

UNIT IV WEB ANALYTICS

Web Analytics - Present and Future, Data Collection - Importance and Options, Overview of Qualitative Analysis, Business Analysis, KPI and Planning, Critical Components of a Successful Web Analytics Strategy, Web Analytics Fundamentals, Concepts, Proposals & Reports, Web Data Analysis

OVERVIEW OF QUALITATIVE ANALYSIS

The Essence of Customer Centricity

User research is the science of observing and monitoring how the customers interact with websites or software or hardware, and to then draw conclusions about how to improve those customer experiences. It can be done in a **lab environment, people's native environments, and surveys** to monitor key metrics such as customer satisfaction and task completion rates.

The greatest benefit of user research is that it allows all of us to get really close to our customers and get a real-world feel for their needs, wants, and perceptions of interactions with our websites.

UCD(User Centric Design) methodologies represent the purest sense of customer centricity because it allows us to engage in a dialogue with the customers in a way that we can't when using other methodologies.

Lab Usability Testing

Lab usability tests measure a user's ability to complete tasks. Usability tests are best for optimizing User Interface(UI) designs and workflows, understanding the customer's voice, and understanding what customers really do. In a typical usability test, a user attempts to complete a task or set of tasks by using a website (or software or a product). Each of these tasks has a specified goal with effectiveness, efficiency, and satisfaction identified in a specified usage context.

A typical study will have eight to twelve participants. Early on during these tests, patterns begin to emerge with as few as five users that highlight which parts of the customer experience or process are working well and which are causing problems.

Lab tests are conducted by a user-centric design or human factors expert. Key stakeholders will participate as observers, and their job is to get a close understanding of the customer experience. Stakeholders can be business owners, engineers and developers, web analysts, product managers—anyone who has something to do with the website or customer experience.

Usability tests are typically held in a specially designed room called a usability lab. The lab is split into two rooms that are divided by a one-way mirrored window that allows observers to watch the test without being seen by the test subject. However, you can conduct a usability lab without a lab. All you need is a room with a computer in it and a promise from all test observers that they will remain silent throughout the test.

As the test subjects work on their tasks, a test moderator observes. The moderator takes notes about the user's actions, and records whether the participant is able to complete the task, in what length of time, and by taking what steps. While the participant is working at the task, the moderator limits their own interactions to providing initial task instructions and occasionally prompting the participant to further explain their comments. For example, if the participant says, "that was easy," the moderator might say, "tell me more about that." This neutral prompt encourages the participant to explain what they thought happened, and why it worked well for them. Because moderators make nonjudgmental comments and do not assist, the participant is forced to use their own devices—as they would at home or in their office—to complete their task.

All the while the note taker is busy recording comments of the session and making note of the important points. Observers will do the same. Sometimes observers have the option of interacting with the moderator to ask the participant more questions or to clarify something. Often lab usability tests are also recorded on video for later review and to present to a larger audience in a company.

Conducting a Test

There are four stages to completing a successful lab usability test: preparing, conducting the test, analyzing the data, and following up.

1. Preparing the Test

The main steps in the preparation phase are as follows:

1. Identify the critical tasks that you are testing for. (For example, for Amazon.com: How easy is it for our customers to return a product or request a replacement?)
2. For each task, create scenarios for the test participant. (For example: You ordered a Sony digital camera from us. When you got the box, it was missing a lens cap. You would like to contact Amazon for help. What do you do next?)
3. For each scenario, identify what success looks like. (For example: The user found the correct page, abc.html, on the support site, followed the link to the Contact Amazon web page, filled out a request, and clicked the Submit button.)
4. Identify who your test participants should be (new users, existing users, people who shop at competitors' sites, and so forth).
5. Identify a compensation structure for the participants.

6. Contact a recruiter, in your company or outside, to recruit the right people for you.

7. Do dry runs of the test with someone internal to the company just to make sure your scripts and other elements work fine.

2. Conducting the Test

The main steps in this phase are as follows:

1. Welcome your participants and orient them to the environment. (“You are here at our company, and there is a mirror, and people are watching you, and we are recording this, and you can do no wrong, so don’t worry.”)

2. Starting with a “think aloud” exercise is a good idea. You want to “hear” what the participants are thinking, and this exercise will train them to “talk their thoughts.” The main goal is to really understand and uncover the problems they will surely have.

3. Have the participants read the tasks aloud to ensure that they read the whole thing and understand the task or scenario.

4. Watch what the participants are doing and carefully observe their verbal and nonverbal clues so you can see where the participants fail in their tasks or if they misunderstand what your web pages say or if they go down the wrong path.

5. The moderator can ask the participants follow-up questions to get more clarity (but be careful not to give out answers and absolutely watch your own verbal and nonverbal clues so as to be as calm and reassuring as you can to the participant).

6. Thank the participants in the end and make sure to pay them right away.

3. Analyzing the Data

The main steps in this phase are as follows:

1. As soon as possible, hold a debriefing session with all the observers so that everyone can share their thoughts and observations.

2. Take time to note trends and patterns.

3. Do a deep dive analysis with a goal of identifying the root causes of failures based on actual observations. (For example: The FAQ answers on the website were too long. The Contact Us link was not apparent and hidden “below the fold.” It was not clear that they could not contact us via phone. Or almost everyone complained that their expectations were not set about when to expect a reply.) The moderator is responsible for tallying successes and failures by each participant for each task.

4. Make recommendations to fix the problems identified. Usually you create a PowerPoint deck that collects all the scores. Then for each critical task identify the points of failure, make concrete recommendations that will improve the customer experience, and categorize the recommendations into Urgent, Important, and Nice to Have (to help business decision makers prioritize).

4. Following Up

The traditional role of UCD experts and researchers might end at the analysis step, but their role continues after the test result presentation. These experts and researchers can collaborate with business owners to help fix the problems and can offer their services and expertise to partner with website developers and designers to improve the site experience. This follow-up ensures that all their hard work gets translated into action and positive business outcomes.

Benefits of Lab Usability Tests

- Lab tests are really great at getting close to a customer and really observing them, and even interacting with them.
- For complex experiences, lab tests can be a great way to get customer feedback early in the process to identify big problems early on and save time, money, energy, and sanity.
- For existing experiences, this is a great way to identify what is working and what is not—especially if you are completely stumped by your clickstream data (which happens a lot).
- It can be a great mechanism for generating ideas to solve customer problems. Not solutions—ideas.

Heuristic Evaluations

A heuristic is a rule of thumb. In as much, heuristic evaluations follow a set of well-established rules (best practices) in web design and in how website visitors experience websites and interact with them.

When conducting a heuristic evaluation, a user researcher (or an HCI expert) acts as a website customer and attempts to complete a set of predetermined tasks (tasks related to the website's reason for existence).

Heuristic evaluations can also be done in groups; people with key skills (such as designers, information architects, web analytics professionals, search experts, and so forth) all attempt to mimic the customer experience under the stewardship of the user researcher.

The goal is to attempt to complete tasks on the website as a customer would. The great benefit of using a group heuristic evaluation method is that to tap into the “wisdom of crowds.”

On the Web this is especially powerful because the Web is such an intensely personal medium and the group members can offer different points of view. In turn, the company benefits.

The process can be as simple as getting into a conference room and projecting the website on the screen and trying to complete the common customer tasks.

Conducting a Heuristic Evaluation

Now that you are hopefully all excited about leveraging heuristic evaluations for our website, here are the six steps to conducting a successful evaluation process:

1. **Use primary research (surveys)** or partner with the website owner to understand the core tasks that the customers are expected to complete on the website. Here are some examples of scenarios:

- Find information about the top-selling product on the website.
- Locate a store closest to where the customer lives.
- Place an order on the website by using PayPal. (If the website doesn't accept PayPal, how easily and quickly can a customer find that out?)
- Check the delivery status of an order placed on the website.
- Successfully contact tech support via email.
- Pick the right product for customer profile x (where x can be a small business owner or a family of four or someone who is allergic to peanuts).
- Sign up for a company newsletter.

2. **Establish success benchmarks** for each task (for example: success rate for finding information about top selling products = 95 percent, locating a store = 80 percent, and so forth).

3. **Walk through each task as a customer** would and make note of the key findings in the experience—everything from how long it takes to complete the tasks, to how many steps it takes, to hurdles in accomplishing the tasks.

4. **Make note of the specific rule violations** against the best-practices checklist.

5. **Create a report of your findings.** The most common format used is PowerPoint with a screen shot of the web page and clear call-outs for issues found.

6. **Categorize the recommendations into Urgent, Important, and Nice to Have**, to help business decision makers prioritize. Recommendations should be made regardless of technical feasibility (don't worry about what can be implemented, you are representing the customer, and the IT team can figure out how to implement).

Benefits of Heuristic Evaluations

- Heuristic evaluations are extremely fast to perform, with a very quick time to
- insights.
- They can leverage your existing resources in the company.
- They can identify the most egregious customer issues on your website (often all
- the low- and medium-hanging fruit).
- They can be used very effectively early in the website development process to
- find potential hurdles.

- They can reduce the cost of full usability tests by helping fix the obvious problems. Usability tests can then be focused on hidden or tougher challenges.

Site Visits (Follow-Me-Home Studies)

Site visits, also often referred to as follow-me-home studies, are perhaps the best way to get as close to the customer's "native" environment as possible. In a site visit, user researchers, and often other key stakeholders, go to the home or office of the customer to observe them completing tasks in a real-world environment.

We can observe customers interacting with websites in the midst of all the other distractions of their environment

Site visits are conducted by visiting current or prospective customers at their workplaces or homes, as may be appropriate.

The customers show us how they interact with our websites. This process is less like an interview and more like a training session, as the customers teach us how they accomplish tasks.

The goal is very much for the company employees to be avid observers of everything that is in front of them: the customer interacting with the website, the layout of the work space, behaviors exhibited by the customer, environmental variables that might affect the customer experience, whether website tasks require the customer to switch applications or look for paperwork.

Site visits can be entirely observational, or interactive to simply observe during the entire visit or to ask questions or for more information or even answer questions that the customer might have.

Conducting a Site Visit

There are three stages to conducting a successful site visit: preparing, conducting the site visit, and analyzing the data. (Site visits usually do not include follow-up site visits, but instead the results are measured online.)

Preparing the Site Visit

The preparation steps for site visits share some steps with lab usability testing, though the protocols are slighter loser because the emphasis is on more open-ended learning. It follows the steps for preparing lab usability tests (steps one through six) that cover understanding of the customer experience, identification of critical tasks and test participants, and recruiting. The additional steps in the preparation phase are as follows:

1. Set your customer's expectations clearly.
2. Assign the proper roles for your company employees up front

3. Coordinate all facets of the visit with your team and show up on time.

Conducting the Site Visit

The exciting part—you get to see people! Here are the main steps:

1. Remember that 80 percent of your time should be spent observing during the site visit. Practice patience.
2. Ask your customers to show you what they do when you are not there. Watch your customers, listen to them, and look for verbal and nonverbal clues. Let them teach you—let them show you how they are solving their problems.
3. Think of your intents behind how you would solve the customers' problems and think of better ways of helping them as you see in the real world how they experience your website.
4. Don't teach or help the customers or provide them with tips and tricks.
5. The moderator can ask a few clarifying questions, but remember the 80-20 rule (80 percent observation).
6. During the visit, look for small details and be prepared to be surprised. Surprises are a good thing in this case because from them will emerge solutions that will make your company unique in how it solves customer challenges.
7. Thank the customers in the end and make sure to pay them right away.

Analyzing the Data

The following are the main steps of this phase:

1. As soon as possible, usually right after the site visit, hold a **debriefing session for all the folks** who participated in the site visit. The goal is to collect the freshest observations because even with a brief passage of time some of the subtle observations might be forgotten. Take extensive notes.
2. Use the team to identify the core themes among the observations. **Categorize all the insights into similar groups.** Be sure to use the examples, and document them, to illustrate the issues (looking at a video snippet of an actual customer struggling to complete a task, simple or complex, can be extremely powerful in its power to communicate).
3. In your analysis, **focus on the surprises** that you saw and the patterns that were repeated by different customers during your site visit.
4. **Do a deep dive on your main themes** and identify what the core root causes were for the failures based on actual observations.

5. **Develop recommendations and action plans** to address each issue. Use the team to prioritize the recommendations into Urgent, Important, and Nice to Have categories to help the decision-making process for actions.

6. Finally, **develop a plan to measure success post-implementation**. This could be done via follow-up site visits, testing on the website, increased sales or revenues, or customer satisfaction.

Benefits of Site Visits

- Site visits allow us to understand how customers accomplish their goals in the real world, with all the distractions and other environmental variables.
- Site visits are perhaps the only UCD methodology that allows us to have a true dialogue with your customers, glean powerful insights into their experiences (or needs or wants), and get all our Why questions answered in a very direct manner.
- Site visits are especially powerful for gathering information about user requirements, understanding customer problems, and for identifying new and different ways of meeting customer requirements.
- Site visits can be most powerful to the company employees who are usually deep in the trenches: website developers, quality assurance (QA), architects, web analysts—folks who as a part of their day-to-day work obligations rarely have the opportunity to interact with real customers directly.

Surveys (Questionnaires)

Surveys are both the most used of the UCD methods and perhaps the least appreciated in terms of their value. They are the optimal method for collecting feedback from a very large number of customers (participants) relatively inexpensively and quickly.

The law of large numbers means that conclusions based on survey data, if done right, will be more accurate and reliable and provide insights and conclusions that help us better understand customer perspectives.

Surveys can be a great complement to other traditional UCD methodologies. They can also be extremely beneficial in filling the “holes” we frequently find in our clickstream analysis.

There are many types of surveys that we can do and they can be used on the Web for various purposes. There are two prevalent types of surveys: website and post-visit.

Website Surveys

Website surveys are served on the website and are triggered by some rules (on exit, on meeting a certain page-view criteria, or by the customer clicking on a link, and so forth). These surveys pop up or pop under.

Website surveys can be an optimal way to capture the customers' freshest thoughts, usually about the experience of the site, and to get more context about the customer's visit.

Website surveys are triggered by automated pop-ups or via clicking a text link. Automated pop-ups are considered **site-level surveys**. Surveys requiring the customer to proactively click a link (or an image) to initiate the surveys are called **page-level surveys**.

Site-level surveys are best at helping you understand the holistic customer experience on the website. These surveys cover important facets of the experience, such as product information, website performance, price and transaction costs, internal site search performance, problem resolution rates, and likelihood to buy or recommend.

They are very insightful for understanding reasons for visiting and key drivers of customer satisfaction, and for identifying macro-problems with the website experience. They are also particularly good for obtaining open-ended comments (voice of the customer) that are chock full of insights.

Site-level surveys will not provide narrow pagelevel details; rather they allow you to identify macro-factors that influence your customer website experience.

Page-level surveys are best at asking questions about and helping you to understand the performance of individual pages. They are usually much shorter than sitelevel surveys and aim to collect satisfaction rates or task-completion rates in the narrow context of a page.

One scenario where page-level surveys are optimal is on a **support website**. Most support websites are a collection of knowledge base articles or FAQs. In this case, we really do want to know exactly what our customers think of every single article/FAQ and we want them to tell us if we need to improve the page to solve their problems.

Feedback collected on individual pages might not paint a story for the website experience, but it can be used to immediately fix pages with suboptimal ratings.

Page-level surveys are initiated by the customer taking an action (clicking a link or a floating image) and due consideration needs to be given to any sample bias that might occur.

Post-Visit Surveys

Post-visit surveys are sent, usually via **email, to invite feedback** from customers after their experience on the website has been concluded. These surveys are optimal at capturing feedback on follow-up items after a site visit.

Examples of these include checking on successful completion of a download version of the product, asking whether a problem was resolved after visiting the support site, or requesting feedback on the order placement process.

Post-visit surveys are usually shorter and much more targeted than website surveys, and are geared toward measuring a slice of the experience. They can't replace website

surveys because of the ability of website surveys to capture feedback when it is freshest in the minds of the website visitors, but post-visit surveys can be a great complement to them.

Creating and Running a Survey

There are four stages to creating and implementing a robust survey on your website: preparing the survey, conducting the survey, analyzing the data, and following up.

Preparing the Survey

The main steps in the preparation phase are as follows:

1. **Business objectives** are key. Partner with your **key decision makers** to understand the purpose of the website, the core tasks that the customers are expected to complete on the website, the core elements of the customer experience on the website and the critical few questions that the company decision makers want answers to.

2. **Analyze the clickstream data** to understand the main holes in the data that you would like to have answers to.

3. Ask your vendor to **share best practices and tips** regarding questions, framing, content, rating scale, survey length, and more.

4. **Create the model for the survey** that you will be using.

- The customer should be motivated and be able to answer each question.
- The customer should be able to easily understand what you are asking.
- Surveys must be written in the language of your customers (a quick tip is to use language and words that a seventh-grade student can understand and respond to).
- If a customer has to read a question more than once, the question is too confusing. Avoid long questions with multiple parts or too many examples.
- Avoid leading questions.
- As much as possible, use the same response structure for all the questions. The customer should not have to learn a new scale with every question.

Conducting the Survey

The main steps in this phase are as follows:

1. Ensure that the **survey is implemented correctly**, that your privacy policy is updated on the website if needed, and you have validated that the right metadata (cookie values, and so forth) are being passed through the survey.

2. It is important to have a **surveying mechanism that incorporates cookies**, or other such technologies, to ensure that you don't spam your customers with too many surveys. Most vendors will now detect that the customer might have already seen the survey, and those customers will not see another survey for 60 to 90 days.

3. If you are doing post-visit surveys, it is important to **incorporate clearly visible unsubscribe links** so that the customers can opt out easily. Use email subject lines that are least likely to get caught by spam filters.

4. It is important to **walk through the customer experience** yourself to be aware of exactly how the customers are getting the survey, whether it is showing up in the wrong places, and so forth.

5. Keep a **close eye on your daily or weekly** (as the case may be) response rates to pick up any problems that might be occurring.

Analyzing the Data

This is the wonderful stage when you get a shot at gleaning key insights:

- It is important to have both an **ongoing pulse on the survey** responses so they can easily be accessed by the key decision makers and an opportunity to do an in-depth review of all the data that you are collecting (say, twice a month or monthly).
- With most surveys, **trends are more important** than one-time responses, not only to help gain context around performance but also to isolate anomalies in the data.
- **Segmentation** is key, as in all analysis. Aggregated numbers will mask issues, so segment the data as much as possible. For example, you can segment by type of respondent, by time, by products purchased, by pages visited, by frequency of visit, or by source arrived from.
- It is important to **pair up quantitative and qualitative skills to analyze the data**, either in the same person or in two different people. A lot of complex math goes into analyzing the answers, and core UCD skills are required to analyze the open-ended responses.
- Provide a **clear set of recommendations** for improving the website experience along with all the analysis to increase the likelihood that action will be taken. (In addition, as much as possible, tie your recommendation to a metric that affects the bottom line, such as improved customer satisfaction, revenue, or call avoidance).

Following Up

The role of analysts (researchers or web analysts) continues in this stage of the process. Because they are now perhaps the most informed about the data and customer experience, it is imperative that they partner with business owners, website designers, and user experience and information architects (whatever resources you have in your team) to drive action.