



Survey Design and Analysis

for UX & Customer Research

Jeff Sauro, PhD & Jim Lewis, PhD



Measuring
University™

Instructors



Jeff Sauro, PhD

Founding Principal

Jeff Sauro PhD, is the founding principal of MeasuringU. For over twenty years he's been conducting UX research, including benchmarking studies for clients.

Jeff has published over twenty-five peer-reviewed research articles and five other books, including *Benchmarking the User Experience*, *Customer Analytics for Dummies* and *Quantifying the User Experience*.



Jim Lewis, PhD, CHFP

Distinguished User Experience Researcher

Jim is a Certified Human Factors Professional with a Ph.D. in Experimental Psychology (and M.A. in Engineering Psychology, minor in applied statistics).

Before joining MeasuringU Jim worked at IBM for nearly 40 years. He is an IBM Master Inventor (> 90 US patents) and has published over 100 articles and papers.

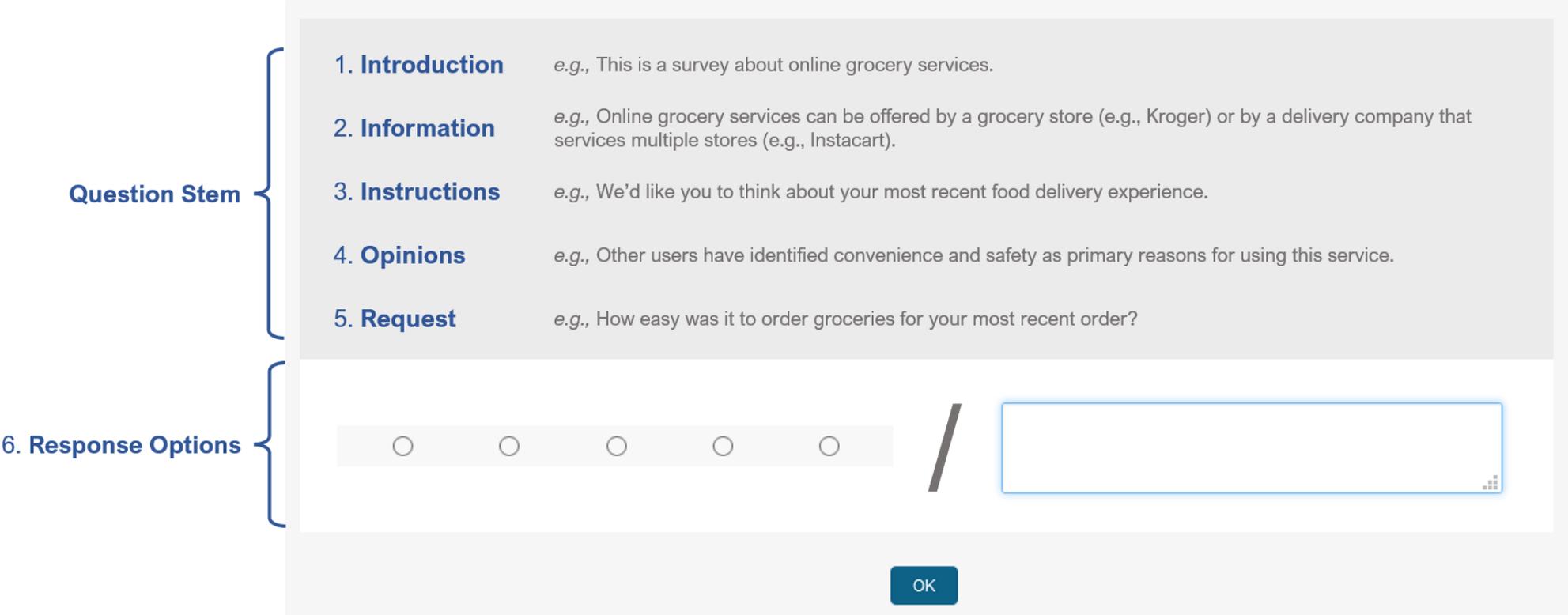


The Anatomy of a Survey Question

Topics Covered

- Question/Stem
- Introduction
- Information about the Topic/Definitions
- Instructions
- Requests for an Answer
- Response Options
- Examples

Survey Question/Item Anatomy



Not all survey questions have all six components.

Introduction

The diagram illustrates the structure of a survey question. It is divided into two main sections: 'Question Stem' and '6. Response Options'. The 'Question Stem' section contains five numbered components with examples:

- 1. Introduction**: e.g., This is a survey about online grocery services.
- 2. Information**: e.g., Online grocery services can be offered by a grocery store (e.g., Kroger) or by a delivery company that services multiple stores (e.g., Instacart).
- 3. Instructions**: e.g., We'd like you to think about your most recent food delivery experience.
- 4. Opinions**: e.g., Other users have identified convenience and safety as primary reasons for using this service.
- 5. Request**: e.g., How easy was it to order groceries for your most recent order?

The '6. Response Options' section shows a row of five radio buttons, a slash symbol, and a text input field. Below the response options is an 'OK' button.



Introductions may be needed when you:

- Shift the topic from prior questions (e.g., from asking about using a desktop website to a mobile app).
- Require more thinking/recall from respondents.

Kano Study Introduction Example

“For this section of the study we will ask you to sort features related to **food delivery websites** into categories as you see fit based on your personal preferences.

Please remember to provide your honest feedback. There are no right or wrong answers.”



See Module on Question Types for More about the Kano

2. Information about the Topic or Definitions

Question Stem

- 1. Introduction** *e.g., This is a survey about online grocery services.*
- 2. Information** *e.g., Online grocery services can be offered by a grocery store (e.g., Kroger) or by a delivery company that services multiple stores (e.g., Instacart).*
- 3. Instructions** *e.g., We'd like you to think about your most recent food delivery experience.*
- 4. Opinions** *e.g., Other users have identified convenience and safety as primary reasons for using this service.*
- 5. Request** *e.g., How easy was it to order groceries for your most recent order?*

6. Response Options

/

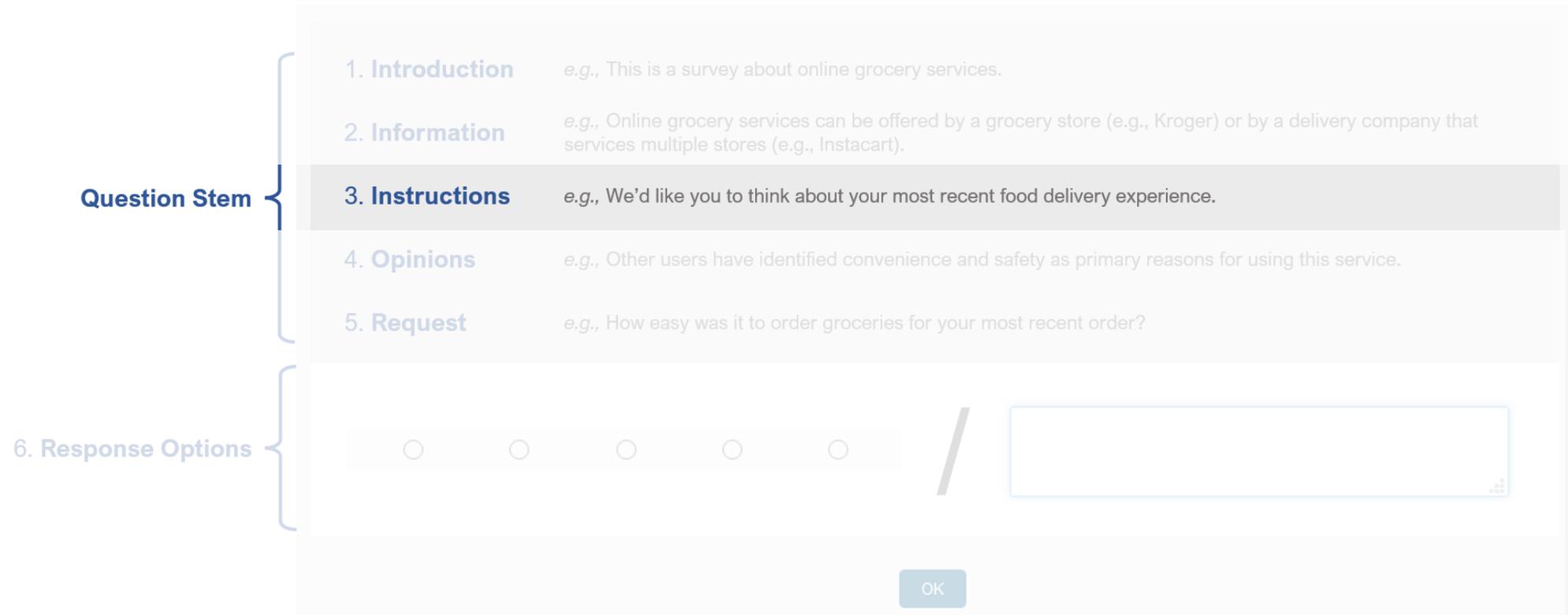
OK



Information about the topic may be needed when presenting

- New concepts or less familiar concepts.
- Complex constructions.
- Options that may be easily confused.

3. Instructions



Instructions may be needed:

- When using uncommon question types (e.g., Kano, pick some, fixed sum).
- In task-based unmoderated studies, clear instructions are essential.
- To prevent common mistakes (e.g., picking only one instead of all that apply).

Kano Question Instructions

* Please read the following instructions carefully before beginning this activity.

For each of the features listed below on the left, consider the following question:

"How would you feel if a food delivery website had this feature?"

Answer this question, using drag and drop to organize the features into the following categories:

- **I like it** (i.e., this feature would be very helpful to me)
- **I expect it** (i.e., this feature is a basic requirement for me)
- **I am neutral** (i.e., this feature would not affect me)
- **I can tolerate it** (i.e., this feature would be a minor inconvenience)
- **I dislike it** (i.e., this feature would be a major problem for me)

Cards List

- Good variety of restaurants
- Healthy choices
- High quality food
- New restaurant recommendations
- Correct order money-back guarantee
- Timely delivery money-back guarantee
- Contact free delivery option
- Can make special requests
- Online order modification within grace period
- Subscription service with reduced fees

Categories For Sorting

Reset Categories

I like it	I expect it	I am neutral	I can tolerate it	I dislike it
0 item(s)				
Drop item(s) here				

4. Opinions of Others

Question Stem

- 1. **Introduction** *e.g., This is a survey about online grocery services.*
- 2. **Information** *e.g., Online grocery services can be offered by a grocery store (e.g., Kroger) or by a delivery company that services multiple stores (e.g., Instacart).*
- 3. **Instructions** *e.g., We'd like you to think about your most recent food delivery experience.*
- 4. **Opinions** *e.g., Other users have identified convenience and safety as primary reasons for using this service.*
- 5. **Request** *e.g., How easy was it to order groceries for your most recent order?*

6. Response Options

/

OK



Opinions of others may be needed when

- Reaction to the opinions of others is the primary research focus.
- Including this information provides an appropriate context for asking the question.
- This element is especially rare in UX and CX research due to its potentially biasing effects on responses. Don't include it unless there is a clear need to do so.

5. Requests for an Answer

The diagram illustrates the structure of a survey question. It is divided into two main sections: 'Question Stem' and '6. Response Options'.

Question Stem components:

- 1. Introduction**: e.g., This is a survey about online grocery services.
- 2. Information**: e.g., Online grocery services can be offered by a grocery store (e.g., Kroger) or by a delivery company that services multiple stores (e.g., Instacart).
- 3. Instructions**: e.g., We'd like you to think about your most recent food delivery experience.
- 4. Opinions**: e.g., Other users have identified convenience and safety as primary reasons for using this service.
- 5. Request**: e.g., How easy was it to order groceries for your most recent order? (This component is highlighted in a darker grey background in the original image.)

6. Response Options components:

- A row of five radio buttons.
- A vertical slash (/) separator.
- A text input box with a small grid icon in the bottom right corner.

An 'OK' button is located at the bottom center of the form.



This request for an answer is the last and most important of the stem components. The introduction, information, instructions, and opinions are optional, but without the request for an answer, you don't have a question (or an item for people to respond to).

Three Ways to Craft a Request for an Answer

Direct request: Invert the subject and auxiliary verb of a statement to convert it to a question.

“I would need the help of a technical person”
becomes “Would you need the help of a technical person?”

Indirect request: Instead of asking a question, use a statement and then have people respond with agree/disagree response options.

“I felt very confident using the software.”

Wh-requests: Use the common interrogatives (e.g., who, what, when, how much, which) and pose the question directly to the respondent.

“What is your age?”

“Why did you select the number you did?”



Covered more in module on How to Write a Survey Question

6. Response Options

The diagram illustrates the structure of a survey question. It is divided into two main sections:

- Question Stem:** This section contains five numbered components with examples:
 - 1. **Introduction** (e.g., This is a survey about online grocery services.)
 - 2. **Information** (e.g., Online grocery services can be offered by a grocery store (e.g., Kroger) or by a delivery company that services multiple stores (e.g., Instacart).)
 - 3. **Instructions** (e.g., We'd like you to think about your most recent food delivery experience.)
 - 4. **Opinions** (e.g., Other users have identified convenience and safety as primary reasons for using this service.)
 - 5. **Request** (e.g., How easy was it to order groceries for your most recent order?)
- 6. Response Options:** This section shows the visual layout for user input, including a row of five radio buttons, a slash separator, and a text input field.

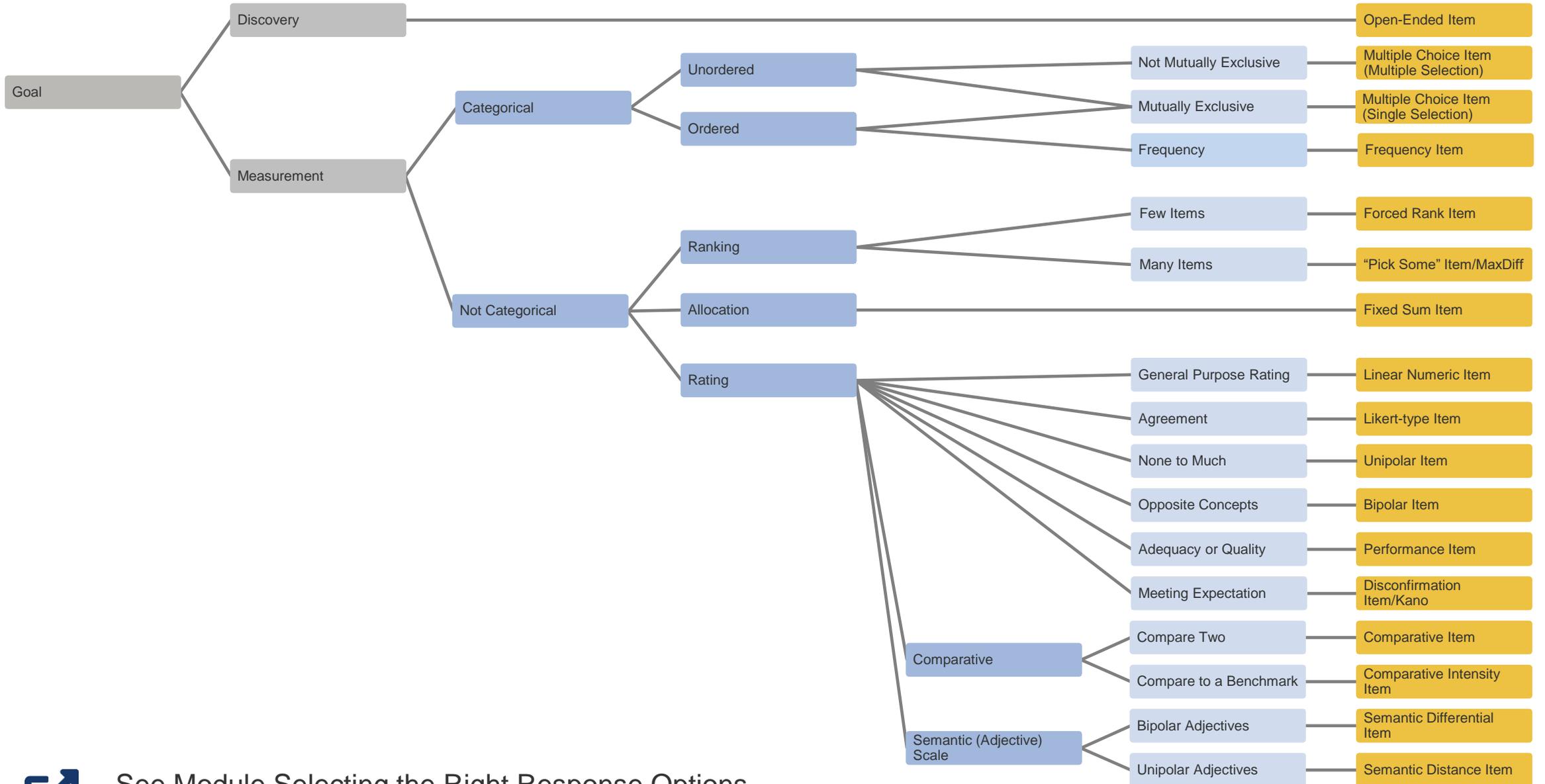
At the bottom of the form is an **OK** button.



See [Selecting the right response option module](#) for guidance on response options.

Response Options Starting Points

- **Discovery:** When discovery is the primary goal, use open-ended items.
- **Measurement:** The key decision when collecting measurements is to determine if the required data is or isn't categorical.
- **Categorical:**
 - ordered (e.g., age groups) vs, unordered (e.g., streaming video services)
 - Multi-select or single select
- **Not categorical:** ranking, allocation, or rating. Of these types, rating scales are the ones most used in UX and CX research



See Module Selecting the Right Response Options

[A Decision Tree for Picking the Right Type of Survey Question](#)

Example 1: What problems are people having on the website?

([Goal > Discovery > Open-Ended Item](#)), with item stem and response option similar to those shown in Figure 2.

The image shows a survey question interface. On the left, there are two labels with brackets: "Question Stem" and "Response Option". An arrow labeled "Wh-Request for an Answer" points to the question text. The question text is "* What problems have you encountered when using this website?". Below the question is a large text input field with a blue border and a small grid icon in the bottom right corner. At the bottom center of the interface is a blue "OK" button.

Example 2: How confident are users in completing a task?

If this measure ranges from no confidence to total confidence, the response type should be a unipolar rating item ([Goal > Measurement > Not Categorical > Rating > None to Much > Unipolar Item](#)).

The screenshot displays a survey question interface. On the left, a bracket labeled "Question Stem" points to the text: "Next we'd like to ask you some questions about the task you most recently attempted on this website. We're defining 'task' as anything you wanted to accomplish on the site, such as but not limited to browsing products, purchasing products, or requesting customer service. Please read each question completely, but don't spend too much time on them." Above this text are three arrows labeled "Introduction", "Information", and "Instructions". Below the text is a "Direct Request for an Answer" section: "How confident are you that you completed the task correctly?". On the left, a bracket labeled "Response Options" points to a horizontal scale from 0 to 10. The scale is labeled "Not at all confident" at 0 and "Completely confident" at 10. Below the scale are 11 radio buttons. At the bottom center of the interface is an "OK" button.

Summary

Survey questions/items contain a stem and one or more response options

- The stem must contain a request for an answer
- It may also include an introduction, information pertinent to the question, some instructions, and information about the opinions of others (rare in UX surveys, but more common in social and political surveys)

Requests for answers can take several forms

- Direct requests (usually in the form of a question)
- Indirect requests (usually in the form of a statement)
- Wh-requests (usually in the form of a question)

Researchers can choose from a wide variety of response options

- To help with that process, they can use a [decision tree](#) designed for that purpose

These concepts, strategies, and tools can help UX researchers overcome writer's block when crafting the items for surveys and related research activities



MeasuringU



Moderated UX Studies
(in our Denver labs or remotely)



Unmoderated Studies
(using our MUIQ platform)



Participant Recruiting
(US & International)



Eye Tracking &
Facial Expression Analysis



Navigation Testing
(Card-Sorting/Tree-Testing)



Survey Design & Analysis
(including MaxDiff & Kano)



Statistical Analysis &
Measurement Advising



Training &
Workshops

MeasuringU is a research firm based in Denver, Colorado focusing on quantifying the user experience.

Weekly Newsletter: [MeasuringU.com](https://measuringu.com)
[LinkedIn](#) | [Twitter](#) : @MeasuringU