



Center of Science, Technology, and
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Measuring Customer Satisfaction in the Base-of-the-Pyramid

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Introduction

Measuring social impact is a challenge that many social enterprises face on a daily basis. While it is difficult to measure impact directly, many enterprises find other methods to gauge their progress and effect on the local community. For example, an eye-care organization can measure the number of patients treated; a malaria-prevention program can count the number of nets distributed; a solar system distributor can measure the number of houses that have access to light. One of the most common ways to measure impact is to ask customers, or users, how the product/service has affected their lives. Many organizations do this by performing customer service evaluations. Although there exists a number of customer satisfaction evaluation methods, many processes target urban populations and lack the perceptive methods needed to evaluate satisfaction of rural populations. In the following section, we present an in-depth explanation and analysis of a qualitative and quantitative methodology used to track an organization's performance through the customer's eyes. First, we describe two methods for measuring customer satisfaction that have been used in rural areas. We then articulate the basics of Net Promoter Score methodology, including explanations of how we altered it in order to use it effectively in rural areas. We conclude with a description of how we organized and analyzed the data, a discussion of the pros and cons of this methodology, and recommendations for future use in rural areas.

Alternative Methods for Evaluating Customer Satisfaction in Rural Areas

Other methods of evaluating customer satisfaction have been conducted in rural areas, and have been successful in measuring the satisfaction levels of customers. In the following example, the method differs slightly in comparison to the method used to evaluate Iluméxico solar system users because the sample size was much larger and the data was analyzed using a statistical software that eliminated bias and other variables. In order to measure the adaptability of e-banking in rural areas in India, a study was completed that collected data from 520 respondents living in rural communities regarding 17 variables that were expected to affect the satisfaction of e-banking users. Primary data was collected through a questionnaire given to rural e-banking customers located in different villages throughout Punjab and Haryana (India). It was comprised of 9 general questions and 17 questions related to the variables being studied, which were chosen based on previous research. The survey was initially administered to 650 respondents (online and in-person), yet only 520 were found suitable for further analysis. The surveyed population was required to respond to different variables on the basis of a five-point

Likert scale, which rated 1 as least satisfactory and 5 as most satisfactory. The collected data was analyzed by statistical software, including tests on data reliability, adequacy, multi co-linearity, and correlation. In conclusion, the study offered some suggestions meant to enhance the overall satisfaction levels of rural customers, thereby increasing their usage of the e-banking system (Sharma 1,4).

The results gained from this surveying method were similar to that of the NPS methodology, except for the fact that method used in India may have delivered more adequate results due to the statistical software analysis. It may be helpful to use an analytical computer program in the future in order to eliminate factors such as bias and correlation in Iluméxico customer responses. Although the study failed to mention any challenges faced while conducting the surveys, it is probable that the surveyors faced problems similar to those experienced in rural areas throughout Mexico. Due to time and resource limitations, the Net Promoter Score methodology was determined to be the most efficient data collection and analysis method to use. If more time and resources were available, a more numeric evaluation would be more useful when handling large sample sizes.

Net Promoter Score (NPS)

Net Promoter Score is a tool that helps companies worldwide measure the loyalty of their customers. It is also a straightforward metric that helps companies and individual employees understand and be accountable for how they engage with customers. In addition, NPS measures how well an organization treats the people whose lives it affects. Many companies use the methodology to track the loyalty, engagement, and enthusiasm of their customers.

This methodology is also very practical in that it categorizes customers based on their answer to a single question, typically phrased as: *On a zero-to-ten scale, how likely is it that you would recommend us (or this product/service/brand) to a friend or colleague?* A typical follow-up question would be: *What is the primary reason for your score?* After providing a rating and a reason behind the number, studies have found that customers typically fall into three well-defined groups: Promoter, Passive or Detractor. Each category of customers exhibits a distinct pattern of behavior and set of attitudes, and also calls for a different set of actions:

Promoters

The top category a customer can be classified as is called a *Promoter*. Promoters are customers who have responded to the Likert scale with a nine or ten. These are people who feel that their lives have been enriched by their relationship with the

company. Promoters behave like loyal customers and talk-up the company to their friends and colleagues. They are very enthusiastic and usually respond to surveys, offer constructive feedback, and suggestions.

Passives

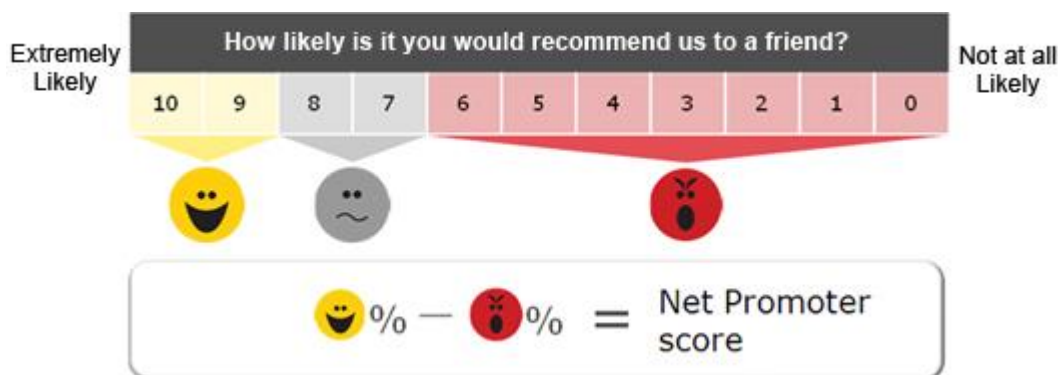
Passives represent the middle category of customers, or those who respond to the survey with a seven or eight. Passives usually refer to the company's product, brand, or service by saying "I got what I paid for, and nothing more." Passives are satisfied customers, but not quite loyal. They tend to make few referrals, and if they do, it is likely to be qualified and unenthusiastic. Passives are likely to go with the competitors if offered some sort of discount or attention-grabbing marketing campaign. A company's goal for Passive customers is to improve its services, products, or processes where possible, to the point where it can delight all customers.

Detractors

Detractors are the last category that customers can fall under. Detractors are categorized by giving a score of six or below. If a customer is a Detractor, this indicates that their lives have been diminished by their dealings with the company. They are customers who are dissatisfied, disaffected, or even dismayed by how they have been treated. Detractors tend to speak negatively about the company to their friends and colleagues, and may destroy employee motivation and pride. Companies who are confronted with Detractors must find the root cause of their disappointment and determine ways to solve the problem.

After separating the customers into their respective categories based on the scores they provided, the number of customers in each group is divided by the total number of customers surveyed. This results in three separate percentages, which represent the percentage of customers who either promote, are passive towards, or detract from the organization. In order to find the organization's actual Net Promoter Score, the percentage of Detractors is subtracted from the percentage of Promoters. The Passive group is not calculated into the equation. The difference remaining from the two percentages is the Score, which serves as an easily-comparable figure on a 100% scale (meaning that ideally every single customer is a Promoter).

Yet, the real answers lie behind the number, within the feedback provided by the customer answers to the second survey question: Why that number? By providing both quantitative and qualitative responses, and organization can easily compare its Score to other industry competitors, while simultaneously receiving customer feedback for how to improve the company.



NPS in Last-Mile Communities - Mexico

Considerations when working with Base-of-the-Pyramid:

- Prepare a realistic time budget for conducting customer satisfaction interviews in last mile communities. These individual interviews are time-intensive. For this study, two people spent 28 days in the field (including travel days) and conducted 200 interviews. Thus, although some efficiencies might be devised, it is unlikely that a person or small team could gather an amount of data sufficient to analyze in less than a week's time.
- Visuals and color-coded texts may assist in the surveying process, but they may also create bias toward a particular answer. This is an important factor to consider, since it can be either a help or a hindrance. While visuals and graphics help most people better relate to questions, it is important to research the culture before introducing pictorial surveys and interview questions which may be associated with an extremely positive or negative aspect of the culture.
- Be prepared to simplify questions, both for time and comprehension reasons. While longer interviews can be conducted with a fewer amount of customers, the NPS requires large sample sizes in order to make the score more accurate.

- If surveying populations that require a translator, it is important to remember that certain languages may not have direct translations to all phrases in the survey questions. It may even be that in order to receive a response from a customer, the answer may be included in the question.








Our team applied the NPS methodology for Iluméxico customers in two Mexican states: Campeche and Oaxaca.

Campeche

Campeche was the first state in which we conducted the NPS methodology. Over a two-week period, we visited 11 communities located near the Candelaria and Escarcega areas that were selected by the community engineers. To conduct each interview, we walked house-to-house, equipped with a list of clients and a notebook for transcribing survey answers. While Kiara asked the survey questions, Alex wrote down the answers in as much detail as possible. This process was chosen because we felt that full attention needed to be given to the customers as they spoke, while we also needed accurate notes to directly quote customers.

While we collected a significant amount of responses from system users on our first day, we realized that a visual representation of the Likert scale would be beneficial to customer comprehension. While in the rural community, we quickly created a Likert scale with corresponding faces and printed a few black-and-white copies at the local internet café. The scale we used for the remaining two weeks is depicted below:

0	1	2	3	4	5	6	7	8	9	10
										

Questions included in each survey were:

- *Using a scale from zero to ten, how likely are you to recommend Iluméxico to friends, family, or neighbors?*
- *Why did you provide that score?*
- *How did you come across Iluméxico?*
- *How can Iluméxico improve its products or services?*
- *If Iluméxico had additional solar products, what would you be interested in?*

At the end of each day, the surveys collected that day were entered into an Excel document that included the client's name, client number, and the answers to each survey question.

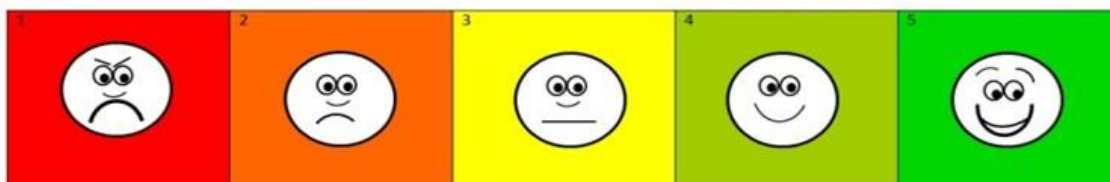
Oaxaca

Oaxaca was the second state in which we conducted the NPS methodology. Over a two-week period, we visited nine communities located near the town of Huautla de Jimenez. Due to the language barrier between customers and surveyors, a translator was used to communicate with the users. Before entering into the communities, the detailed process of how to conduct NPS and its overall purpose was explained to the translator so that she could devise a way to communicate the questions to users in Mazateco (local indigenous language).

Unlike the house visits we performed in Campeche, we asked Oaxacan users to convene at a pre-determined meeting place to be interviewed. Since the housing arrangement in Oaxaca is much more dispersed than that of Campeche, some customers were asked to travel for over an hour (sometimes walking on mountain paths) to arrive at the interview location. The meeting locations were chosen by the community engineers, who chose centrally-located areas that allowed us to interview a total of 15 communities rather than just the nine we visited. While customers waited to be interviewed, we asked that they form a line in order of arrival and that they keep their distance from the person who was currently being interviewed. Users were then called one-by-one to take a seat at the interview table, where the translator explained the questions in Mazateco, received the answers, and then translated the responses to us in Spanish. We used a client list and notebooks to keep track of each interview. We also provided juice boxes and cookies to the customers and family members who were waiting to be interviewed.

Taking into consideration our knowledge of customer demographics in Oaxaca and our previous experience in Campeche, we further modified the scale we had used in Campeche in

order to simplify the rating process. We did this to reduce the time it took to complete each interview, but also hoped that the modified scale would make the questions clearer to customers. Since the NPS Likert scale reaches from 0-10, we matched each corresponding face with a group of numbers. 1-3(red-yellow)= 0-6 (Detractor), 4(olive) = 7-8 (Passive), and 5 (green) = 9-10 (Promoter). An example of the scale used in Oaxaca is provided below:



Questions included in each survey were:

- *Using a scale from zero to ten, how likely are you to recommend Iluméxico to friends, family, or neighbors?*
- *Why did you provide that score?*
- *How can Iluméxico improve its products or services?*
- *If Iluméxico had additional solar products, what would you be interested in?*

At the end of each day, the surveys collected that day were entered into an Excel document that included the client's name, client number, and the answers to each survey question (similar to that of Campeche).

Pros & Cons For Each Method

Campeche

Pros

- Unlike the interviewing method in Oaxaca, where customers met in large groups and often overheard the answers of their peers, Campeche users were interviewed individually in their homes. This system was found to be more effective because users seemed to feel a greater sense of comfort and confidentiality when discussing personal opinions in their homes. They also had greater diversity in their answers because they were not influenced or pressured by the overhearing the interviews of their peers.
- The NPS methodology only contains two main questions, plus the two-three additional questions added to the end by the interviewers. These few questions seemed to be the appropriate amount, as people were busy with daily chores and only had to take a few

minutes out of their day to answer these questions. If they felt the desire to share more about their experience, it was welcomed, but not forced.

- The use of a notebook to transcribe customer responses was more effective than using an electronic device to record data. This may be because customers are not accustomed to the impersonal and slightly unfamiliar use of a tablet or smartphone when discussing personal matters. Additionally, the electronic device that was to be used in the field did not have a full keyboard, and was troublesome to type on when trying to keep pace with the conversation.
- Printing a list of customer names and i.d. numbers prior to each community visit was extremely helpful. It kept the team on track, allowed them to know how many customers were left to survey, and provided Iluméxico management with the more specifics as to which customers requested help with their systems.

Cons

- While surveying customers (many of whom had never been surveyed before), there was a sense of nervousness and willingness to please in the tone of many voices. Some customers asked that an answer be provided for them, almost as if they did not have the authority or enough knowledge to provide one. Although this is not a negative specific to NPS methodology, it may be a common theme in other survey methodologies.
- At times, ratings provided by the customers did not correspond with their free response answers. While this could have been due to a willingness to please, or the attraction to a facial graphic that seemed fairly happy, there may have been deeper causes. The mismatched qualitative and quantitative answers may represent a misunderstanding of the questions in principle. Customers may have been providing us with ratings at random, and then sharing their true opinion on customer satisfaction.
- Traveling from house to house took almost double the amount of time per survey as compared to the meeting arrangements of the customers surveyed in Oaxaca. While this method may have garnered more honest feedback, it was not as efficient.
- Despite the use of a physical scale, many customers lacked an understanding of the Likert scale. When this occurred, many would call for help from a relative, younger

child, or other household member to explain. This outside help would often influence customer responses.

Oaxaca

Pros

- The modified scale (with fewer options to customers) was beneficial in that it simplified a complex question and allowed the translator to better explain the information we were looking for.
- Communication between the Iluméxico community engineers and the community representative prior to each visit was key in planning an organized surveying event and completing them in a timely manner. The representative and engineers would agree on a meeting location and time, and would then relay the information to local inhabitants. This led to an increased number of customer surveys and cut the time in half of what was spent walking from house to house in Campeche.
- The use of a visual scale was not enough to effectively communicate with customers when a language barrier is present. The use of a translator helped us relay our questions and accurately record customers responses. A translator may have been helpful in various communities of Campeche, where a few residents spoke indigenous languages.
- The NPS methodology only contains two main questions, plus the two-three additional questions added to the end by the interviewers. These few questions seemed to be the appropriate amount, as people were busy with daily chores and only had to take a few minutes out of their day to answer these questions. If they felt the desire to share more about their experience, it was welcomed, but not forced.
- The use of a notebook to transcribe customer responses was more effective than using an electronic device to record data. This may be because customers are not accustomed to the impersonal and slightly unfamiliar use of a tablet or smartphone when discussing personal matters. Additionally, the electronic device that was to be used in the field did not have a full keyboard, and was troublesome to type on when trying to keep pace with the conversation.
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- Despite the use of the modified physical scale, many customers lacked an understanding of the Likert scale. The translator would feel the need to provide examples, and may have influenced customer responses.
- The importance of the NPS methodology is for customers to give the interviewer a score first and then provide the company with any reasons as to why they think they gave that score. Customers in both Oaxaca and Campeche most of time responded with their comments first and then provided our team with a score. We often had to insist that the customer provide a score.
- Unlike Campeche, where the majority of customers were interviewed individually in their households, the users in Oaxaca were grouped together in a small area. Many customers overheard each other's answers, which may have been the reason why so many of the interviewees replied with similar answers.

Customer Feedback Analysis Recommendations

- It is strongly encouraged that interviewers use the same visual scale when interviewing two or more rural communities if they are to be compared in the analysis afterward. This will ensure that the data is consistent and have a higher accuracy level.
- After designing the visual scale, but before using it in the field, it is recommended that the company consult with a local psychologist or someone specializing in local feedback responses to surveys. Various colors and symbols spark different responses in the mind, some of which are culturally conditioned, which may lead to biased responses in the survey. These responses may also be culturally-related, so it is important to also consult with a source that is familiar with the culture to avoid cultural or social taboos or biases.
- The specific order of survey questions in the NPS methodology may need to be adjusted when conducting surveys in rural areas. Customers often preferred to first share their opinions about the company and then provide a numerical rating, rather than beginning with the NPS Likert scale rating. Many times, customers did not feel comfortable providing a numerical score, and only did so after we insisted that they attempt to provide one that correlated with their answers. Many Iluméxico customers have no prior experience with expressing their views on a Likert scale, and to some, this may seem impersonal or abstract beyond meaning. A three-step process may be more appropriate for working with these customers.
 - Begin the survey by asking, “What could the company do to improve?”
 - Follow this by asking for a (modified to be culturally intelligible) NPS score.
 - Follow this by asking for an explanation of the score.

There may more value to the enterprise in the qualitative customer feedback than in the actual NPS score. While the numeric NPS score is helpful for internal and cross-company comparisons, the qualitative customer comments may help improve the social enterprise by bringing customers’ concerns and perspectives to the management of the enterprise.