

Customer Survey Guidelines

Developed by WaterWorX Community of Practice Customer Relations



Customer Survey Guidelines

Short Term Experts

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Table of Contents

1 Background information & Goal	4
2 Population & Target groups	4
3 Subjects	4
4 Organization	6
5 Sample	6
6 Method	9
7 Analyzing & Reporting	12
8 Actions & Recommendations	15

1 | Background Information & Goal

It's very important to describe the reason for the customer survey. What kind of information is needed? What kind of problem should be solved by gathering customer insights? Describe what the current situation is and what is the desired situation.

Another important question to be answered is whether the organization is ready to start working with the results. The ideal situation is that feedback is welcome and can be used for improvement of customer service. All departments that deal with customers (Customer Service, Technical Departments) will have to appreciate the results of the survey and the actions that should be taken. An action plan with PDCA (Plan Do Check Act) is a logical next step

It is also important to know who the client is and whether there is sufficient support in the organization. It may be necessary to hold discussions with concerned managers to remove any mistrust. It also happens that customer satisfaction surveys are carried out to provide supervisory and administrative authorities with information. Sometimes the water company is not only responsible for the supply of drinking water, but also for the disposal of the used water (sewerage)

2 | Population & Target Groups

From which customer group do we want to gather information? Who do we need information from? This determines the structure of the survey.

The following choices will have to be made:

- Current and/or potential customers
- Consumer and/or business
- Division into regions, districts
- Division into types of business customers (such as industry, commercial, institutions)

3 | Subjects

It's important to ask yourself the following questions: What do we actually want to know? What information do we need? The following choices will have to be made:

Satisfaction with the product:

- Water supply
 - Continuous or intermittent
 - Water pressure

- Quality of the water
 - Taste
 - Smell
 - Clearness

Satisfaction with the service:

- Meter reading
 - Behaviour of the meter reader
 - Meter reader reliability
 - Correctness meter reading
- Billing
 - Clarity of the invoice
 - Payment options
- Relocation
 - Clarity how to act
 - Speed of processing
- Change of meter
 - Announcement
 - Meter changer behavior
 - Work performed
- Malfunctions
 - Options to report malfunction
 - Information received
 - Speed of problem solving
 - Work performed
- Maintenance
 - Announcement
 - Clarity of the information
 - Duration of maintenance
- Complaints
 - Possibilities to report a complaint
 - Information received
 - Speed of resolving the complaint

Other subjects:

- Brand awareness
- Transparency of tariffs
- Willingness to connect
- Willingness to pay
- Insights use of water

4 | Organization

The questions below are important:

- What are the responsibilities of different departments?
- Is the budget sufficient to carry out the survey?
- Is the water company able to carry out the survey itself?
- Are suitable agencies available to carry out the survey?
- Do employees of the company have sufficient knowledge and experience?
- Do employees of the company have sufficient time and capacity to carry out the survey?
- A clear planning of the survey, results, PDCA and iteration to measure the results of the actions is necessary. Other departments should be informed when PDCA starts.

The following actions should be taken:

- Prepare a briefing in case of outsourcing the survey. When outsourcing the survey, there will have to be good coordination of the survey from within the company. Good briefing and coordination of the desired information and questions to be asked is essential. The relevant departments of the company will have to be involved. It is important to ask the question: can I use this information to achieve my desired goal (eg understanding what needs to be improved to improve customer satisfaction for each customer journey)?
- Conducting the fieldwork of the survey. In many projects, the survey was carried out by meter readers or students. Of course, they need to have good instructions to ensure that the selection of customers, the asking of the questions and the processing of the data run smoothly.

5 | Sample

The sample must be large enough to make a valid statement about the population.

Calculating a sample can be tricky. Different aspects must be taken into account and different data must be available.

5.1 | Sample size

A sample represents the population. This means that the larger a population becomes, the larger the sample becomes. A sample that is too small does not represent the population well, creating a possibility that the reliability of the study is not sufficient enough.

5.2 | Population

The population is the group of people being studied. The population is the target group of the study. Because a population can be very large (for example: all inhabitants of a big city), a sample is taken.

There is a chance that the population is unknown. In this case, calculations can be made using the infinite sample formula, or a population of 20,000 people can be entered into the calculator. When a population is larger than 20,000 people, the sample size changes little or no more.

5.3 | Representativeness

It is therefore important that a target group or population is well represented. Within the sample, all the different population groups, which are also part of the population, must be represented.

When a sample is representative, the reliability of the target group increases.

5.4 | Reliability

It is important that a study is reliable. Based on the available factors, an organization can determine for itself which confidence percentage is used during the survey. Three different confidence percentages are used, namely: 90%, 95% and 99%. In general, a confidence percentage of 95% is used.

5.5 | Accuracy

In every study there are deviations in the sample. The reason for this may be that the population is not sufficiently represented or that they do not want to work with it (completely).

Therefore, an accuracy margin is applied. This margin reflects the possible deviation in the study. The larger the sample, the smaller the margin of accuracy.

The margin is accurate when there is a 50% chance that someone will answer. This means that there is also a 50% chance that someone will not give that answer.

For example: when a questionnaire asks about the gender of the respondent, the respondent can answer 'man' or 'woman'. A sample is accurate when 50% of the respondents answer male and 50% of the respondents do not.

In this case, the accuracy deviation is 5%. This means that when 50% of the respondents indicate that they are male during the questionnaire, the actual number of males in the population is between 45% and 55%.

5.6 | Calculate sample formula

When calculating a sample, two different formulas can be used. One formula is used when the sample is infinite and the other formula is used when the sample is finite. When calculating a sample, the results must always be rounded up.

5.7 | Required variables

Certain variables are needed to be able to write out the formulas. The correct sample size can be calculated based on these variables. The required variables are as follows:

- N is the population. The population is the group of people being surveyed.
- z is the standard deviation of the confidence percentage. The most common confidence rate is 95%. This includes a deviation of 1.96.
- p is the probability that someone will give a certain answer.
- q is the probability that someone will not give a certain answer.
- F is the margin of error. The margin of error is determined by deciding what percentage of erroneous surveys is considered acceptable. This can be 3%, 5% or 7%. Often a margin of error of 5% is chosen.

5.8 | Finite sample formula

The formula of a finite sample is as follows:

$$n \geq \frac{N \cdot z^2 \cdot p \cdot q}{z^2 \cdot p \cdot q + (N - 1) \cdot F^2}$$

Example: When there is a population of 10,000 people, choosing a confidence percentage of 95%, the margin of accuracy is 50%, and the margin of error is 5%, the formula looks like this:

$$N \geq \frac{10.000 \cdot 1,96^2 \cdot 50 \cdot 50}{1,96^2 \cdot 50 \cdot 50 + (10.000-1) \cdot 5^2} = \frac{96.040.000}{259.579}$$

The result of this is 370. The result is rounded up, because a sample size calculation always has to be rounded up.

5.9 | Formula infinite sample

The formula of an infinite sample is as follows:

$$n \geq \frac{z^2 \cdot p \cdot q}{F^2}$$

Example: When there is a population of 10,000 people, choosing a confidence percentage of 95%, the margin of accuracy is 50%, and the margin of error is 5%, the formula looks like this:

$$N \geq \frac{1,96^2 \cdot 50 \cdot 50}{5^2} = \frac{9.604}{25}$$

The result of this is 384. The result is rounded up, because a sample size calculation always has to be rounded up.

6 | Method

6.1 | Questionnaire

Open questions or closed questions

Whether it is best to use an open or closed question depends on how much knowledge you already have. If the purpose of the questionnaire is to get to know the target group/your respondents (better) open questions are more effective. Do you already know something about your target group and/or do you want to compare different categories? Then it is better to use closed questions.

There are advantages and disadvantages to both types of questions:

Advantages of open questions:

- You receive qualitative information: respondents formulate their own answer. They can mention things that you had not yet considered.
- You don't give answer options. Respondents cannot choose from a selection of answer options provided by you as a survey maker, but must think up their own answer. Please note that the question itself is not guiding either.
- The use of open questions is ideal if you want to know more about a (small) group.

Disadvantages of open questions:

- It takes the respondent more time to answer an open-ended question than to click on an answer option of a multiple-choice question. After all, they have to formulate and type an answer themselves. This allows respondents to drop out halfway because it takes too much time for them. If you want to ask open questions, limit the number of open questions. Another option is to make the question non-mandatory: a respondent can choose whether or not to answer the question.
- If you want to compare the answers of different groups, the researcher has to classify the open answers into categories (coding), so that something meaningful can be said about the groups. With a small number of respondents this is easy to do, with a larger number of respondents this can quickly become a very time-consuming task.

Advantages of closed questions:

- Closed questions are easier and faster to answer by respondents: with a few simple clicks the questions can be answered. This also makes people less likely to drop out early.
- Closed questions result in quantitative results. For the researcher, quantitative results are easier to use when analyzing the results, especially with larger numbers of respondents. For example, you can easily see how many customers have completed the questionnaire, what the percentage of customers is that are very satisfied with the meter reading process, or which communication channel is experienced as the most pleasant by most respondents.
- Using a closed question is ideal for easily comparing different groups. What is the average rating given to communicating by e-mail versus the average rating communicating by letter?

Disadvantages of closed questions:

- Closed questions can be guiding. By presenting answer options to respondents, you limit the answers that the respondent can give. This can be partly compensated by also adding an option "Other, namely:" where the respondent can give a different answer than the answer options given by the survey maker.

6.2 | Scaling

Which kind of scaling (10 pt, 5 pt, Likert scale questions)

The Likert scale is a method for interrogating data that is difficult to quantify and providing it with an ordinal level of measurement.

The Likert scale consists of a series of statements about a subject, about which the respondent can indicate his degree of agreement. For each item, a respondent is asked to indicate, on the basis of a series of ordered answer options, to what extent he agrees with the statement, for example 'strongly agree' or 'disagree'. The individual items together indicate the attitude of a respondent towards a subject.

The 5-Point Likert Scale is the most common response scale.

With a 5-point Likert scale, people logically choose the extremes even less often, but this can be corrected by combining 2 categories (e.g. 'very satisfied' and 'satisfied').

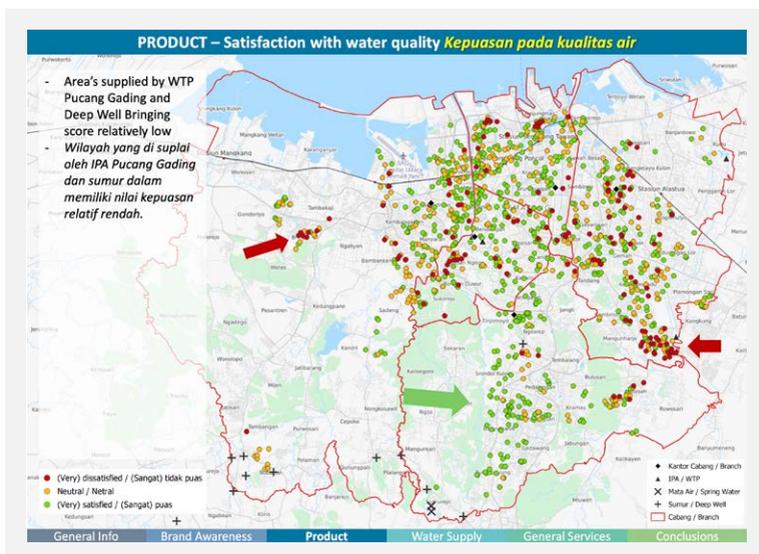
Example:

In what way are you satisfied or unsatisfied with the quality of the drinking water?

- Very satisfied
- Satisfied
- Not satisfied, not unsatisfied
- Unsatisfied
- Very unsatisfied

6.3 | Tools

Good tools can be used to carry out the survey. There is good experience with MWater in various countries. It is possible to link the Mwater results with GIS. For instance the map below shows the city of Semarang in which the satisfaction with water quality is represented.



7 | Analyzing & Reporting

When carrying out a customer survey, it is all about collecting data, so that certain insights are subsequently obtained, based on this data. The answers respondents give to the questions contain that bit of information that is needed to answer important questions. After collecting information, it is time to analyze and report the data.

The core of the analysis and reporting is answering your sub-questions. Therefore, always consider whether the information really answers the sub-questions and whether it really adds anything.

With quantitative methods you look at percentages, average scores and relationships.

Determine the right form for the report. Think about the purpose of the report (informing, convincing, inciting to action, etc.) and who the target group is.

Make correlations between the details and conclusions in the report. Which answers to sub-questions reinforce each other? Where do you see correlations throughout the survey?

A data analysis is the thorough and careful review and interpretation of data collected through a study. The data analysis then produces results that can be used to properly answer the survey questions.

Various methods are used for the analysis:

- Organizing the data
- Comparing the data
- Evaluating the data

7.1 | Organizing the data

As the word implies, you bring order to the data. This creates patterns, giving you insight into the data. You can arrange data in time, then you see the development of a variable. This method is very important to get a picture of the occurrence of problems or the development of a symptom. When you are looking for causes this is very important.

For example, if you order the data by size, you can see how the distribution is between major and minor anomalies.

Frequently used is the ordering according to problems. Then you can, for example, classify dissatisfaction according to the reasons for dissatisfaction, so friendliness of the employee, clarity of the answers, speed of processing, etc. When organizing, it is often beneficial to visualize the data, so that you will see patterns.

So you make a graph, in which you can show a development or a bar chart, with which you can, for example, show which results have been achieved.

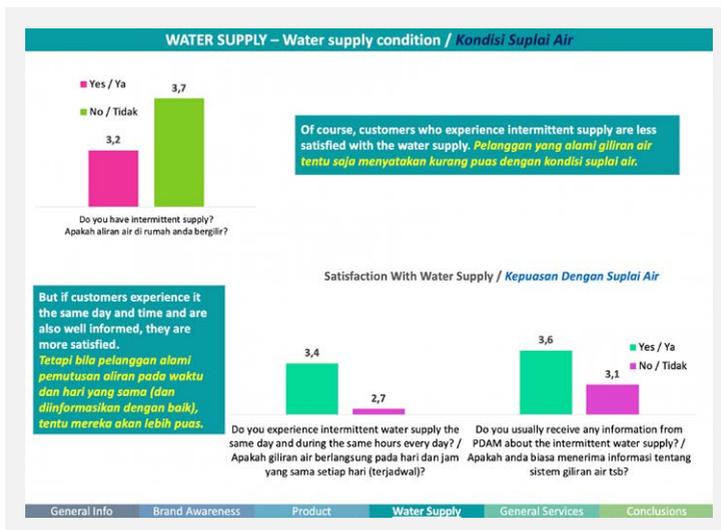
7.2 | Comparing the data

Comparing is an important research function when interpreting your found data, i.e. the analysis. Only when you compare the data with something else, the data get a certain value. You compare if you are looking for similarities and differences.

If you compare with last year you can see if something has improved or deteriorated. If you compare with other regions, customer groups or departments, you can make a statement about the developments therein, and if you compare with the standard you can say something about the quality: is it satisfactory or not?

The graphs below show a comparison between different subjects of satisfaction with complaints (for instance: compare the satisfaction with Attitude of employee with the satisfaction with Follow up information).

The other bar graph shows not only a comparison between the different subjects of satisfaction but also between the regions (in this case branches of the city of Semarang).



7.3 | Evaluating the data

Evaluation is the step following the comparison: you determine whether or not what you have found meets certain standards. Is it right or is it not right? Does it work or does it not work?

In evaluating, you are going to give an opinion about what you have found, so you are able to diagnose the situation encountered and to make choices about solutions or methods. Always make sure that you test your opinion with those involved. Did you see it right? And that you substantiate your opinion. Are the data on which you base the evaluation correct?

Cause-effect relationships

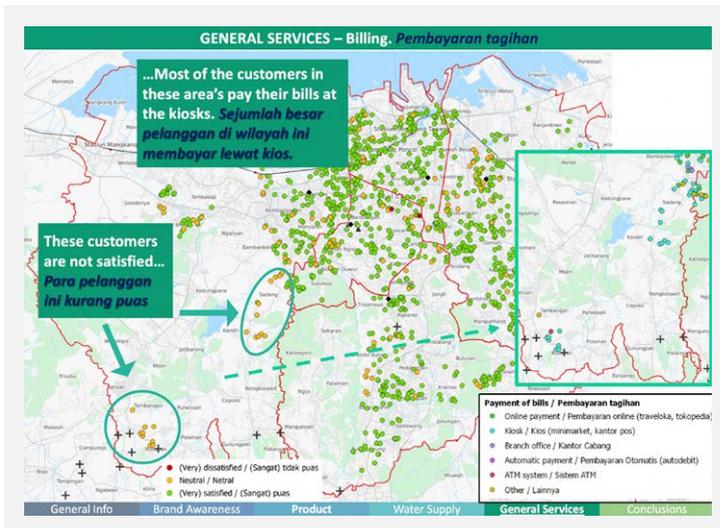
An important form of analysis is finding cause-effect relationships. In this way you answer explanatory questions such as: why is this occurring, or what is the cause, or which factors contribute to this problem.

Finding those relationships also requires using logic and beware of jumping to conclusions. If everyone says it's because of a tech department, you'll still have to investigate and demonstrate that this is indeed the case by showing connections between what that department does and the results it affects.

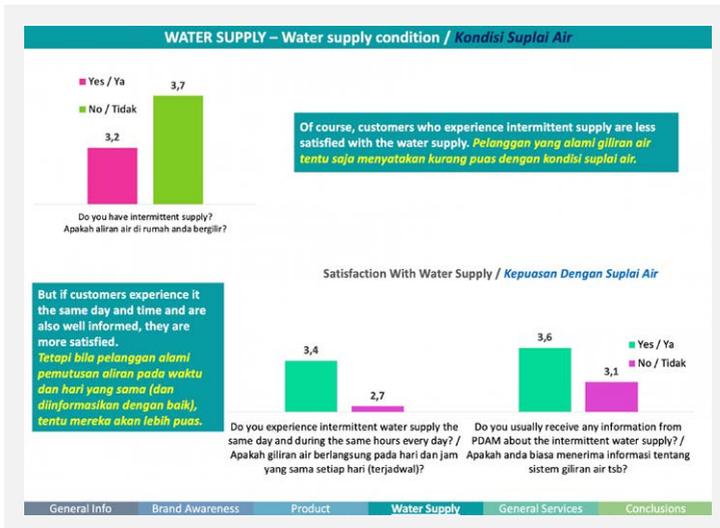
A well-known pitfall is the difference between correlation and causality. In correlation, two events occur simultaneously. A classic example is the relationship between the number of people who drown and the sale of ice cream. You can show that in periods when more ice cream is sold, the number of drownings also increases. But attributing the number of drownings to ice cream sales is not correct. So there is a correlation between drowning and ice cream sales, not causality, and the attempt to reduce drownings by banning ice cream sales is doomed to fail.

Always test cause-effect reasoning with those involved. With this you substantiate the arguments and you immediately create involvement with the people who will be confronted with your conclusions. After all, they agreed with your conclusions.

The map below shows regions in which customers are not satisfied with the service of billing. It became clear that most of the customers in these regions pay their bills at the kiosks. This could be a reason for dissatisfaction.



Another example is shown in the bar graphs below. Not surprisingly, customers who experience intermittent supply are less satisfied with the water supply. But we found out that if customers experience the intermittent water supply the same day and time and were also well informed, they were more satisfied compared to the customers who were not well informed about the intermittent water supply. This was an important insight which made clear that more emphasis should be given to communication.



8 | Actions & Recommendations

A well-defined process with clear defined responsibilities and tasks will increase customer satisfaction and needs to be embedded in the entire organization; not only the customer service department will have to work with the results. It should be a part of customer orientation supported by the whole organization.

Assigning responsibilities is one of the key factors that contribute to the success. For example:

- Who is responsible for which action?
- How is progress monitored?
- What are related topics (e.g. complaint management)
- Making a fixed agenda item in the management meeting

It is important that attention is paid to follow-up of actions (PDCA).

The PDCA cycle (Plan Do Check Act) is a four-step problem-solving iterative technique that works well to improve processes. The basic principle of the PDCA cycle is that repeating a working method ensures improvement and thus the achievement of your objectives.

About WaterWorX

WaterWorX is a flagship program that brings together 10 Dutch water utilities and 40 water operators in developing countries to provide 10 million people with sustainable access to clean drinking water through WOPs. Supported by the Dutch Ministry of Foreign Affairs (DGIS), this programme enables Dutch and local water experts to collaborate in WOP projects, across Asia, Africa and Latin America, till 2030.

WaterWorX aims to increase sustainable access to drinking water to 10 million people, by:

1. Strengthening the financial, technical and social sustainability of the local partner water companies in order to make sustainable drinking water available to millions of people in developing and transition countries.
2. Strengthening the enabling environment of laws & regulations, financing and policies in which water companies are encouraged to function properly and enhance their performance.
3. Increasing access to water infrastructure investment finance, by developing investment proposals and engaging with domestic and international financing organisations and banks.

Utility access to investment finance is problematic and often very little. The WaterWorX programme had to develop and innovate activities to improve utility access. In the first phase (2017-2021), the WaterWorX programme set up specific activities within the WOP to increase the access of utilities to investment finance. These activities differ per country, utility and WOP since investment finance is very context specific. Successes and failures of these WOP activities are documented, and lessons learned will be used to improve WOP activities in the second phase of WaterWorX (2022-2026).

