Using Logic, Conditions, and Branching

Logic can be used to customize a path for each respondent and to “follow-up” on certain questions. This document will help to explain why and how to perform logic-based statements using CHECKBOX®.

Why People Use Logic in Their Surveys

- Branching and conditions can provide a unique path for each respondent and can be used to customize whether a question should “appear” or not, increasing the relevancy of the survey.
- Logic shortens the survey for each respondent, and can help increase completion rates.
- A survey using logic can obtain more relevant answers faster, because each question can be based on the answer to a previous question.

The easiest way to think about using logic is to provide some examples.

- If you selected “No” to the question “Do you like our website?” then ask “why not?”
- If you selected “Yes” to the question “Do you like our website?” then don’t ask “why not” question.
- If you selected “Mercedes” as a premium car, then ask follow-up questions related to Mercedes.
- If you selected “BMW” as a premium car, then ask follow-up questions related to BMW.
- If you selected “register”, then show a registration / personal information collection page.
- If you selected “anonymous”, then skip past the registration / personal information collection page.

Survey logic let you skip to another section of the survey or to hide/show an item based upon a condition specified. Here’s a common example which will help you to further understand conditions and branching.

- Your Survey Page 1
  *Do you Like Our Website? (Yes, No, Not interested)*

- Your Survey Page 2
  *Why Not? (Open ended text to allow comments to be entered)*

  Condition 1 - If 1.1 = No, then reveal this question
  Condition 2 - If 1.1 = Yes, then hide this question
  Condition 3 - If 1.1 = Not Interested, then branch (skip) to the end of the survey.

**Important Point:** Survey logic requires that the target of a branch or condition resides on a separate page than the item being used to setup a condition. In the example above, if the question 2.1 “why not” was not on a separate page, the logic calculation could not have run because when page 1 loads, the answer to question 1 on page 1 is unknown. If your conditions or branches aren’t working, add a new page after your branch or before your condition statements to make sure it works.
CHECKBOX® Conditions and Branching

Conditions and branching are the two types of survey logic available within Prezza’s Checkbox survey software. The major difference between conditions and branches is this:

- Conditions can be defined to “hide” or “reveal” a specific item or page when a criteria prior to the current question is met.

- A branch sends people forward into a specific page into the survey, based on their answer or profile.

Regardless of which type of logic you will choose - branching or conditions - our recommendation is to first write out all of the questions/possibilities for the entire survey, and then go back and apply branching and/or conditions to filter the results and provide unique paths for each respondent.

When to Use Conditions versus Branching

- Branches are most useful when jumping ahead to entire sections catering for specific groups
- Conditions are most useful when you want to create a survey for multiple audiences showing or revealing small amounts of components certain sections.

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An Overview of Conditions

You can build customized, dynamic surveys that are completely different from one person to the next, due to usage of conditions. Conditions allow you to get the most “qualified” data possible and to immediately reduce the likelihood of an unqualified survey respondent by offering different questions or by having people skip all the way to the end of a survey.

Checkbox offers two types of conditions:

1. Based on a stored user profile – when attributes about a user meet a certain criteria
2. Based on the survey-collected answers – when respondent answers a certain way

Each type will be described next.

Conditions Based Upon User Profile / List Data

In Checkbox, as a survey administrator, you can add custom user fields that describe your respondents. You can have unlimited custom survey fields in your system, but the most common would be email address, address, phone number. You can expand these to include common demographics such as Age, Gender, and household income. These fields are useful to take full advantage of, especially if you are surveying the same people over and over again. Your demographic “profiles” can be extended with unlimited custom user fields, and the value of your profile information will increase dramatically.

These demographics can also be used to customize the route a particular respondent will be forced to take through a survey. In this example of a condition based on a user profile, the question will only be shown when Age > 30.

The way you would set that up is as follows:

1. Add new custom user fields if necessary (under Settings > Users & Security > Custom User Fields).
2. Click Conditions at the item or page level.
3. Set up your condition
   a. Type = Profile
   b. Source = Age
   c. Operator = Is Greater Than
   d. Value = 30
4. The item will now show only when a user with a defined Age is over 30. If you have not collected ages or imported a large list with names / ages, then this will not work.
Conditions Based Upon Survey-Collected Answers

In Checkbox, as a survey administrator, you can also create conditions based upon how respondents answer your survey. This is more popular than conditions based on user profile matching.

How to do it

Example conditions for a high-end children's retail store: (qualifies based on age, gender, household size, income).

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Conditional Statement</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>Is Greater than 30</td>
<td>Shows all questions</td>
</tr>
<tr>
<td>Age</td>
<td>Is Between 20 and 30</td>
<td>Shows questions for young parents</td>
</tr>
<tr>
<td>Age</td>
<td>Is Less than 20</td>
<td>Complete survey - not qualified</td>
</tr>
<tr>
<td>Gender</td>
<td>Is Equal to Female</td>
<td>Shows questions for female</td>
</tr>
<tr>
<td>Gender</td>
<td>Is Not Equal to Female</td>
<td>Shows questions for male</td>
</tr>
<tr>
<td>Household Size</td>
<td>Is 3 or Greater</td>
<td>Shows questions for large family</td>
</tr>
<tr>
<td>Household Size</td>
<td>Is Equal to 2</td>
<td>Shows questions for 2 children</td>
</tr>
<tr>
<td>Household Size</td>
<td>Is Less Than 2</td>
<td>Complete survey - not qualified</td>
</tr>
<tr>
<td>Household Income</td>
<td>Is Less Than $100,000</td>
<td>Complete survey</td>
</tr>
</tbody>
</table>

When writing out conditions, it’s useful to chart out the course of action, like above, and then create the entire survey for the perfectly qualified respondent. After the survey is complete, you can apply conditions so that people are given appropriate questions, or possibly new pages. Come up with alternate versions of survey items using conditions and skips to new sections using conditions (or branches, which can be easier to setup).

Compound Conditions

In addition to specified a single condition (ie if color = red then show item), Checkbox also allows an unlimited number of compound conditions where two conditions are required before the next survey item or page is served up. You can combine statements with AND and OR statements. Some examples:

- To “qualify” single mothers: set up a condition that says if children = yes AND marital status does not equal married
- To “qualify” young married couples: if age = 25 and under AND marital status equals married
- To track a taste for fast food: if favorite restaurant = Burger King OR McDonalds.
An Overview of Branching (Skips)

At each specific question on a page, you can apply logic which will allow the survey respondent to skip ahead to the next appropriate section or skip to the end entirely. In Checkbox, this functionality is called branching.

Let’s say you’ve created a political survey for Democrats, Republicans, Libertarians, Independents, and the Green Party. The survey is laid out as follows:

- Page 2 – 5 Democrat
- Page 6 – 10 Republican
- Page 11 – 15 Libertarian
- Page 16 – 20 Independent
- Page 21 – 25 Green Party
- Page 26 – End of Survey. Thank you page.

Here’s how you might use branching:

What is your political party? (Page 1, Question 1)
- Democrat (branch to page 2)
- Republican (branch to page 6)
- Libertarian (branch to page 11)
- Independent (branch to page 16)
- Green Party (branch to page 21)

It is very useful to quickly send people deeper into relevant portions of the survey. The problem with branching in this case is that you have to also apply a second branch so they can skip to the end, so that inappropriate questions are not shown. For example, if I selected Republican in the question, I would skip to page 6 and then fill out pages 6 - 10 but then nothing stops me from filling out questions 11 - 25.

The solution: at the ends of these sections (page 5, 10, 15, 20, 25), I can add a branch which sends people to Page 26.

I need to also make sure questions 6 – 25 are not shown – using conditions at each page.

You could have also gotten the same results by setting up the following conditions on each page:

- Pages 2 – 5 Democrat, if question 1.1 = democrat
- Pages 6 – 10 Republican, if question 1.1 = republication
- Pages 11 – 15 Libertarian, if question 1.1 = libertarian
- Pages 16 – 20 Independent, if question 1.1 = independent
- Pages 21 – 25 Green Party, if question 1.1 = green

So you can see how branches can save you time when forwarding people deeper into a specific portion of your survey, and back out of it.
How do you use Branching?

In this example, we will take a simple question and show you how to use a branching statement to redirect people to a certain location based on their response.

We will be using the question “What is your favorite color?” as an example. We will redirect people to a different page depending on whether they chose Red or Blue.

Before applying the branching logic, you should:

- **Create a new survey**
  - Navigate to Surveys > New survey.
  - Give the survey a name.
  - Leave Scored Survey unchecked.
  - Hit Submit.

- **On page one, click “Add Item” on the survey page toolbar.**
  - Select Radio Button question (single choice)
  - For the question put “What is your favorite color?”
  - Insert two choices, Red and Blue

- **Insert two new pages.**
  - Page 2 – Add a Message item that says “You chose Red”
  - Page 3 – A message item that says “You chose Blue”

- **View All Pages**
  - You should have a screen which looks like below

Now you are ready to applying the branching logic.
Go back to where the branch starts, in this case Page 1 which contains the “favorite color” question.

- **On Page 1, click “Branching”**
  - This will allow you to configure logic expressions and define the “target page” of the branch.
    - **Type:** Chooses what is being compared - the survey item or profile.
    - **Source:** If you choose item, it lists the questions/items in your survey. If you chose profile, it lists user attributes such as age which can also be used to customize a respondents path through a survey.
    - **Operator:** A comparative statement such as “is equal to”, “was answered”, etc.
    - **Value:** The answer in relation to the source/operator.

- **Configure the First Branch to Page 2**
  - Clicking the “Add” button in the picture above will expand the branching screen into a larger menu, which looks like the picture at right.
  - Ignore the “or” statements for now.
  - Select branch to “Page 2”

- **Configure the Second Branch to Page 3**
  - Under New Page Branch, create the same logic, except choose “Blue” as the value, and Page 3 as the branch destination.

- **Hit Done, View Page 1, Text**
  - On page 1 it should show the following underneath branching rules:
    - If ‘1.1 What is your favorite color?’ Is Equal To ‘Red’ then go to page 2
    - If ‘1.1 What is your favorite color?’ Is Equal To ‘Blue’ then go to page 3
Summary and Recommendations

In this guide, we’ve described several things you can do using conditional statements and branching functionality within our product. Although the product is very flexible and allows you to do things in many ways, here is what we recommend for when you might use conditions and branching.

Conditions

- If you need to create logic that will show and hide survey items depending on previous answers
- You can use compound conditions Complex skips – if married and over age 30 and household income is over $100,000 OR if unmarried and over age 30 and income is over $70,000 then show a certain question.

Branching

- Need to skip ahead into a specific portion, and then back out of it.

Reminder - The Three Checkbox Trial Types

1. Downloadable Server software - Checkbox Survey Server
   Software installed on Windows 2000 server, running on IIS, integrates with SQL2000, 2005

2. Web Based Private - Checkbox Online Free Trial
   Customized according to your unique needs and requires zero installation or configuration on your part.

3. Web Based Public – Publicly accessible demonstration.
   It’s available online, without registration at: http://demo.checkbox.com/CheckboxOnline/
   Because this version is public, some of the advanced features such as email triggers and auto-responders have been turned off.

Conclusion

We’ve spent a long time building our application to allow survey designers to be able to use our application without requiring handholding or technical knowledge. We hope you enjoy testing our product and please let us know if you have any questions.

Other Resources Available from Prezza

- Online Community/Forums – http://www.prezzatech.com/community/

Thanks, from the team at Prezza Technologies.