to distribute the attributes in this 11-point category system with equal appearing intervals. Scale values may be established in Thurstone's equal appearing interval methods.

Scale values could be worked out separately for males, females, different culture groups, different socioeconomic status groups and so on. These can give the strengths of desirability or undesirability of each of the attributes to guide future biomedical research.

Scaling on the basis of responses of the experienced doctors, nurses, and other paramedical personnel working in family planning clinics can be very valuable as their ratings would be based on their practical experience. They may be asked to judge the attributes keeping in view their experience with their clients. However, scaling through on the basis of responses from users would give more direct data on potentiality of attributes.

(b) Q-sort technique: Another useful technique for scaling the attributes is the Q-sort technique. The original Q-sort needs to be suitably modified to get the perception of the essentiality and marginality of the attributes.

(c) Summated Ratings Technique: Likert scale technique can also be used (5-point scale) for the scaling of attributes. One suggested 5-point scaling is given below:

1. Essential for the acceptance of the method.
2. It would increase the acceptance of the method.

3. It is not of any consequence in the acceptance or rejection of the method.
4. It would retard the acceptance of the method.
5. It would lead to straight rejection.

Another procedure would be to get imaginary descriptions of methods. The respondents could be asked to describe what they think would be a most suitable method for them and how it looks like and what attributes it would have. Content analysis of responses to such a question would hint at the combinations of attributes that would increase the acceptability of methods.

(d) Semantic Differential Technique: A list of attributes can be prepared after open-ended interviews, and some 20 scales with bipolar adjectives can be prepared. For simplifying administration, 3-point or 4-point scales should be used. The various known and current methods, as well as the new methods to be developed can be rated by the users on these scales. Factor analysis of these data may give a picture of the internal structure of the attributes, and can give leads to prepare new scales of attributes.

(e) Pair-comparison technique: If a shorter list of attributes can be prepared, after factor analysis, the pair-comparison technique can be used to prepare scale values for the importance of the attributes. Pair-comparison is a very useful technique for collecting data even in less literate societies. Instead of pairs, triads can also be used.

5. Multivariate analysis of attributes: Multivariate analysis designs can be used to analyse the contribution of FRM attributes to their acceptability. These may include factor analysis, multiple regression analysis, and discriminant function analysis. To give one example, various contrasting samples of various FRM acceptors can be taken (those who prefer most, and those prefer least a particular technique). The ratings by these extreme groups of acceptors of the various attributes of FRM they prefer most (and prefer least) can be used to run discriminant function analysis of the attributes for each FRM, and an analysis of the significant clusters of attributes for the various FRMs may give insight into the combination and pattern of the FRM attributes contributing to acceptance.

Figure 1

A suggested Model of Analysis for Studying Weightages of attributes in relation to the acceptance of FRMs

	M_1	M_2	M_3	M_4	M_x
Popularity Index	Pm_1	Pm_2	Pm_3	Pm_4	Pm_x
Proportion of persons mentioning the attribute as a reason for preference of the method	$Pa_1^{m_1}$	$Pa_1^{m_2}$	$Pa_1^{m_3}$	$Pa_1^{m_4}$	$Pa_1^{m_x}$
	$Pa_2^{m_1}$	$Pa_2^{m_2}$	$Pa_2^{m_3}$	$Pa_2^{m_4}$	$Pa_2^{m_x}$
	$Pa_3^{m_1}$	$Pa_3^{m_2}$	$Pa_3^{m_3}$	$Pa_3^{m_4}$	$Pa_3^{m_x}$

	Pan^{m_1}	Pan^{m_2}	Pan^{m_3}	Pan^{m_4}	Pan^{m_x}
Proportion of persons mentioning the attribute as a reason of not preferring the method in relation to others	$Pb_1^{m_1}$	$Pb_1^{m_2}$	$Pb_1^{m_3}$	$Pb_1^{m_4}$	$Pb_1^{m_x}$
	$Pb_2^{m_1}$	$Pb_2^{m_2}$	$Pb_2^{m_3}$	$Pb_2^{m_4}$	$Pb_2^{m_x}$
	$Pb_3^{m_1}$	$Pb_3^{m_2}$	$Pb_3^{m_3}$	$Pb_3^{m_4}$	$Pb_3^{m_x}$

	Pbn^{m_1}	Pbn^{m_2}	Pbn^{m_3}	Pbn^{m_4}	Pbn^{m_x}
					$\sum Pa$
					$\sum Pa_1^m$
					$\sum Pa_2^m$
					$\sum Pa_3^m$
					...
					$\sum Pan^m$
					$\sum Pb_1^m$
					$\sum Pb_2^m$
					$\sum Pb_3^m$
					...
					$\sum Pbn^m$

- Notes:
- Scale values of $M_1 > M_2 > M_3 > M_4 > \dots > M_x$
 - $Pa_n^{m_x}$ = Proportion of persons mentioning an attribute a multiplied by the scale value (popularity index) of method m.
 - All $Pa_n^{m_x}$ are positive
 - All $Pb_n^{m_x}$ are negative
 - If the same attribute is mentioned by some as positive (in a) and some others as negative (in b) total weightage is the sum of both the weightages with sign.