Good Practice in Statistical Design for Sampling Plan

Qatari Customer Survey Application

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Received: February 14, 2017 Accepted: March 4, 2017 Online Published: March 8, 2017

doi:10.5430/bmr.v6n1p54 URL: https://doi.org/bmr.v6n1p54

Abstract

This paper provides a list of good practice in the conduct and reporting of survey research. Its purpose is to assist the trainee researcher to produce survey work to a high standard level. The research paper provides a scope of the methodology used showing the processes of data gathering tools & field procedures for each population of interest(citizens, residents, and tourists), data analysis, and some sample size issues. The research is not meant to provide a manual of how to conduct a survey, but rather to identify common difficulties and errors to be avoided by researchers if their work is to be efficient and sound.

The paper has shown the approaches for Assessing Customer Satisfaction and the main outcome of this experience in judging whether the survey questions flow: logic, order, relevance, easily understood, adequate to be measured.

Sampling plan used in this research suggested that the sample is a national probability sample drawn proportionate to the population by age and gender, and separately by the municipality. These groups are used as sampling parameters that have provided the number of sub-groups to be investigated.

In this survey, there were two sources of under-coverage and over-coverage in the sample design. First, some residents live in labor gatherings. Second, there was the challenge of having to over-sample citizens in individual municipalities. Each of these issues examined and dealt with accordingly.

Keywords: Customers, Survey, Satisfaction, Client, SII, Agency, Sampling plan, Municipality, Labor gathering

1. Introduction

Ministery of Planning in the State of Qatar has conducted a major national survey of client satisfaction in Qatar's public services as part of ongoing Service Improvement Initiative (SII). Ministries and Agencies in the State of Qatar need feedback from citizens, residents, and tourists to know how they are doing and to determine what they need to improve.

A national survey is required when we want to execute the task of obtaining feedback on Service Quality (SQ). This survey is mostly about services provided by Ministries and Agencies in the State of Qatar. The focus is on services that people live in Qatar use for personal reasons, not services one may receive for business purposes.

This survey is intended to inform the development of client-centric approaches in Qatar's Ministries and Agencies to understand the needs and expectations of their clients. The national survey is based on a representative sample of the population of Qatar's citizens and residents with the inclusion of tourists.

The client satisfaction survey is being launched within the public service and implemented across the state of Qatar. It provides the foundation for Client-Centric Government; a stronger case for applying the recommendations from the Public Services Development (PSD) Project, and; a focused starting point for service improvement.

This initiative is a result of the PSD initiative and emphasizes the importance of change from the client's perspective.

This initiative and the PSD project are interdependent. The results of the client survey have helped to focus action and improvements as they relate to service delivery. In many cases, implementing these measures and improvements were limited or impossible without implementing the recommendations identified through the PSD.

The client survey was considered a first step in improving SQ. The service quality and the Integrated service delivery frameworks that were developed during the PSD project are interconnected and considered as tools used to conduct

an overall service improvement initiative.

There is a significant momentum for change is already building up in organizations such as Ministry of Municipal Affairs , Ministry of Interior, and Agriculture and Urban Planning. Although these changes should not be stopped, they may need to be modified based on input from the client survey as well as changes that occur due to the implementation of PSD recommendations.

2. Background

The philosophy of any customer service initiative is to meet the needs and expectations of customers defined by themselves (Alkawari A. Abdulla, April 2007). The customer needs and expectations mean customers know what they want, what they expect, and responsible party should provide them on a consistent basis and in the best possible way. Moreover, to find out what customers want, we need to ask them and get the feedback. (Blythe and Marson, 1999)

Public sector usually designs customer service surveys to collect valuable information related to the client's needs for services and goods. From their feedback, we can decide if we need an extensive survey to improve the quality of services and goods to live up to the customer expectation. (Bergman, B., Bengt, k. 2010).

The Service Initiative Group, on behalf of the Planning Council for the State of Qatar, has conducted a National Client Satisfaction Survey to study the quality of services provided by the public sector. This survey focused on the experiences of individuals who use public services. The goal is to use the results as a baseline against which to track and measure improvements in public service delivery over time.

One of the main functions of any branch of the government of Qatar is to provide public services that aim at improving the quality of life of its citizens. (Nussbaum, Martha, and Amartya Sen1993).

The public sector organizations deliver directly various services to people and stakeholders. It operates to protect individuals through its organizations with reasonable independence. These organizations have a reasonable freedom to act and meet the specified goals but not to exceed the financial limits designated for them. For this reason, organizations adopt a range of methods to make sure that they concentrate sufficiently on the goals of their people' needs. (International Atomic Energy Agency. April 2006). The organizations often used customer feedback to negotiate with their departments the type of service which they should deliver, and the required resources and the benchmark should be compared with(Keehley, P. et al., 1997).

Unfortunately, many public organizations concentrate on the level of achievement of their objectives and the cost involved and the time scale they set, forgetting about the effectiveness of the cost they involved and its worthiness. In other words, a public organization does not maintain and controlled the productivity properly. (Levin H. M. 1995)

3. Strategic Objectives of Client Satisfaction Survey and SII

The client satisfaction survey is being launched within the public service and will be implemented across the country. It will provide the foundation for Client-Centric Government; a stronger case for applying the recommendations from the Public Services Development Project, and; a focused starting point for service improvement.

Improving Service Quality requires a cultural shift from focusing internally to focusing on client needs. This culture shift needs to be supported through communication with stakeholders, capacity building and a commitment to act from leadership.

Based on this context, the strategic objectives of Qatari SII can be summarized as follows:

a) Continue to support the progress of the PSD project and communicate the message that the public will be expecting changes based on survey results.

b) Make people aware of the linkages between PSD and the client satisfaction survey and keep them informed of progress in both areas.

c) Develop awareness and understanding of SQ across government ministries and agencies and prepare them for action through a training or capacity building program (PSD capacity building initiative).

d) Position the survey as the first step in a Service Improvement Initiative – build a commitment from the leadership of ministries and agencies of Government, not just to implement the survey, but to prepare to act on the results.

e) The client survey will begin to open a dialogue with the public. Help the public service get used to opening these communications channels.

4. Approaches for Assessing Customer Satisfaction Survey

Customer satisfaction is a major factor that affects the degree of customer loyalty and firm's profitability (Ansari and Riasi, A. (2016). Improving the level of customer satisfaction requires accurate assessment of customers' expectations (Aghadie et al. , 2012)

Listening to customers is one of the first principles of quality management. Performing surveys on the client is a crucial listening tool that can produce information about customer expectations, customer satisfaction and strategies for improvement. (Michael S. Garver. 1986).

There are many methods for assessing customer satisfaction which the study has involved such as focus groups and personal interviews. Moreover, we can not decide which method is "best" method is used for evaluating customer satisfaction (Qualtrics, December 2009). The type of good service provided and the number of clients will decide what the best method for any particular organization is. Also, other factors may affect the selection of best method such as the frequency of customer uses the service and the way we may employ the results we obtain. However, no matter which method will be used, we need a consistent set of questions and scales for conducting client satisfaction surveys called Common Measurements Tool (CMT) which can be used as an easy-to-use client satisfaction survey instrument. Using the CMT, public-sector managers can understand customer anticipations, weigh levels of satisfaction, and classify priorities for improvement. By using the questions set out in the CMT, public sector organizations can also match their results alongside peer organizations, identifying best practices and sharing lessons learned. Managers are not limited to using the core questions, or even the larger group of CMT questions. The CMT is planned to be a flexible tool, leaving organizations free to add customized questions that will help improve the quality of service.

Two common approaches can be used to assess customer service satisfaction which will provide us with useful findings:

The first method is to get customer feedback periodically (Ross Beard, November 2013), but it is crucial to bear in mind that we can use a continuous assessment as a standard method for obtaining customer satisfaction information.

The information we get from this continuous assessment can deliver very useful and up to date view of the experiences our clients have witnessed with our organization.

The second method is to carry out a survey periodically which will enable us to obtain feedback from focus groups of customers at regular periods of time immediately after we provide a service or a product.

It would be very useful using both methods to have a full understanding of our customers and to get valuable feedback from them to evaluate our achievements and pinout our strength and weakness.(Margaret C. Harrell, Melissa A. Bradley-2009)

One of the main steps needed for any study involving questionnaire to carry out a survey is to do a pilot study. The definition of a pilot study is a research study instrumented by the intended study. Pilot studies are usually executed as planned for the intended study, but on a smaller scale" (Paul A. Craig. 2000).

A pilot survey (pre-testing) is required at this stage to test a small size survey using a smaller sample concerning the designated sample size and to verify a method for data collection (Edwin Van Teijlingen, June 2002). This practice will enable us to refine the questionnaire questions, and the clarity of questions too before is too late to regret. In applying this approach, we may invite randomly selected individuals from the targeted population who uses the services. The sampling units or persons are asked to complete the planned survey then join the focus group to give their opinions.

A pre-test practice is critical as it can provide reasonable cost and time estimations required to complete the survey.

The main outcome of this experience is to judge whether the survey questions flow: logic, order, relevance, easily understood, adequate to be measured. (Floyd J. Fowler 2014)

5. Data Collection Methods

In writing research, critical terms can sometimes be used rather loosely. This might cause confusion. For this study, answers to research questions will be collected from individuals that represent these three populations. Citizens and residents will mostly be found in households. These households are often found in residential units that qualify as buildings or spaces that can be inhabited.

The method for data collection adopted was mainly to use a detailed questionnaire in addition to other feasible methods such as interviews, focus groups to get user feedback on the quality of service. Questions included user's

general information, other modes of public services they use. The questions were formed in a way to trace the customer perceptions regarding the quality and type of services provided by the public sector to Qatari citizens and residents. The questionnaire comprised main axes as follows:

a) Respondents opinions and expectations of the provided services by Ministries and Agencies

b) Respondents rating of some of the common services they have used.

c) Rate some of the services provided by Ministries and Agencies

d) The Respondents have more detail on a recent list of services experience that they used most recently for themselves (not for other people) and in which they were involved directly.

e) Other topics related to respondents preference of services channels (by email, person, telephone, fax), using services provided by Ministries and Agencies. Respondent should indicate the one channel they prefer to use in each situation for various types of services.

f) Rate other services (served by private sector such as banks, Insurance agencies, Internet service providers, Supermarkets)

g) Demographic information about the respondent.

Although, the questionnaire is usually considered the main avenue of information, there are formal and informal ways of obtaining the data required in which they may complement each other to get the best results from customer feedback. (Sansnee Jirojwong. & Margie Wallin. 2002)

Gathering customer feedback data can be influenced by the data gathering strategy and level of accuracy required. The most common methods used to gather customer feedback vary from questionnaires, focus groups, interviews, direct observations, using mail, telephone interviews, to email and web survey which will become critical ways for gathering customer feedback through the Internet.

The survey was designed to include citizens, residents and tourists suggest. This survey is feasible to conduct data collection using a combination of in-person and self-completed data collection methodologies (mainly a questionnaire). The total number of completed surveys for the entire survey will be 1200, which was determined in large part based on the budget available for this first study. Also, the plan must be capable of being replicated over desired given time the to use the findings for the purpose of tracking service improvements.

Findings for most research questions in this first study will be examined at the level of each population of interest. As a result, each requires minimum sample sizes to draw conclusions with a small degree of sampling error, subject to cost and field constraints, where feasible. A national probability sample of citizens and residents was suitable given these objectives.

While many factors affect the decision on a final sample size, it is assumed for planning purposes that each population of interest will be assigned an equal sample size of 400 individuals. If specific sub-groups require more or less attention, this decision can be revisited.

In summary, the sampling plan used was a national probability sample drawn proportionate to the population by age and gender, and separately by the municipality for citizens and residents. The goal, then, is to find citizens and residents to participate in the survey in the hopes of filling these sample quotes.

6. Sample Size and Sampling Procedures

Defining the sample size of any study is considered as step one in carrying out any research (Bowling A. -2002). The sample size obviously depends on many factors to be considered. These factors contain many factors such as the population size; the accuracy required the resources available and the time scale (Patrick Dattalo, 2008). The sample size will represent a percentage of the total size of the population, and it is evident that the higher proportion or percentage coverage of the population, the more accurate precision will get to explain the results of the survey. (Floyd J. Fowler 2014).

For this research, the "Respondent" is an individual aged 18 years and over (as per the definition) who is accessed at his place of residence (except for tourists) all members of the housing unit will have even chances for selection to be interviewed in the survey.

Housing units within a block will be given even chances to be selected wherein only one adult member should be drawn at random for an interview.

According to the above definition of respondent above, and considering that last census was integral for citizen and

only by sample for expatriates residents, and taking into account the significant changes in the immigrant resident's population in past two years which may have an influence on the census results. The study recommends the following approach:

1-The sample of citizen and residents (n=800) will be distributed by municipality and zone by the census results.

2-The projected sample will be increased by approximately 20% to compensate for the sample of tourists staying with citizen or residents families who are selected for interview as members staying in households, to maintain a net sample of citizen and residents at (n=2x400). A fixed sampling interval will be used for the whole survey at (i=7) (this number may be agreed with SII Team before the start of fieldwork).

3-At the preparatory field stage, each interviewer will visit the blocks assigned to him and list the buildings and houses in the blocks indicating the number of floors and housing units in each building.

4-Upon encountering a labor gathering accommodation further details be obtained to indicate:

- private or company ownership
- number of individuals residing in the accommodation
- ethnic groups and languages are spoken by the lodgers

5-Implementation - Citizen, Residents, and Tourists staying with households:

5-1-The sample will be allocated according to Municipality and Zone. Block will do the distribution within a zone at the fixed rate of 8 completes per Block.

The total sample anticipated be set at (800+20% = 960) thus the number of Blocks to be drawn will be (960/8=120) Blocks

5-2-In each Block that has been visited by the fieldwork team ahead of the survey, and the path being determined, the interviewer will go to the starting point, determined from the track, and start counting the housing units from the top in a clockwise top-down movement and make contact at regular interviews:

- If the contact is unsuccessful (nobody answering the door), the unit is skipped, and the next one on the plot is taken.
- If the contact is successful, the interviewer will present the subject of the call and ask an adult member of the household, and will proceed as follows:
- All members aged 18+ years and resident in the housing unit will be enumerated with mention of their names, age and gender and relation to head of household.
- A table of random numbers (printed in the questionnaire) was used by the interviewer to determine one specific person to be selected for interview from the whole list of enumerated names. If this person is available, the interview is conducted immediately
- If the chosen person in not available then an appointment is made to visit later on the same day for an interview. Three attempts are made to interview the selected person should all attempts (3) fails; the housing unit be skipped, and the next one on the path be contacted for an interview.

5-3-According to the description given about this process will deliver a multi-stage random probability sample. It is a representative of citizen aged 18year+, residents aged 18year+ including those who from a family and also different type of lodgers (domination and household, etc…), and tourists aged 18 years + who are staying in regular housing units by using random numbers. All adults members who are resident in the housing unit are given even chances for selections and interview, regardless of their status within the housing unit.

5-4-Upon encountering a small labor gathering that is a common household, wherein less than (7) people share the accommodation, the same procedure described above.

The census has defined small labor gathering at less than seven members, whereas large gathering is seven members or more.

5-5-Upon encountering a big labor gathering the number of members to be selected, determined by the integer number of the ratio of total residents divided by 7 (the number 7 has been suggested on the census definition above).

Such interviews were kept, but their number be discounted from the sample, and more interviews were conducted to reach and exceed the net sample size required (2x400).

7. A Sampling of Tourists

The tourists who have a visit status, and are not staying in regular housing units were intercepted and interviewed as suggested at the Doha Airport. Arrangements were made to intercept travelers, right after the passport become available and to request an interview of 15 minutes

Arrangements were made to find seating space for up to 3 pairs (interviewer & respondent) in the area beyond the passport control and eventually also for one pair in the business and first class lounges.

Airport exits statistics were used to determine the number of exits per day part per day of the week.

Interviewing was organized between 08:00 am and 01:00 am, and the sample distribution was adjusted per day part. A full seven days cycle was required so that all type of travelers be intercepted and represented in the research.

The sample of tourists to be taken by this approach is (n=400); this is a net sample of eligible respondents who have used one or more state services during their stay in the country.

As in the sample of citizen and residents, a tally will be maintained, of the number of eligible respondents obtained in the gross sample, whereby the remaining number to be achieved in all three legs were (3 x 400)

8. Sampling Design for Citizens and Residents

There are many ways in which the final sample of individuals can be defined regarding being representative of the population in the State of Qatar (Sharon L. Lohr 2009). For example, one might argue that language is suitable given the range of languages used in the country. Unfortunately, the Census does not collect this data.

Moreover, the survey will only be conducted in three languages, namely Arabic, English, and Urdu. In studies with large samples, the sample can be defined on many levels. Some previous studies used rural/urban splits nested within regions to determine the sample's representation of the population. Also, in some broad survey, gender and age subgroups by region can be used.

For this first study in the State of Qatar, age and gender groups are workable as sampling parameters, provided the number of sub-groups seek to be manageable. If each population of interest has a total sample of 400, it should be feasible to track quotas for six to eight subgroups defined by age and gender.

Also, the representation can be sought by region or municipality to improve the confidence in the sampling coverage.

8.1 Sampling Citizen for the Survey

Census data allows for calculations of age and gender breakdowns for both citizens and residents in Qatar. This breakdown by age and gender is used to develop individual target sample quotas as shown in Exhibit 1 below. Based on this design, the sample of residents will include a larger proportion of males since there are more of them in the population. Similarly, there are fewer persons aged 50+ in both samples because they also represent a smaller proportion of both populations.

Exhibit-1 Desired Sample Distribution by Age, Gender, and Citizenship

Age (18+)	Census				Sample Quotas			
	Qataris		Non-Qataris		Qataris (n=400)		Non-Qataris (n=400)	
	Males	Females	Males	Females	Males	Females	Males	Females
18 – 24	12.55%	12.82%	8.05%	3.33%	50	51	32	13
25 – 34	13.73%	14.14%	24.95%	8.50%	55	57	100	34
35 – 49	14.38%	15.65%	33.26%	8.90%	58	63	133	36
50 +	8.44%	8.28%	10.97%	2.05%	34	33	44	8
Total	49.11%	50.89%	77.22%	22.78%	196	204	309	91

Source: Population Census, State of Qatar

Likewise, Exhibit 2 shows the initially planned sample distribution by region. Much of the sample for Qataris and non-Qataris will come from Doha and Al Rayyan since they have the largest population base. This table also shows one region, Mesaieed, having no sample for Qataris because there are so few Qataris residing there (0.05%). Applying this proportion to a sample of 400 citizens produces a sample count of less than 1. However, this creates a problem, or bias, related to under-coverage. Consequently, this particular sub-group is assigned a sample of 1 to

overcome this issue (see Exhibit 3). In turn, one piece of the sample is taken away from Al Rayyan to compensate. Recall, data weighting at the analysis stage can smooth out some of these imbalances. It is also likely that the five smallest municipalities will be pooled solely for the purpose of calculating proportional weights, with the goal of minimizing the impact of severe influences on the resulting statistics.

In summary, the sampling plan will be a national probability sample drawn proportionate to the population by age and gender, and separately by the municipality for citizens and residents. The goal, then, is to find citizens and residents to participate in the survey in the hopes of filling these sample quotes.

Like other surveys, this means having to secure a consistent rate or response across distinct sub-groups of interest. In the absence of knowing those response rates a priori, it is useful to examine where precisely these citizens and residents can be found.

Exhibit-2 Initial Sample Distribution by Municipality and Citizenship

Municipality	Qataris		Non-Qataris	
	Population% from Census	Sample Size	Population% from Census	Sample Size
Doha	32.10%	128	50.19%	201
Al Rayyan	47.43%	190	33.10%	132
Al Wakra	5.63%	23	3.76%	15
Umm Salal	9.02%	36	2.66%	11
Al Khor	2.69%	11	4.75%	19
Al Shamal	0.98%	4	0.56%	2
Al Ghuwairiya	0.18%	1	0.33%	1
Al Jemailya	1.07%	4	1.49%	6
Jeryan Al Betna	0.85%	3	0.91%	4
Mesaieed	0.05%	0	2.25%	9
Total	**100%**	**400**	**100%**	**400**

Source: Population Census, State of Qatar

Exhibit-3 Desired Sample Distribution by Municipality and Citizenship

Municipality	Qataris		Non-Qataris	
	Population% from Census	Sample Size	Population% from Census	Sample Size
Doha	32.10%	128	50.19%	201
Al Rayyan	47.43%	*189*	33.10%	132
Al Wakra	5.63%	23	3.76%	15
Umm Salal	9.02%	36	2.66%	11
Al Khor	2.69%	11	4.75%	19
Al Shamal	0.98%	4	0.56%	2
Al Ghuwairiya	0.18%	1	0.33%	1
Al Jemailya	1.07%	4	1.49%	6
Jeryan Al Betna	0.85%	3	0.91%	4
Mesaieed	0.05%	*1*	2.25%	9
Total	**100%**	**400**	**100%**	**400**

Source: Population Census, State of Qatar

8.2 Sampling Residential Dwelling Units and Households for the Survey

Knowledge of where citizens and residents reside provides insights into specific regions that tend to have a higher incidence of either citizens or residents. This knowledge will facilitate some targeting of specific areas in the plan to make it more efficient and productive. This distinction is important since both groups will have equal sample sizes, despite residents outnumbering citizens by a ratio of 3:1.

The sampling strategy for this study can replicate some of the steps taken to conduct the Census. The survey of citizens and residents will rely on two-stage probability sampling methodology. First, residential units and households will be selected in a systematic manner from data collected as part of the enumeration process. Second, individuals aged 18 and older will be chosen from sampled residential units and households. Each stage in described in greater detail below.

For the enumeration, field teams will visit specific municipalities with maps that define blocks as potential sampling units. In each block, the enumerators will identify the number of buildings, houses, and camps that exist. For each one, they will record basic information, including the street address or name of the building (something to identify the building), the number of floors and apartments, and the dwelling it appears to be (e.g.residential, commercial, shared accommodations or mixed use).

The fieldwork manager will compile the complete enumeration. Based on the sampling quotas needed for that region and some assumptions about the mix of participants there and the survey response rate, the fieldwork manager will select a sample for each block in the municipality. A systematic procedure will be used to select every nth household based on the counts from the enumeration and the desired sample in that block. While not purely random per se, this is a widely accepted approach (near random) for sampling residential units and households.

At the enumeration stage, it is not always possible to clearly identify how many households are attached to residential units or dwellings. In many cases, one household will exist in each residential unit. However, some units have more complex living arrangements, whereby several households may be living in one residence. For this survey, this complexity is less relevant than it is to census-takers because the sampling unit for the National Client Satisfaction Survey is not the household, but rather the individual within that household, one who uses government services. The household or dwelling in which they reside is merely the place where they can be identified and selected for the sample. The primary goal of this stage in the sampling process is to ensure that certain types of households are not excluded systematically in the design. As such, households and dwelling units are considered as one and the same in this study (with a small exception noted below for labor gatherings).

In this survey, there are two potential sources of under-coverage and over-coverage in the sample design. First, some residents live in labor gatherings. Second, as noted above, there is the challenge of having to over-sample citizens in individual municipalities because the citizens are given equal treatment when sampling despite having a smaller proportion of the population. These issues are tested in greater detail below.

9. Labor Gatherings

The 2004 Census reports that 87% of all enumerated households have inhabitants. Most of these (90.2%) are household dwellings or collective households having less than seven persons. Another 7.5% are labor gatherings with seven or more individuals, and 2.3% are mixed use units.

The data indicate that labor gatherings have an average of 24.0 individuals while other common types of occupancy have 5.3 individuals on average. This average means that labor gatherings have 4.5 times as many people, on average, as other more common types of occupancy. If the sampling procedure is designed to obtain one respondent from the more common types of occupancy, then it will need to select more respondents to participate from a labor gathering to ensure they are sufficiently covered in the survey (i.e. four-five individuals per labor gathering). As a result, for every 100 sample records, 82 should come from individuals representing common types of occupancy. The other 18 should come from labor gatherings, collected over four labor gatherings (if four to five participants selected from each gathering). If this ratio is applied to the 800 target sample for citizens and residents combined, 656 will come from regular types of occupancy, and 144 will come from labor gatherings. If four to five persons are selected from each labor gathering, this requires sampling 32 gatherings. Stated another way, the 800 individuals will come from 688 residential units, 656 from more common types of dwellings and 32 from larger labor gatherings.

Labor gatherings include only residents, not citizens. If the resident sample includes 400 individuals, this means that a significant proportion of them (144 / 400 or 36%) should be selected from labor gatherings. Although this portion may seem high, it is consistent with their proportionate share of the population.

Exhibit 4 shows the number of residential units that might be selected based on the type of occupancy and the municipality where they are located if they have been chosen proportionately to population. According to this Exhibit, most were selected in Doha and Al Rayyan.

One issue is what to do with those labor gatherings outside Doha, and Al Rayyan is having a proportionate share so small (counts less than 1.0) that no labor gathering is selected for that region. This low count is problematic because this represents a bias against labor gatherings outside larger urban centers. To correct for this, the distribution of labor camps selected can be adjusted so that each region is represented while also adjusting the number of interviews to be completed within each gathering so that it represents that gathering's share of the population. This correction is shown in Exhibit 5.

Exhibit-4 Residential Units by Type of Occupancy and Municipality

Municipality	Residential Units with Inhabitants			Counts Applied to Sample	
	Total Number	Labor Gathering (Column %)	More Common Types of Occupancy (Column %)	Labour Gathering	More Common Types of Occupancy
Doha	63371	52.23%	57.59%	16.71	377.82
Al Rayyan	30325	35.12%	26.74%	11.24	175.41
Al Wakra	4409	2.76%	4.08%	0.88	26.75
Umm Salal	3895	1.55%	3.67%	0.50	24.10
Al Khor	3566	3.85%	3.17%	1.23	20.77
Al Shamal	935	0.65%	0.86%	0.21	5.64
Al Ghuwairiya	240	0.57%	0.19%	0.18	1.24
Al Jemailya	2597	2.42%	2.34%	0.77	15.33
Jeryan Al Betna	695	0.55%	0.63%	0.18	4.15
Mesaieed	771	0.30%	0.73%	0.10	4.77
Total	**110804**			32	656
Residential Units					688

Source: Population Census, State of Qatar

To calculate the number of labor gatherings to be sampled, the following procedure was applied to Exhibit5:

- Municipalities having involved labor camp sample count of ten or less were assigned some of one labor gathering and no more than one labor gathering;
- Municipalities having an applied labor camp sample count of 15 or more were assigned a number of three or more labor gatherings, calculated in increments of five; and
- Municipalities are having an applied labor camp sample number between 11 and 14 were assigned a number of two labor gatherings.

The results in Exhibit 5 show that different regions will have slightly different sample targets for labor gatherings and completed interviews.

10. Over Sampling Issue

It will be useful to know which municipalities have a lower or higher incidence of citizens. This distinction helps the field team better plan for targeting specific municipalities of interest. The 2004 Census shows how the incidence of citizens and residents living in residential units other than labor gatherings varies by the municipality (see Exhibit 6).

Exhibit-5 Labor Gatherings by Municipality

Municipality	Counts from Census		Counts Applied to Sample		
	Number of Gatherings (Column %)	Population Counts in Gatherings (Column %)	Sample Counts Applied from Population Counts	Gathering Counts	Target Completes Per Labour Gathering
Doha	52.23%	33.46%	48	10	4-5
Al Rayyan	35.12%	44.90%	65	13	5
Al Wakra	2.76%	2.28%	3	1	3
Umm Salal	1.55%	1.90%	3	1	3
Al Khor	3.85%	8.48%	12	2	6
Al Shamal	0.65%	0.47%	1	1	1
Al Ghuwairiya	0.57%	0.61%	1	1	1
Al Jemailya	2.42%	1.12%	2	1	2
Jeryan Al Betna	0.55%	1.97%	3	1	3
Mesaieed	0.30%	4.79%	7	1	7
Total	**100%**	**100%**	**144**	**32**	

Source: Population Census, State of Qatar.

In Al Rayyan, the population in common types of occupancy is almost equally split between Qataris and non-Qataris. However, the sampling plan requires that nearly two-thirds from that municipality be Qatari citizens. This particular ratio is used because the total sample of citizens is equal in size to the residents, yet not equal in population. For planning fieldwork, this means the field team will need to sample additional number units from the common residential area in Al Rayyan because they need to work harder to find Qatari citizens there. A similar pattern exists in Doha. Although there are fewer Qataris there, the field team has to work harder to find them because the sampling plan calls for over-sampling them in this municipality.

Exhibit 7 includes a slight adjustment to Exhibit 6 to remove sample cells having a count of zero. In Mesaieed, the residential unit count among Qataris was increased by one to eliminate bias due to under-coverage. In turn, one residential unit was taken away in the largest region for Qatari citizens, Al Rayyan. A similar approach used for residents in Al Ghuwairiya, where one added in this municipality, and one was taken away in Doha. These arrangements are shown in italic in Exhibit 7.

Exhibit-6 Population Incidence in Common Types of Occupancy by Municipality

Municipality	Percent from Census			Counts Applied to Sample			
	% of Population in Municipality	Incidence of Qataris	Incidence of Non-Qataris	Qataris		Non-Qatari	
				Sample	Row %	Sample	Row %
Doha	50.14%	21.80%	78.20%	128	45.76%	152	54.24%
Al Rayyan	33.67%	47.98%	52.02%	190	73.62%	68	26.38%
Al Wakra	4.93%	38.87%	61.13%	23	65.79%	12	34.21%
Umm Salal	5.10%	60.18%	39.82%	36	82.05%	8	17.95%
Al Khor	2.69%	34.11%	65.89%	11	61.03%	7	38.97%
Al Shamal	0.73%	45.59%	54.41%	4	71.71%	2	28.29%
Al Ghuwairiya	0.17%	35.51%	64.49%	1	62.49%	0	37.51%
Al Jemailya	1.48%	24.60%	75.40%	4	49.67%	4	50.33%
Jeryan Al Betna	0.51%	57.17%	42.83%	3	80.15%	1	19.85%
Mesaieed	0.58%	2.87%	97.13%	0	8.21%	2	91.79%
Total	**100%**			**400**		**256**	

Source: Population Census, State of Qatar.

The plan needs to account for over-sampling in certain municipalities. The treatment of over-sampling dealt with by selecting more residential units than is defined by the targeted sample. Exhibit 8 estimates the number of sampled common households needed to reach the target sample quotas for citizens and residents in that region. It also includes different assumptions about the response rate for the survey. As the table shows, even if everyone participated (i.e. 100% response), the field team will need to contact over 1000 of these common types of households to reach the target of 656.

Exhibit 9 summarizes the first-stage sampling plan, including target sample quotas for common types of households and labor gatherings. This sample quota provides the blueprint for finding the kinds of citizens and residents needed to reach the second stage individual sampling quotas shown in Exhibits 1 and 3. The right-hand column of this Exhibit is very close the sum of cells that appear in Exhibit 3. The small differences in the numbers are due to rounding.

Exhibit-7 Adjusted Units Counts in Common Types of Occupancy by Municipality

Municipality	Percent from Census			Counts Applied to Sample			
	% of Population in Municipality	Incidence of Qataris	Incidence of Non-Qataris	Qataris		Non-Qatari	
				Sample	Row %	Sample	Row %
Doha	50.14%	21.80%	78.20%	128	45.76%	***151***	54.24%
Al Rayyan	33.67%	47.98%	52.02%	***189***	73.62%	68	26.38%
Al Wakra	4.93%	38.87%	61.13%	23	65.79%	12	34.21%
Umm Salal	5.10%	60.18%	39.82%	36	82.05%	8	17.95%
Al Khor	2.69%	34.11%	65.89%	11	61.03%	7	38.97%
Al Shamal	0.73%	45.59%	54.41%	4	71.71%	2	28.29%
Al Ghuwairiya	0.17%	35.51%	64.49%	1	62.49%	***1***	37.51%
Al Jemailya	1.48%	24.60%	75.40%	4	49.67%	4	50.33%
Jeryan Al Betna	0.51%	57.17%	42.83%	3	80.15%	***1***	19.85%
Mesaieed	0.58%	2.87%	97.13%	***1***	8.21%	2	91.79%
Total				**400**		**256**	

Source: Population Census, State of Qatar.

Exhibit-8 Targets for Common Types of Occupancy by Municipality for Different Response Rate

Municipality	Residential Units			Households Needed			
	Qataris	Non-Qataris	Total	100%	75%	50%	25%
Doha	128	151	279	610	814	1220	2441
Al Rayyan	189	68	257	273	364	546	1092
Al Wakra	23	12	35	48	64	96	193
Umm Salal	36	8	44	48	64	96	192
Al Khor	11	7	18	28	38	56	113
Al Shamal	4	2	6	7	9	14	27
Al Ghuwairiya	1	1	2	3	4	6	11
Al Jemailya	4	4	8	16	22	33	65
Jeryan Al Betn	3	1	4	4	6	9	17
Mesaieed	1	2	3	36	48	72	143
Total	**400**	**256**	**656**	**1074**	**1431**	**2147**	**4294**

Source: Population Census, State of Qatar.

Exhibit-9 Residential Targets and Sample Sizes by Type of Occupancy and Municipality

Municipality	Types of Residential Units			Target Samples of Individuals		
	Common	Labor Gatherings	Total	Common	Labor Gatherings	Total
Doha	279	10	289	279	48	327
Al Rayyan	257	13	270	257	65	322
Al Wakra	35	1	36	35	3	38
Umm Salal	44	1	45	44	3	47
Al Khor	18	2	20	18	12	30
Al Shamal	6	1	7	6	1	7
Al Ghuwairiya	2	1	3	2	1	3
Al Jemailya	8	1	9	8	2	10
Jeryan Al Betna	4	1	5	4	3	7
Mesaieed	3	1	4	3	7	10
Total	**656**	**32**	**688**	**656**	**144**	**800**

11. Procedures within Selected Households

The field team will need to implement the following procedures at each household:

- each residential unit or household selected for the sample must be rostered, collecting age and gender details on each person aged 18 and older residing there, including household employees, but excluding any visitors who normally have a residence elsewhere;
- a single person will be selected from the household to secure a completed survey by using a random number, – the exception is for larger labor gatherings where the sampling plan may choose multiple members of the roster;
- once a household is selected to be sampled, or an individual within it has been selected, it must be contacted on at least five occasions before it may be replaced with another household to be sampled – this will minimize the bias associated with having a low completion rate, especially among qualified contacts;
- surveys may be completed in either Arabic, Urdu or English;
- surveys may be self-completed or administered by a trained interviewer;
- only the person selected to fill out the survey may do so - they should do not have help or interference from anyone else in the household – if they require assistance, they may ask the interviewer; and
- upon completing the survey, it must be returned to the interviewer who will review it for accuracy before leaving – if errors are found, the interviewer will ask the respondent to correct the mistakes.

12. Detailed Findings and Implications of the Survey and Further Research

After conducting the pilot survey, there are few important issues and findings which are extracted from the analysis of the data collected. These findings can be presented as follows:

Survey Strategy: The survey was sound with a high prospect of collecting high-quality data at minimal refusals. People responded well despite the length of te interview as the interviewers were well trained and made a difference.

Interview Length: The interview was long by most standards**.** It took between 45 and 60 minutes to complete questionnaires, plus a few minutes for rostering & respondent selection**.** Some participants education level is low, or if their language skills are limited, they took longer if they take the time to weigh their opinion. Once interviewers are comfortable with tools & process steps, an interview completed in 40 minutes**.** The interview length is of no material consequence **as** no one asks about duration in advance of the interview**,** no one asks how much longer an interview will take.

Understanding Questions: Vast majority of questions understood**.** Interviewers reported that training helped in providing guidelines on what could and could not be said to support respondents' understanding of the question. Frequently, problem areas were overcome by patiently re-reading a question or statement with all languages worked well especially Urdu was not particularly problematic, just a little too 'wordy' in spots**.**

Ability to Respond: People follow instructions & interviewers reinforce them when recognizing signs that they are not being followed. Residents move through services lists faster than citizens because they use a more narrow range

of services. It be better if research questions were examined separately for residents & citizens

Scales: Questionnaire scales are easy to understand & use by respondents**,** it made people think before responding. Training interviewers helped respondents use the scale appropriately & efficiently, encouraging people to respond using numbers**.**

Training: very critical to the success of any study, which it needs time & attention. With compressed pilot schedule, too few hours were devoted to training (15 hours)**.** Strong need for guidelines on how to help respondents understand questions & common strategies for promoting accurate (but not leading) response with varies section to section. The interviewers learn best during field trials, role-playing. Once in field, observation & supervision must be done early & often to prevent bad habits from taking root. If time permits, re-testing part-way through field may be necessary to ensure interviewers administer survey properly

Citizen and Resident Sample Lists: Lists were very accurate, useful in the field but finding homes a challenge for the field team, even in new areas as street names rarely were shown and house numbers rarely were shown, difficult to follow which lead to prospects for interviewer error. The sampling frame to complete ratio be workable only if the number of contacts allowed is increased from a current maximum of three contacts**.**

Citizen and Resident Sample Lists: Labor Gatherings are better than expected. Statistics Department treats these differently for enumeration, however for this study they seem just like large apartment buildings

Securing Interest: Interviewers were very skilled at securing interest**,** as instructed, got across key messages without reading script

Respondent Selection: Although few errors were found, interviewers took rostering seriously, and when they found some errors, they immediately corrected them.

Field Times & Dates: Most productive times were Saturdays evenings. However, different types of respondents identified on various days, different times in pilot**.** Flexible times and dates needed, subject to interviewer availability, or non-response bias may result**.**

Refusal & Response Rates: Refusal rate was low (3%). The rate of reply on target, 66%, but excludes eligible homes screened out at enumeration stage by Statistics Department. Only possible to achieve response rate by increasing number of attempted calls from 3 to (6 – 8). It was noticed, this response rate slightly lower among residents as they are not home often, some work long hours with a higher incidence of language barriers.

Supervision & Observation: a Higher level of supervision & observation was used to promote high data quality and improve interviewer consistency.

Support Tools: Wearing ID badges was effective when worn in a visible location which must be shown to people on the first contact. It makes the study more legitimate, helps open doors. Bags are functional, make interviewers look like they belong to field team which it helps when other interviewers make call-backs**.**

Approach for Tourists: Fieldwork was not conducted at airports as it encountered hurdles in securing suitable interview location. Smaller sample size further marginalizes this group relative to other populations of interest**.** Questions were raised about the utility of addressing research questions with this segment & level of effort expended to do so.

On the completion of this national survey, there are many questions need to be researched and answered. These issues can be stated as below:

1. Overall, how satisfied are clients with public services in the State of Qatar?
2. How satisfied are clients with specific public services and how does this compare to specific private sector services?
3. What are the things that have the biggest impact on how satisfied clients are)?
4. What are the most important client priorities for service improvement? In other words, where should improvement efforts be targeted first to meet customer needs best?
5. How do client expectations vary by service delivery channel (i.e., in-person, phone, online)?
6. When customers are receiving services, what are their expectations for access, timeliness, courtesy, knowledge and skill of frontline staff, fairness, outcome, channel choice, and additional assistance?
7. How do clients want the government to communicate with them about public services?
8. How aware are people of public services offered? How easy is it for customers to access public services when and where they need them?

9. How clients like to access the public services they need (including an exploration of the effectiveness of information provided by the government regarding access, the location of services, channel choice)?
10. Are services delivered equally to all clients?

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