

## GIVING TWO ANSWERS TO THE SAME QUESTION: APPLYING SURVEY RE-INTERVIEWING TECHNIQUES IN QATAR.

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### Abstract

In order to evaluate the quality of its survey data, SESRI implemented since 2010 a system of re-interviewing a sub-sample of respondents. These re-interviews usually take place not more than six days from the date of the first interview for the original survey production. Results from these interviews are used as an instrument to analyze non-sampling error and to estimate response inconsistencies, to identify reasons for discrepancies for selected questions for the same respondents, as well as to determine interviewer cheating. Applying the Gross Difference Rate (GDR), Index of Inconsistency (IOI) and Reliability Rate (RR) to estimate variances in respondents' answers, this paper presents the results of the re-interviewing study of the 2012 Qataris' Attitudes Towards the Foreign Workers in Qatar. The results are intended for researchers and data collection organizations to improve the quality of data they collect and use.

**Keywords:** Survey, Quality, Index of Inconsistency and Reliability Rate.

### INTRODUCTION

Since 1984 census in Qatar state; a lot of surveys in various aspects and for different purposes have been conducted, however there is few information about methodological studies in survey data quality, in particular variances in respondent's answers, interviewer falsification or interviewing errors'.

In general response errors often occur as a result of problems related to questionnaire design, interviewer, respondent or processing errors, and there are many methods for measuring errors resulting from the respondent and interviewers for non-sample errors in survey research, which have a large impact on data quality, and there are several techniques to supply these methods such as check studies, change the data collection methodology, change the questions or the questionnaire as a whole for a selected sub sample from the original sample or use Cognitive Research Laboratories, One of the most important methods to estimate respondent and interviewers errors is re-interview, (Daniel Kasprzyk, 1999), which have been usually used to measure data quality of surveys (Forsman and Shriner 1991).

Participation in polls in Qatar is similar to all studies in the world which is voluntary and guarantee the confidentiality of the data, but there is no incentives for participation, so all participants in the Qatari Attitude towards foreign worker (QAF) production (CAPI) and re-interview (CATI) were willingly involved.

### STUDY AREA

The objectives of this paper is to present the findings of the re-interview study conducted in Qatari Attitude towards foreign worker survey (2012) in Qatar state, to collect information on:

- Response Inconsistencies
- Identify reasons for discrepancies for identified questions
- Determine interviewer cheating, and,
- Estimate re-interview response rate using CATI (Computer Assistance Telephone Interview)

### METHODOLOGY

In a period not more than six days from the date of the first interview for the original survey production QAFS 2012 (Qatari

attitude towards foreign worker survey 2012), and not less than two days, callback was executed to a selected random subsample from the respondents in the survey, all selected respondents in the callback were asked to answer Four questions from the original questionnaire.

Accordingly; the surveying mode and interviewers have been changed in the re-interview. The similarity between the original production sample and the re-interview subsample has been taken into account, not only the population distribution according to zones and areas; but also the completed interviews for each (interviewers to verify the visit). The QAF survey was conducted in the period from December 1st to December 27, 2012 and 2394 Qatari Nationals were interviewed using computer assistance person interview CAPI, and the re-interview was conducted using computer assistance telephone interview (CATI) from December 8 to December 25, 2012 for 387 respondents which is about 15% of the total sample. All respondents were informed about the purpose of the study and were not reminded about their previous answers.

### Analytic methodology

The re-interview method is an influential instrument in non-sampling error analysis. The Gross Difference Rate (GDR), Index of Inconsistency (IOI) and Reliability Rate (RR) are the indicators we used in the re-interview to estimate variances in respondent answers

The gross difference rate (GDR), is the average squared difference between the original interview and re interview responses (see Biemer and Forsman, 1992; Biemer 2004). The GDR divided by 2 is an unbiased estimate of simple response variance (SRV), we estimate the GDR using the following formula:

$$GDR = M_1^2 - M_2^2$$

And we also calculated the Index of inconsistency (Brick, Rizzo and Wernimont (1997)), Which measures the proportion of the total population variance attributed to the simple response variance. Hence,

$$IOI = \frac{GDR}{S_1^2 + S_2^2}$$

where  $S_1^2$  is the sample variance for the original interview and

$S^2_2$  is the sample variance for the Re-interview.

The value of the IOI is often interpreted as follows:

- An IOI of less than 20 is a low relative response variance
- An IOI between 20 and 50 is a moderate relative response variance
- An IOI above 50 is a high relative response variance

The response variance measures the GDR and the IOI provides data users with information on the reliability and response consistency of a survey questions. Where the Reliability Rate is (RR)= 1- IOI.

And, the Net Difference Rate (NDR) provides information about the accuracy of a survey question and also identifies questions providing biased results. In this case,

$$NDR = \frac{1}{n} \sum_{i=1}^n (y_{0i} - y_{ti})$$

where n is the re-interview sample size,  $y_0$  is the original interview response, and  $y_t$  is the re-interview response. Brick and others (1996) used to estimates of response bias. It provides an estimate of the extent of the biased in the actually observed.

**Re-interview Questions**

To ensure a good response in the re-interview we decided to minimize questions numbers in the re-interview and concentrate on the questions that we believe will support the study objectives, accordingly we choose four questions, two of which are Open-Ended Questions related to quantity answer (date of birth and number of housemaid), the third question is Closed End Question which is an opinions question (KAFALA), and the last question is Scale Question (semantic differential) (life in Qatar) scale from 1 to 10.

Open-ended questions are those that allow respondents to answer in their own words. In an online survey textboxes are provided with the question prompt in order for respondents to type in their answer. Open-ended questions seek a free response and aim to determine what is at the tip of the respondent's mind. These are good to use when asking for attitude or feelings, likes and dislikes, memory recall, opinions, or additional comments. However, there can be some drawbacks in using open-ended questions, one of them is they do take more time and effort to fill out and at times they can have a larger skip rate. (Brace 2004, 55-62):

The semantic differential scale is one that has opposite ends of the scale marked with two different or opposing statements. Respondents are then asked to indicate the area in which they fall on the scale. Unlike the likert scale, the semantic types do not have to have a "statement" that is semantically identified for each rating along the scale. It is typically recommended to use a seven-point scale for these types. It is also good to keep the statements on the opposite ends short and precise (Brace 2004, 89-90).

The questionnaire questions as follow:

In what year were you born?

ENTER YEAR

9998 DON'T KNOW

9999 REFUSED

Do you think the sponsorship system or "Kafala" should be ;

- i) Changed to make foreign workers more dependent on sponsor
- ii) Changed to make foreign workers less dependent on sponsor
- iii) Kept about the same
- iv) Totally eliminated
- v) Don't Know
- vi) Refused

Using a scale from 1 to 10, where 1 represents the worst possible place to live and 10 represents the best possible place, where on that scale would you rate Qatar as a place to live?

1 2 3 4 5 6 7 8 9 10  
Worst Best

98 DON'T KNOW/UNABLE TO

99 REFUSED

How many MAIDS are employed in this household? [.....]

998 DON'T KNOW/CAN'T TELL

999 REFUSED

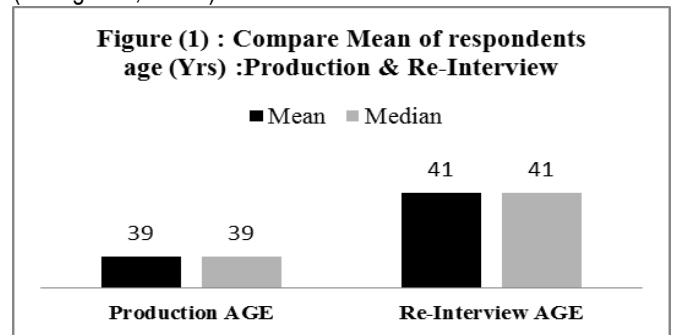
**ANALYSIS AND RESULTS**

The re-interview response rate (p) represents the number of complete re-interviews (x) divided by the total number of re-interview cases (n) (Angela, 2003). Our analysis showed that the response rate was 26 %. All other dispositions are well expected like close and busy phone or refuse to participate in the study.

Interviewers play the important role in data collection process, they have the great affect in data quality, to verify the interviewer visit we ask the respondents in the re-interview whether s/he had been visited by the interviewer or not, and if s/he completed the interview or not, the total number of data collectors in QAF survey field were 60, for each interviewers we randomly selected a number of completed interviews (between 2-7), the average of calls for each interviewers was 6.

All the (378) respondents stated that they have been visited by the interviewers and completed the interview.

The study found that there were no significant differences in the statistics of the selected variables of the study, table (1) show the mean, median and standard deviation for the variables. But we believe that there is difference in respondents answers in the age (see figure 1, below):



**Table(1) Variables Statistics**

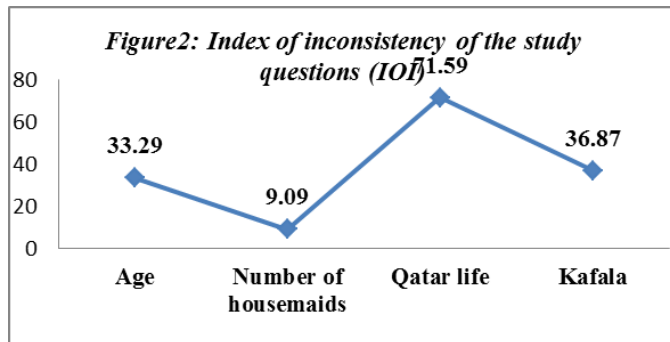
Statistics	Interviews			Re-interviews		
	maid1	Qlife1	kafala1	maid2	Qlife2	kafala2
N	361	384	376	355	355	303
Mean	1.90	9.04	2.36	1.88	12.48	2.64
Std. Error of Mean	.093	.084	.053	.063	.896	.091
Median	2.00	10.00	3.00	2.00	10.00	3.00
Std. Deviation	1.774	1.646	1.023	1.184	16.880	1.586

The estimation of reliability indexes GDR, NDR, IOI and RR shown that there is moderate relative response variance in KAFALA question and Age question (IOI =33.2 and 36.8) , also the analysis shown that there is low relative response variance of number of housemaids (IOI=71.5), however conversely there is a high relative response variance in Qatar life questions(IOI=9.0). See table (2),

Figure (2)

**Table (2) Reliability Indicators**

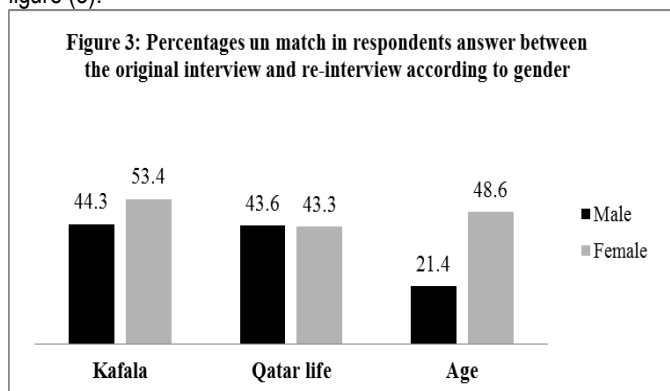
Question	Indicators				Result
	GDR	NDR	IOI	RR	
Age	127.30	4.5	33.29	0.7	There is a moderate relative response variance
Number of housemaids	0.13	0.2	9.09	0.9	There is a low relative response variance
Qatar life	3.58	0.8	71.59	0.3	There is a high relative response variance
Kafala	1.29	0.8	36.87	0.6	There is a moderate relative response variance



According to table 3, which shown the type of questions and the Index of Inconsistency result. It's clear that the open ended questions in the study (Age and number of housemaid), were more stable in the first interview and the re-interview in respondents answer, this result applies to the close ended question (KAFALA), but the semantic differential scale question (Qatar life) was unstable.

**Table (3): type of questions & IOI result**

To see if there any different between un-match respondents answers according to gender, we run T-test to see the difference between means of the original answer and the re-interview of three questions (KAFALA, Qatar life and Age), and the analysis show that although there is different between means in the KAFALA and Qatar life but this different between means statistically not significant between male and female, nevertheless this different is statistically significant between male and female respondents in Age question figure (3).



**CONCLUSION**

This study being the first ever held in QATAR, that means there is many lessons from this experience to be learned in the process of implementing the surveys and the re-interviews for the quality issues.

Our experience in this study for the particular questions we use was effective in assessing overall data quality according to the question type, the scale question in this study (Qatar life) since its expresses people views about life in Qatar, and there are evidences show that it's hard to keep respondent's opinion about specific case which can be affected by many factors during the first interview or the re-interview, however the form of the question can greatly affect respondents choices. (HOWARD SCHUMAN and JACQUELINE SCOTT, 1987), we can say that the variance between the two answers in (Qatar life) is reasonable, but we believe that researchers must think carefully before deciding which scale they can use in the survey.

Regarding differences between respondents in answers variances, we can say that the only approved question in this study was the (Age), and since women are emotionally sensitive when asked personal questions, such as their age, however in this study the old women likely to change their age than the young respondents women.

The recall for quality check is a very important issue in survey research specially when we are talking about interviews cheating and falsification, this study found that there is no any type of these problems in SESRI surveys, This is due to not only the existence of follow-up procedures in field but also due to the payment system, which based on days' work not completed interviews however researcher must consider procedures to monitor and prevents such interviewer behaviors in the surveys.

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