

# Acme online survey analysis and design

## The Challenge

Acme continuously measures customer satisfaction to improve its website, and online surveys are one method, among many, they use. Acme determined that their FY04 online survey was not giving them the information needed to improve the website because customer ratings were uniformly high and not changing over time, so they were measuring things customers were already satisfied with. Acme asked Quintus Design to help them create a new survey for FY05 that would track issues that are important to customer satisfaction, that could drive improvements in the website, and that could be tied to ROI. And, they needed to get the new survey written in just 4 weeks. Finally, they wanted to present the survey results in an engaging score card format for ongoing tracking.

**Summary:** Write a new online customer satisfaction survey...

- ...with questions that are sensitive to customer needs
- ...that drives website improvement
- ...with questions that address ROI
- ...engaging score card report
- ...within 4 weeks

## Background

The results of the FY04 survey were good news. Ratings on the survey questions were uniformly high and had not changed over time. This showed that Acme had made significant progress over the year in improving their website. From a measurement perspective, however, it meant that they were no longer getting information that would help them continue to improve their website. If everything looks good and nothing is changing, then there is no information to use for continuous improvement. The need for information to feed continuous improvement efforts was a **key catalyst for change**.

Any company wants to understand how they can better serve the customers who provide the best return on the investment required to continuously improve a website. An online survey can help target the needs of the highest ROI customers and help prioritize continuous improvement efforts. One element that was missing from the Acme FY04 survey was a focus on ROI. Quintus was able to find opportunities for tracking ROI-relevant issues in customer comments from the FY04 survey, and that was a **key success factor** for this project.

Often, different stakeholder organizations that contribute to a website focus on different end-user goals and needs. Continuous improvement efforts can be better targeted by an organization when a survey provides data that bridges user needs and goals and stakeholder responsibilities and goals. The FY05 Acme survey included a question about end-user goals that enabled us to provide data that helped different organizations understand how they could best contribute to continuous improvement. The focus on customer goals was a **unique contribution** to the survey development process.

Quintus Design has been supplying survey analysis and design services to Acme for over 3 years. During that time, Quintus has become intimately familiar with Acme web survey data. We have been involved with every aspect of their online surveys from “cleaning” the raw data with custom developed Perl scripts to statistical analysis and interpretation and question writing. Our familiarity with their data meant that we were well positioned to quickly analyze the data and create new survey questions that met Acme’s needs.

### Overview

‘Acme’ is a Fortune 200 computer maker. The name was changed to respect anonymity.

Acme needed an improved online customer satisfaction survey. Quintus Design helped them quickly analyze their existing data and create a new survey. As a result, Acme is better able to track ROI-relevant customer satisfaction issues. Quintus also researched and implemented an engaging new score card format for communicating the data, including new ways to summarize the data at multiple levels of detail.

## The Quintus Advantage

Quintus was able to use a variety of expert skills to quickly and effectively address the needs of Acme.

### We used qualitative data from customer comments to determine what to measure quantitatively

**Analyzing open-ended survey responses was a critical success factor** for this project and one of the unique benefits that Quintus has provided to Acme over its 3 years of survey consulting. The key to success when analyzing open-ended responses is to be able to look beyond the surface level meaning of the written comments to the implications for actionable data. We found meaningful groupings of comments that could be captured as closed-ended survey questions. This helped to ensure that quantitative data was reflecting the customer needs because customers' own words were determining what we measured quantitatively. Of course, it's important to combine customer needs with information about the goals and needs of the company.

Customer comments sometimes just ask for more, better, faster, cheaper (or free!). Fulfilling those customer needs is often not a good ROI. But, customer comments often provide good insights into what is truly important to them and beneficial to the company in terms of its business goals.

Analyzing qualitative data in this way is a skill that Quintus has honed in a variety of projects. We also use **state of the art software** from SPSS™ Inc. that performs linguistic analysis of the open-ended responses to make the analysis more efficient and effective.

### We used quantitative analyses to validate our quantitative measures and find larger themes in the data

**Quantitative data analysis** was used in this project to validate that questions were measuring what we intended them to measure. Based on the qualitative analysis described above, we wrote and tested questions by actually fielding surveys. We would then analyze the quantitative and qualitative data that came back, and judge whether our questions were measuring customer needs.

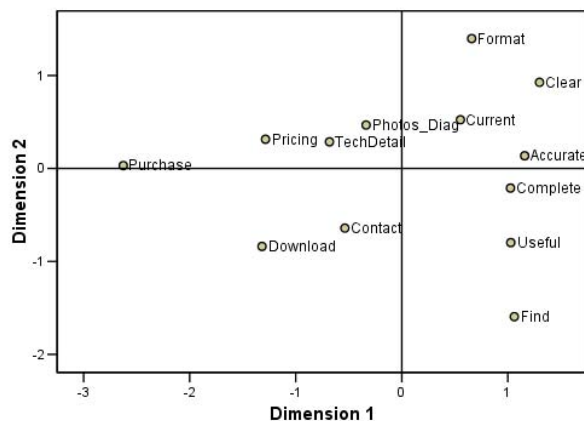


Figure 1. A quantitative analysis that reveals patterns in responses to 13 different questions on the survey.

**Skills Summary**

- Qualitative data analysis**
  - Open-ended survey responses
- Quantitative data analysis**
  - Inferential statistics
  - Factor analysis
  - Cluster analysis
- Questionnaire writing**
- Data conditioning**
  - Custom Perl scripts
- Tool research and implementation**
  - Score card presentation

Figure 1 shows the results of a **factor analysis** (one of the quantitative analysis methods used) to explore patterns in responses to the 13 new survey questions we trialed. This was the last question set we trialed and many refinements had already been made. Each of the points in the graph shown in Figure 1 represents a question on the survey and is identified with a short label related to the theme of the question. The two dimensions that the points are plotted in are computed based on differences in response patterns to the questions. These are not the original ratings that customers gave. Responses were ratings on a 1 to 6 scale of agreement (strongly disagree to strongly agree) with the question.

The factor analysis in Figure 1 shows how responses to the different questions are related to larger themes. In this case, there were two larger themes in the responses.

#### **‘Purchasing’ was one of the larger themes in the data**

The first theme is seen in the distribution of points from left to right on the horizontal axis (Dimension 1) of Figure 1. Items on the left side of Dimension 1 seem to be about “Purchasing” (ROI-relevant), whereas items on the right side of Dimension 1 apply more to any website information. For example, the question specifically about purchasing is on the far left of Dimension 1. Information that supports purchasing, such as pricing, photos and diagrams, and technical detail, are also near the purchasing item, indicating that these types of information are important for supporting purchasing. Now, you might say, “well, we know that, that’s obvious”. Well, sort of. **It may seem obvious that pricing information is related to purchasing. But, what the questionnaire data show is that it is an issue to customers and we were able to reliably measure it.**

#### **We were able to validate that purchasing issues need improvement from the customer’s perspective**

We validated that things are not uniformly OK in the area of purchasing and our questionnaire is reliably sensitive to that. In other words, we can use data about customer feelings regarding purchasing to improve the website. In addition to the types of **information** that support purchasing (pictures, pricing, technical detail), we also see some **activities** that support purchasing. Notice that the questions that deal with being able to download things and contact a person are also to the left side of Dimension 1, although lower down on Dimension 2 (vertical dimension). But, for understanding their relationship to purchasing, we ignore the spread of points on the vertical dimension for now. So, our questionnaire is sensitive to issues that customers have with being able to download something and contact someone, and those issues seem to be related to purchasing, which is an ROI-relevant issue. Why is it important to know that an issue is ROI-relevant? Well, if people were having problems downloading free information from your website that isn’t directly related to how you make money as a business, you would prioritize web site improvement differently than if downloading were a clear road block to selling your product. Right? So, it seems that we have identified a **Purchasing** factor in our questionnaire responses and certain questions (about purchasing, pricing information, downloading, etc.) contribute to that factor. We’ll describe later how we use this factor to create a metric for our score card that allows the data to be understood at a high level, while still providing detail at the individual question level for those who want that.

#### **‘Browsing’ was the other large theme in the data**

**Dimension 2** in Figure 1, the vertical dimension, has the question about finding things (“Find”) on the website near the bottom of the dimension (look at the right side, near the bottom of Figure 1) and “Format” near the top. This dimension seems to describe the progression of finding information on a website. First, I find it. Once I find it, I need it to be useful. Then, I’m concerned about the quality of the information (qualities intrinsic to the information), is it complete, accurate, current, clear. Finally, the qualities of the information that are extrinsic to the information are important, for example, format. We called this the **Browsing** dimension. Note that the Purchasing items we discussed earlier are also part of the spread of information on Dimension 2. The items related to purchasing are in the middle of the dimension, after we’ve found information and determined whether or not it is useful. Pricing, technical detail, photos/diagrams are at the same level as the “intrinsic” information concerns such as completeness and accuracy. The “current” item is a little closer to the purchasing related items than the other Browsing items. It may be that having “current” pricing and other purchase related information is an issue to customers. Wouldn’t accurate pricing also be important? Of course. But it may be that problems with accuracy have not been experienced by customers, so it is not something that our questionnaire is picking up. Notice that on Dimension 2, the items about downloading and contacting someone are near the end with Find and Useful. Part of information being useful might depend on being able to download it, and/or contact someone to talk about it. Whether you are purchasing or browsing, download and contact appear to be important. We labeled them “enabler interactions” for this reason. They are a fundamental part of supporting any type of interaction on this website.

**We researched and implemented an engaging score card report format**

At this point, we felt that we had a questionnaire that was reliably measuring customer satisfaction issues that were also important to Acme. We knew that purchasing-related issues on the website needed improvement, and we had individual measures of purchasing issue satisfaction. The next step was to put the data in an engaging score card format so that it could be tracked over time for purposes of seeing improvement in the website. We found the XCelcius™ score card tool from Infommersion and determined that it would work well for our needs.

The score card is an interactive Flash™ object ([online example](#)) that can be placed in a web page. The interactivity allows someone to look at different subcategories of the data and see how that affects the results. In the case of this survey, the important subcategories were different end-user goals for using the site.

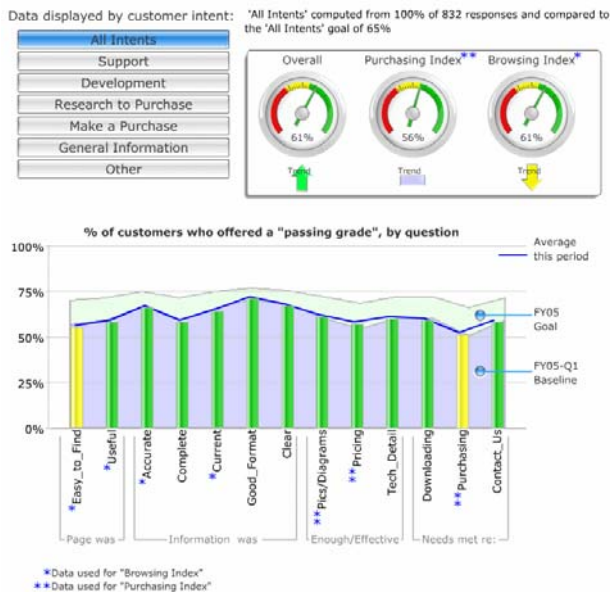


Figure 2. Online scorecard. See the online example to interact with the actual scorecard.

**The score card allows people to see how the data changes with customer goals**

The statistical analyses showed that user goal was the most important factor for understanding differences among the user ratings. The score card presented navigation bars that allowed stakeholders to see how user ratings differed based on user goal. Different stakeholder organizations assign different importance to the different user goals depending on their mission. The structure of the score card allows a stakeholder to understand the user ratings that are most important to that organization.

**The score card allows people to see the data at different levels of detail**

The online example also shows that the data are presented at different levels of detail. The gauges in the top right of the score card are summary indices for the 13 questions that are presented in the bar graph across the bottom of the score card. The first gauge is the overall average across all questions. The second gauge is a purchasing index which is the average of the questions that are most important to the purchasing factor discussed earlier. The last gauge is the browsing index. These indices also have green, yellow, and red zones, based on goals that are set for those indices. Stakeholders can see at a glance how they are doing relative to the company goals for these measures. The bars in the bar graph are also color coded relative to the red, yellow, green classification for goals. So, the stakeholders can also see, for an individual question, how that question performed relative to goals. Three different historical trends are also shown. The two shaded area graphs in the background and the solid blue line that sits on top of the bars. So, the score card allows stakeholders to understand user perceptions relative to company goals, historical trends, and end-user goals.

## Conclusions

The Acme customer satisfaction survey is now a reliable gauge of issues that matter to Acme customers. The results can be understood at different levels of detail, from high-level indices of customer satisfaction to ratings on individual questions. Purchasing issues, which are related to ROI, can be directly tracked and the relationship of different end-user goals to different questions can be used to focus a particular organization's website improvement efforts. This is all communicated via the online scorecard, which is automatically updated from the online survey.

**The FY05 survey will not remain diagnostic forever.** The FY04 survey was diagnostic when it was first written, and then it became out of synch with customer needs. Over time, customer expectations and needs change. This is an important lesson. Because **customer expectations are always changing** you must constantly measure those expectations and adapt to them in order to consistently improve your customers' experience with your website. Part of the reason customer needs change is that you fix issues with your website and your business. That refocuses customers on different issues.

Your customers might also have more issues than you can reliably track in a single online survey. That's OK. Shorter surveys are generally better than longer ones. Prioritize the most important issues that you need to track, and address those in your survey. Over time, as you improve in some areas, you can change your survey and begin to track other issues. You might also consider using multiple surveys that each track different issues.

Finally, surveys are not the only method you should use to track customer satisfaction and improve your customers' experience with your website and your products. Doing field research, usability testing, focus groups, and other user research in combination can help keep you ahead of your competitors when it comes to keeping customers and keeping customers happy.

## Key Learnings

- Online surveys need to be checked regularly to see if they are getting useful information from customers. Customer needs change over time, partly because you respond to customer feedback!
- Fielding an open-ended survey, or analyzing existing open-ended response data, can be a good first step to developing a quantitative survey. Find out what customer issues are first, then track them quantitatively.
- Several iterations might be required to get the final set of questions. At each iteration, quantitative data analysis is used to validate question effectiveness.
- 'User Goal/Intent' was found to be a very important question for understanding differences in user ratings and was also important for aligning with internal company goals.
- ROI-relevant performance goals for survey results can be set and individual organizations can be held accountable for improving their results.
- Scorecards that automatically and continuously update can be placed on the web or emailed to stakeholders. This is a good way to keep the organization aware of progress toward goals.