Qualitative & Quantitative

USER RESEARCH

User research is a dance between hard numbers and soft stories, each step revealing a new layer of insight...

You will look into...

1. What is Qualitative research?
2. What is Quantitative research?
3. Qualitative research methods
4. Quantitative research methods
5. When to conduct Qualitative and Quantitative user research?
6. Benefits of Qualitative and Quantitative user research

What is Qualitative research?

Qualitative user research is the **process of collecting and analyzing non-numerical data** in the form of opinions, comments, behaviors, feelings, or motivations. Qualitative data aims to give an in-depth look at human behavioral patterns.

Examples of Qualitative research

Qualitative data cannot be as easily counted and funneled into a calculation as its quantitative cousin. Where quantitative research often gives an overarching view, qualitative research takes a deeper dive into the **why**.

Qualitative research often takes the form of user surveys, interviews, and observations or heuristic analysis and focus groups.

What is Quantitative research?

Quantitative user research is the **process of collecting and analyzing objective**, measurable data from various types of user testing. Quantitative data is almost always numerical and focuses on the statistical, mathematical, and computational analysis of data. As the name suggests, quantitative user research aims to produce results that are **quantifiable**.

Examples of Quantitative research

Quantitative data answers questions of:

- How many?
- How often?
- How much?

In UX design, **analytics are a huge source of quantitative data**.

Qualitative Research methods

1. User Interviews

A UX researcher interviews frequent travelers to understand their pain points and preferences when using a travel booking app.

Through these interviews, they gather insights on what features are most important, such as easy navigation, quick booking processes, and access to real-time updates on flights and accommodations.

2. Contextual Inquiry

Observing how employees in a busy restaurant use a point-of-sale (POS) system to take orders and process payments.

By watching their interactions in real-time, researchers can identify usability issues, such as confusing menu layouts or slow transaction processing, which can be addressed to improve efficiency and customer satisfaction.

3. Focus Groups

Hosting a focus group with parents to discuss their experiences with a parenting app.

Participants share their thoughts on the app's features, such as tracking child development milestones, accessing parenting resources, and connecting with other parents. Through group discussions, researchers uncover common pain points and preferences that inform app redesign efforts.

4. Ethnographic studies

Immersing researchers in the homes of individuals with disabilities to understand their daily challenges and needs.

Researchers observe how these individuals interact with household appliances, digital devices, and assistive technologies, gaining insights that inform the design of more accessible and inclusive products.

5. Diary Studies

Asking participants to keep a diary of their experiences using a fitness tracking app for two weeks. Users record their workouts, challenges faced, and feedback on app features.

The diary entries provide rich qualitative data on user engagement, motivation factors, and opportunities for app improvement.

6. Card Sorting

Conducting a card sorting activity with university students to organize course content on an educational website.

Students categorize topics such as lectures, assignments, and resources based on their relevance and logical structure. The results help designers create an intuitive navigation system that aligns with users' mental models.

7. Usability testing

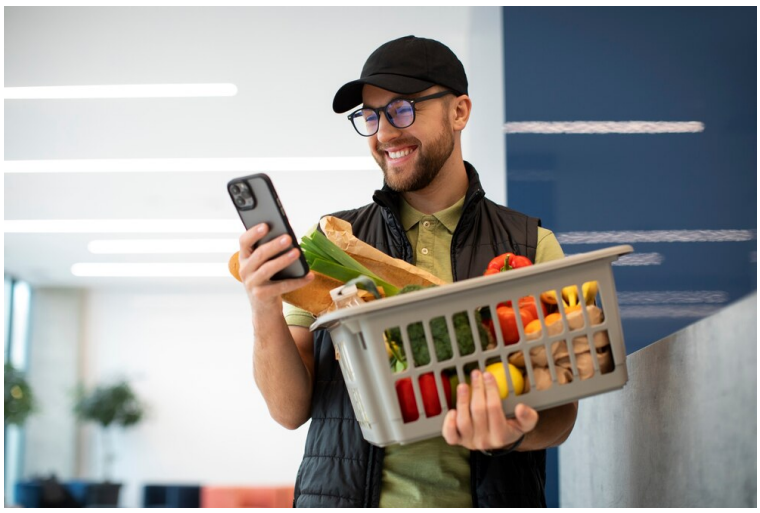
Observing participants as they navigate through an e-commerce website to find and purchase a product.

Researchers note any difficulties encountered, such as confusing checkout processes or hidden product information, and gather user feedback to make iterative improvements to the website's design and functionality.

8. Prototype testing

Testing a prototype of a mobile banking app with a group of diverse users, including millennials, seniors, and individuals with visual impairments.

Participants interact with the prototype and provide feedback on features such as account management, bill payments, and security measures, guiding refinements before the app's official launch.



9. Cognitive walkthroughs

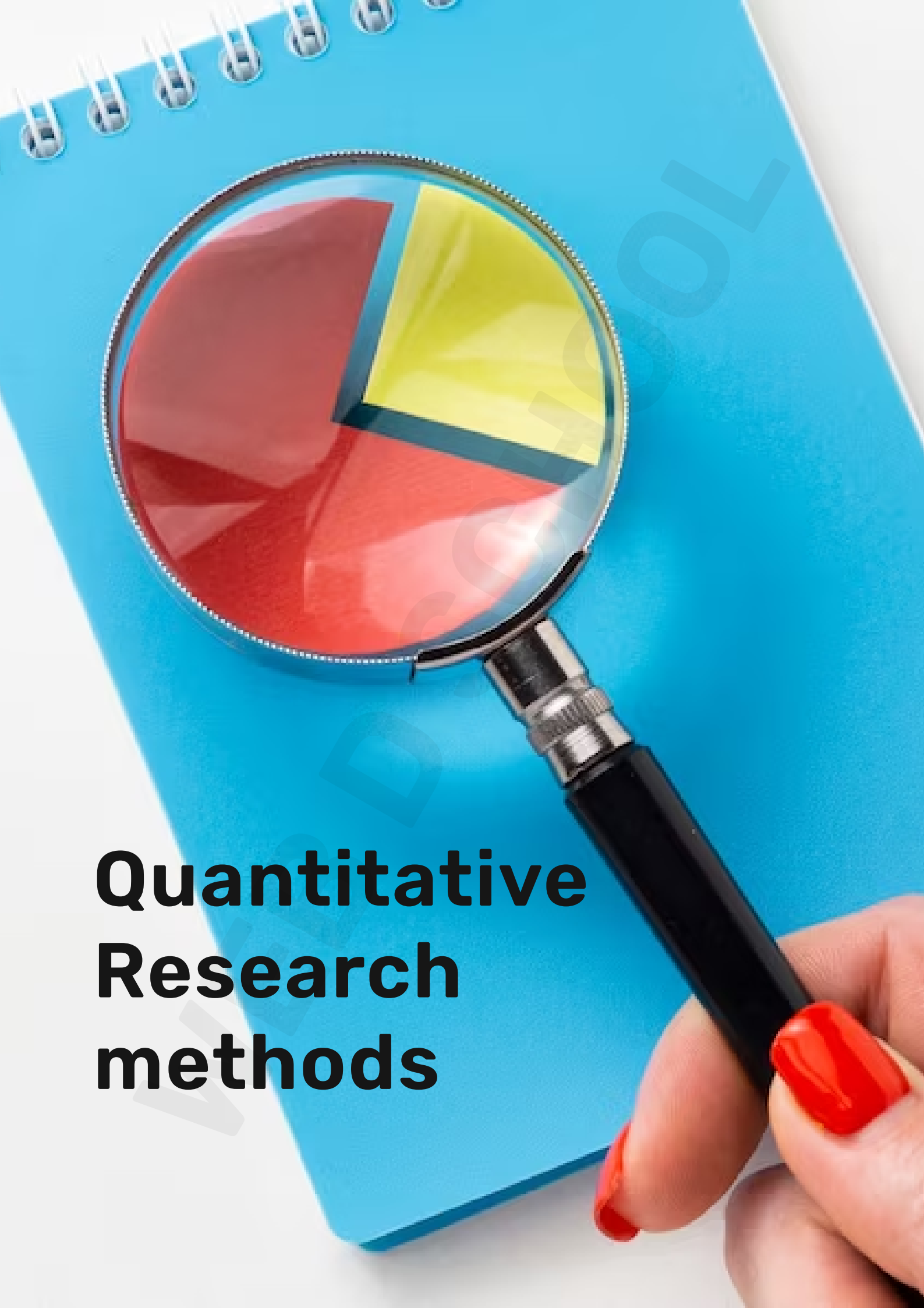
Asking users to perform specific tasks, such as finding a recipe and adding ingredients to a shopping list, using a cooking recipe app.

As users verbalize their thoughts and actions, researchers identify usability issues such as confusing menu labels or hidden functionality, which can be addressed to enhance user experience.

10. Persona Development

Creating personas for a travel planning website based on qualitative research findings from user interviews and surveys.

Personas such as "Adventure Seeker Alex" and "Family Traveler Emily" represent different user segments with unique goals, preferences, and pain points, guiding design decisions to cater to diverse user needs.



Quantitative Research methods

1. Surveys

Sending out a survey to users of a social media platform to gather feedback on the recent redesign. Questions may focus on overall satisfaction, ease of use, specific features, and suggestions for improvement.

Analyzing survey responses quantitatively provides insights into user perceptions and preferences at scale.

2. A/B Testing

Testing two different versions of a website's homepage with random subsets of users to determine which design leads to higher conversion rates.

By measuring metrics such as click-through rates, time on page, and bounce rates, researchers can identify the most effective design elements and optimize the user experience accordingly.

3. Analytics data Analysis

Analyzing website traffic data using tools like Google Analytics to understand user behavior patterns, such as page views, paths.

By examining quantitative metrics, UX researchers can identify popular content, navigation bottlenecks, and areas for improvement to enhance the overall user experience.

4. Heatmaps

Generating a heatmap of mouse movements and clicks on an ecommerce website's product page.

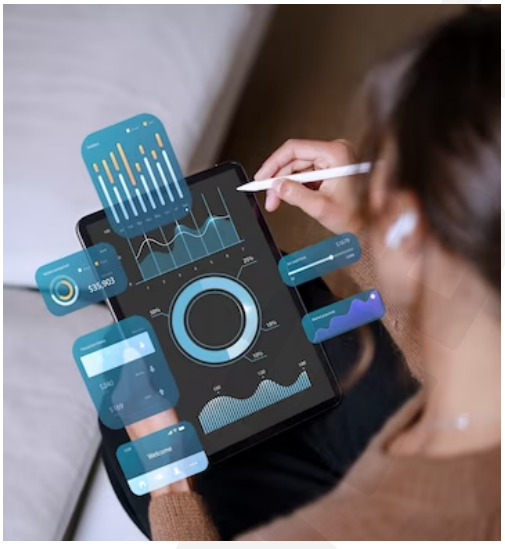
Heatmaps visually represent areas of high user engagement (e.g., clicking on product images or "Add to Cart '' buttons) and areas of low engagement (e.g., ignored product descriptions or non-clickable elements). This quantitative data helps prioritize design changes to optimize user interactions.

5. Task Performance metrics

Conducting usability testing sessions and measuring task completion rates, errors, and time on task. For instance, researchers may ask participants to search for a specific item on an e-commerce website and measure how quickly they find it and if they encounter any difficulties.

Quantitative task performance metrics help identify usability issues and track improvements over iterations.

6. System Usability Scale (SUS)



Evaluating the usability of a mobile banking app involves administering the SUS questionnaire to users post-interaction. With ten statements on usability, users rate their agreement levels, enabling researchers to quantify perceptions and compare usability across designs or iterations.

7. Clickstream Analysis

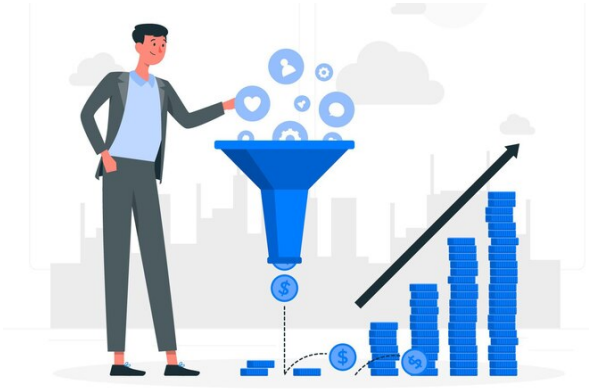
Analyzing clickstream data uncovers user actions and paths within a website or app, revealing entry/exit points and areas of drop-off.

This analysis aids UX researchers in optimizing navigation and content layout, ultimately enhancing user engagement and conversion rates.

8. Eye Tracking

Conducting an eye-tracking study to measure visual attention and gaze patterns on a website's homepage. By quantifying which elements attract the most attention (e.g., images, headlines, call-to-action buttons), researchers can optimize the layout and design to guide users' focus and improve usability and engagement.

9. Conversion Rate Optimization (CRO):



Implementing CRO techniques such as multivariate testing or funnel analysis to optimize the conversion funnel of a subscription-based service.

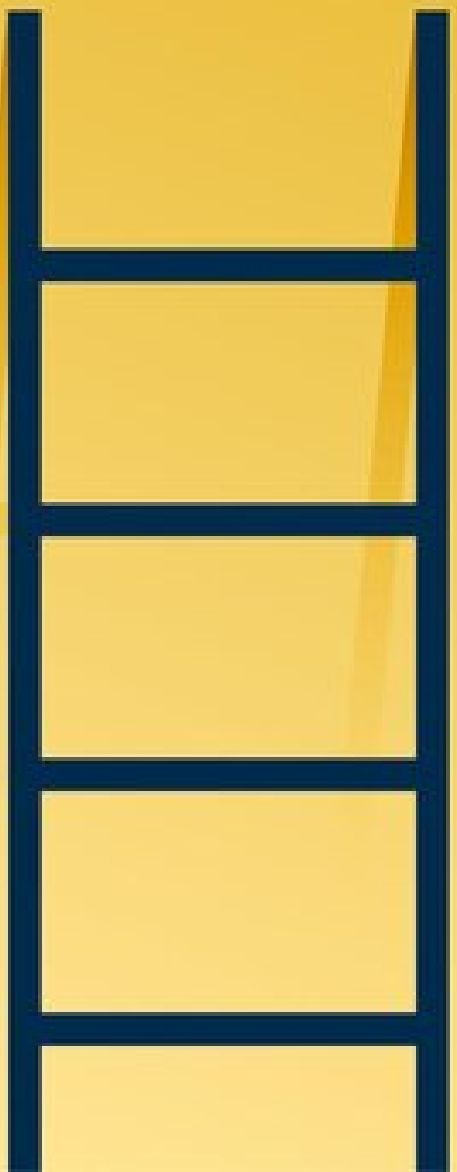
By quantitatively measuring conversion rates at each stage of the funnel (e.g., sign-up, subscription purchase), UX researchers can identify barriers to conversion and implement design changes to improve user flow and increase conversion rates.

10. Survey Analysis of Likert Scale Responses:

Analyzing Likert scale responses from a survey gauges user satisfaction with features in a productivity app.

Users rate aspects like task management and collaboration tools on a scale from strongly disagree to strongly agree. Quantitative analysis of this data offers insights into feature satisfaction levels, aiding in prioritizing future updates and enhancements.

When to Conduct Qualitative and Quantitative user research?



A rule of thumb for deciding when to use qualitative or quantitative data is:

- Use quantitative research if you want **to confirm or test something** (a theory or hypothesis)
- Use qualitative research if you want **to understand something** (concepts, thoughts, experiences)

Benefits of Qualitative user research

Qualitative research gives a more in-depth look at your users and will often reveal things that quantitative data can't. Qualitative testing employs a **"think-aloud"** approach that allows you to get inside the mind of the person using your product and see how they use it in their own environment and what sort of response they have to it.

Qualitative data helps you make **accurate,** informed choices for your users instead of guessing about causation. Obtaining this empathetic and emotionally-driven evidence may make it easier for stakeholders to invest in changes to the product.

Benefits of Quantitative user research

Due to the objective nature of quantitative user research, the resulting data is less likely to have human bias as it's harder to lead participants to a certain outcome and has well-defined, strict, and controlled study conditions.

Quantitative data is also **often simple to collect, quicker to analyze, and easier to present in the form of pie charts, bar graphs, etc.** Furthermore, clients may prefer to see hard statistics and find it easier to link them back to their **KPIs (Key performance indicator)** as a way to justify investment for future improvements.

"In the symphony of user research, qualitative data provides the melody, while quantitative data supplies the rhythm, harmonizing to create a beautiful composition of user insights."