

# Developing questionnaire base on selection and designing

## Abstract

The article reveal most of the problems that many researcher and academicians faced due to lack of proper knowledge on designing a questionnaire talk off guiding their student on how to design one. It shows the ultimate in providing material or data for a researcher to solve a problem also shows how a questionnaire will be worthwhile to be accepted generally for research purpose with a very clearly and simple format of design.

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## Introduction

In research methodology questionnaire aim in solving a quick problem of data collection. The more the researcher motivate and simplify his question and designing of questionnaire, the more likely he will get good number of respondent if not expectation of low rate will be the case. Questionnaires are used in clinical trial or cross sectional survey. The information to be collected has to do with individual behaviour, beliefs, attitude of people. With the guide on how researchers will be used to enable them design a questionnaire, errors used to immerge. When a questionnaire is not well design there will be error in the process of data collection which leads to mislead of conclusions and recommendations.

## Questionnaire definition

A questionnaire is more of science than art therefore is a set of questions with a space for answers used in assembling of information from respondent. Also a set of written interviews that can be carry out either by telephone or face to face [personal contact], group [focus] interviews, by mailed interviews which could be electronically mail or through web-based questionnaire is called questionnaire. Questionnaire helps the researcher in getting quick or easy, cheap and efficient means of acquiring large amount of information from a greater sample of people. Why data collection gives quick information is that the researcher most not be present during the survey. A problem of questionnaire is that respondent may lie due to social desirability, which is the respondents would like to express themselves by telling lies or making exaggeration. The researcher must consider the level of participant in designing his question so that it will match with the level of their educational background, ages, ethnicity, social class etc. the information generated from the respondent privacy should be kept with confidentiality example address, names etc.

## Types of questionnaire

For appropriate of a questionnaire, there are different types of method for research questionnaire that both use qualitative and quantitative data. These surveys questions are open-ended, closed, open response option and contingency questions. In a closed

questionnaire the data has to be categorical which is called nominal data example yes or no, good or bad etc. the information generated by qualitative data would be converted to quantitative data by counting the number of yes or no and good or bad. Closed questionnaire can also use ordinal data when ranked this can be done by using rating scale to measure the strength of emotion or attitude. Example; unable to respond, neutral, agree, disagree, etc. The designer should be careful not use word such as regularly and frequently. For instance don't say I frequently engage in exercise and then expect response like strongly agree or strongly disagree. Frequency response should be at least once daily or twice daily and so on because frequency mean frequently. While regularly example is by saying an individual would engage on exercise once in a regular month where another would engage four times a week. The closed design study helps in producing very urgent and summary data but lack details of low response and sometimes results to frustration. Most of the respondent would like to express them self, apart from the box for ticking yes or no annotation or free text box need to be added after a particular section or at the end of the questionnaire with a guide on how to fill the free text question in the same procedure. If a questionnaire design decided to use opened questionnaire or will allow comment of free text, advance planning has to be done on how to analyse the data, the skills for qualitative design if necessary. In an open questionnaire the questions are freely allowed for the respondent to express as much as detailed answers they like for themselves using their own word. Open question is used in a situation of complex questions that will not be answered in a few simple categories, but it will require more of detail discussion, it adds comment in depth and meaning. The open question is good for a qualitative data because of allowing the respondent to elaborate on their answers. It is also good to used when different responses are very large in quantity like size of farm where there is very large number. The disadvantage problem of data collection, it takes longer time for the respondent to complete the questionnaire, also time consuming for data analysis; the data has to be organizing according to category, answers also need to be summarized. The contingency questionnaire is a special case of closed ended question generally used for sub group of respondent, the researcher asked filter questions that are of special type where sub group will answers some set of questions which others

will skip to advanced section of the questionnaire. And the open response option questions basically reject the disadvantages of open and closed type of questions that says respondent will not be given room for different response to those suggested or respondent will be suggested with answers that he may not considered before. This question deals with both open ended and includes specific response option. For example what features types of an implement do you prefer, the options for the answers are; quality, price, performance, weight and other mentioned; this question have dual advantage, in this question the researcher avoided the ability problem of bad memory or poor articulation that subsequently comes across that will make him consider specific answer, which will make the recording of the responses to be very open. If the researcher decides to use interview method for data collection he should go alongside with the instruction of the question on how to go about the interview and were the answers will be recorded after the question especially when the interview is pointing for information. The timing frame during interview should not last longer than 30 to 45 minutes in a rural setting.

### Designing the questionnaire

Before designing any questionnaire the researcher must have the aim and objective to achieved and also putting in mind the duration of the questionnaire and time for the administering the questionnaire. The researcher must be familiar with the environment or subgroup of population that the questionnaire will be administered; understanding the area of the study is a key to success of getting a good response from a questionnaire. The researcher needs to communicate the reason for his study, his plan for using the data collection and importance of the study to the respondent after analysis. The questionnaire should be phrased and look professional in such a way that takes the attention of the respondent during presentation. The order of the questionnaire should start with easy questions and end with more difficult once, it is good for the respondent to return a smaller number of questionnaires with quality than to have much without accuracy or plenty of non-respondents. The researcher first should use small groups to test the questionnaire before exploring to required environment needed for further study. After designing the questionnaire, it will be good for the researcher to attach it with guide on how the respondent should answer the questionnaire. The person to administer the questionnaire must have the skills and understanding of what should be expected from him, he must be interested and cooperate throughout the study, so that he will asked the right question and record the right answers. Designing a questionnaire, the time for participation, the nature of research study (clinical trial, large scale survey, and feasibility study), also skill to adopt, and resources for the research all has to be plan ahead which is very important. If not the researcher will only waste his time and the participant time. The researcher will take note of those that are yea Sayers they incline always to agree with any statement relatively than to disagree, based on this, don't present your cases to be so much depending on strongly agreed. empherical study reveal that low responses resulting from the respondent is as a result of lack of clear and easy understanding of the question as such question has to be short and clearly, should be 12 word or less than that. After successful administering of the questionnaire, the researcher needs to do follow-up to remind the respondent. It is also good to motivate the participant by given them some incentives to boost their morals.

### Validity and reliability of questionnaire

Reliability means obtaining the probability of the same results at the end when result is repeated which is the consistency of the

question while validity mean whether the aim of measuring the question has achieved or not. The researcher is advised to use an existing instrument, laying hands on past published questionnaires that are valid help in saving energy time and money by doing this you can be able to make comparison with already published work of others and your own findings, then you make a summary detail only from their study. For instance if a study is related to health about a clinical trials normally designing the questionnaire have to include the knowledge about the patients disease measurement, satisfaction before and after the treatment or health relating to the quality of patient life etc. the questionnaire designing in status to health should not go outside the context of the question been develop because it will lose the transparency of the research. For a questionnaire design to be valid and reliable it has to be standard in administering, it must be precise and then flow the same for the entire participant.

### Problems of questionnaire

The said what is been measured get done well, a good design questionnaire provides a consisted result from imitated examples of different types of research over a particular time. No matter how best a questionnaire is in design, if it is not used properly, is going to be useless. Administration errors have serious effect on progress of the research study. For example given a questionnaire to a wrong person for instance questionnaire that is design for boys mistakenly given to girls. Unable to give instruction on how to fill the questionnaire, like the respondent does not know how to tick answers or the box. A large number questionnaire send out with 2000 respondent was missing from an envelope without the identity or address of the sender. Problem of questionnaires sometimes comes as a result of differences from the participant not from understanding how the questions are or how the observers interpret the question differently. People used to make mistake. For instance a questionnaire design to measure food that individual persons eat is invalid, reason is that it is measuring what they have eat, not what they normally eat. Again in health sector, the researcher should not ask the practitioner how they used to manage a particular situation rather than they should ask the real medical habit. Another problem of a questionnaire is that the respondent tends to give careless or jump answer due to fatigue or impatience, to correct such problems, it is advisable for the researcher to bring the important questions in the early part of the questions while less sensitive questions should be at the down of the questionnaire. This help to avoid cutting off some important point of information from the respondent.

### Piloting of questionnaire

a pilot study is small scale study that is conducted before the main study. It helps the researcher by studying small groups so that correction can be made before the main study which saves time, energy and money. Depending on piloting questionnaire from previous study, journals colleagues etc. would not permit the questionnaire to be valid and reliable; consultation of expert in those areas will make it to be more standard.

### Data analysis and conclusion

The questionnaire helps in generating data about behaviour, attitude, beliefs, opinion and knowledge of respondent. Many researcher think after selection, designing and administering the questionnaire that is all about a research. The workload is base on the aspect of dealing with the data. Before working on the data it has

to be organised, summarise, coded for easy understanding so that you can choose statistical software to be used for analysis. Based on the questions generated the researcher will be able to know which type of analysis to perform, so that hypothesis will be tested. The research hypothesis tends to solve research problems in clearly define manner. Hypothesis testing clearly describes the identification of most important variable in an operational term by providing testable statement with any available of research methods.

## Conclusion

In general conclusion to achieved the purpose of questionnaire the researcher need to put in place reliability and validity, format of the questionnaire, logical arrangement, knowledge, classification behaviour, perception of question, length and output of the questionnaire. The researcher also need be familiar with the environment to administer the questionnaire, choosing which type of format of question to use, normally the nature of closed question are difficult in application then easy to analyse by quantitative study while open question are easy to construct but difficult to analyse with qualitative study. Allocation of numeric code to each question will assist data entering in the computer for analysis.<sup>1-18</sup>

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## Conflict of interest

None.

## References

1. Adburn M, Norman, Seymour and Sudman. Improving interview method and questionnaire Design. 1979.
2. Birdie DR, Anderson JF. Questionnaire design and use. 1974. 30 p.
3. Kothari CR. Research Methodology Method and Techniques. 2004. p. 96–105.
4. Bird DK. The use of questionnaires for acquiring information on public perception of natural hazards and risk mitigation a review of current knowledge and practice. *Natural hazards and earth system sciences*. 2009. p. 1309–1315.
5. Esposito JL. Iterative, Multiple Questionnaire Evaluation Research. 2002;20(2):143–183.
6. Edwards P, Roberts I, Clarke M, et al. Increasing response rate to postal Questionnaire. 2000.
7. Ghazal L. A questionnaire of briefs on English language listening comprehension problems. Development and validation. *World applied science journal*. 2012.
8. Gillham B. Developing a questionnaire (real world research) London continuum, India. 2000.
9. Gillham B. Developing a questionnaire real world research London continuum. 2nd ed. India. 2009.
10. [Http://www.simplepsychology.org/questionnaire.html](http://www.simplepsychology.org/questionnaire.html).
11. Howitt D, Grammer D. First step in research and statistics london and Routledge. ISBN. 2000.
12. Petra M Boynton. Administering analysing and reporting your questionnaire Education and debate. *BMJ*. 2004;328(5):1372–1375.
13. Jamy R. Designing and using research questions. Questionnaire Design.
14. Ranjit Kumar. Research methodology step by step guide for beginners. 3rd ed. Landon; 2011.
15. Radhakrishna RB. Tips for developing a testing a questionnaire/ Instrument. 2007;45(1).
16. Saul M. Questionnaire design. Simple Psycology. 2014.
17. Yorshire and Humber Survey and Questionnaire: The N I H R Design Institute.
18. [www.oaacademy.org/survey](http://www.oaacademy.org/survey)