

IBM Developer Website: Survey Report

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Executive Summary

The IBM Developer website is an online community for programmers, providing resources, information, and news about events to bring them together and help them support each other. In order to help IBM improve the site, we designed a survey to get feedback from IBM Developer users to gain a better understanding of their habits and attitudes.

After analysing the data from 54 survey responses, we found that most users of IBM Developer had a primary goal involving find a solution for a coding problem, and that while users generally agree that the site is overall intuitive and well-organized, many of them did report that they would have some trouble finding the specific information they needed and that the overall site structure was difficult to understand. We also learned that users have a much lower rate of participation in real-world events than they do in the online developer community.

In order to help IBM improve the usability and features of the Developer website, we have generated several recommendations regarding the structure of the site and the visibility of certain content. However, our study does have several limitations due to small sample size and certain sampling biases, as well as the nature of the questionnaire itself, and we will continue to refine our recommendations in our upcoming heuristic evaluation and usability tests.

Introduction

IBM's Developer website is a resource created for developers to help them find information about IBM tools and products and connect with other developers. Users can find information about upcoming conferences and events, read blog posts and news articles, look up text and video tutorials, download sample code, and post in a question-and-answers forum.

Having conducted initial interviews to learn about the general needs and habits of developers and performed a comparative evaluation of various products and services in competition with IBM Developer, our next step was to conduct a survey to find out what users of the Developer site hope to accomplish when they use the site and what they think about its usability. Before we started writing the questions for our survey, we came up with three research questions to guide the direction of our questions. Firstly, we wanted to determine what goals users have in mind when they visit the Developer site and which goals are the most common. Then, we wanted to find out how well the site helps users fulfill their goals and how satisfied they are when they use it. Finally, because the overall goal of the project is to help IBM improve the Community section of the website, we wanted to learn more about how users participate in the developer community both on IBM Developer and in general.

Methods

We decided to split our survey into three main sections based on our three research goals (plus an additional section at the end to collect basic demographic information). For the first section, we wrote four questions to determine what users' goals were when they used the site and what types of content they use the most; in the second section, we asked questions to learn more about what users' experiences with using the site have been; and in the third section, we asked about users' habits regarding community interactions and about which features under the 'Community' section on IBM Developer they used.

Because none of the developers we interviewed in the initial stage of our research had ever used IBM Developer, it was very important that we made sure to target actual users of the Developer site so that we could learn specifically about user opinions on it rather than just about opinions on developer-oriented sites in general. For a target population, we simply wanted any individual developers who have experience in using IBM developer website. Our sampling did end up somewhat biased, because our survey was sent out to a list of users who had previously consented to having usability surveys sent to their email addresses. To recruit users, we offered the chance to be entered into a drawing for Amazon gift cards. According to the demographics section of our survey, our 54 participants were predominantly male (87%) and between 25 and 44 (53.7%). A majority of them identified themselves as architects, administrators, or developers. 51.9% reported having 16 or more years of professional experience.

We used Qualtrics to host our survey and analyze our response data. To ensure that the questionnaire was properly functional, we conducted an initial pilot test and consulted with our staff contacts at IBM. After several rounds of revision, we launched the survey via emails sent to certain users of the Developer site. After receiving a total of 58 responses, we first cleaned the dataset by deleting incomplete responses, and then generated a visual representation of each question. Then, we analyzed the findings by categorizing each response based on the higher-level research question it pertained to. Finally, we came up with several recommendations derived from key findings relating to the discoverability of content and the structure of the website.

Findings

The most common goals of IBM Developer users are solving coding problems

The first finding that stands out is that the most common goals of IBM Developer users all had to do with solving coding problems: finding others' posts in the Answers forum and looking up product documentation (each 53.7%) and searching for sample code (50%). Learning a programming language (38.9%) was also common. When asked specifically about the types of content they use most, respondents' answers further support this: 79.6% stated that they look up articles and tutorials, 59.3% search for sample code, and 40.7% use the Answers forums. A majority of respondents said that they sign in most or at least some of the time when they use the site, but 7.4% did not have an account and some do not usually use theirs.

Overall, users usually have been able to achieve their goals when using the Developer site

A large majority (72.2%) of respondents stated that they have usually been able to achieve their goals when using the Developer site, and 57.4% agreed that it was easy to navigate (with 27.8% being neutral on it). However, users do still report there are some problems that can make the site difficult to use. 18.5% of participants disagreed that the site was 'intuitive and well-organized', and 24.1% were neutral on the statement. 48.1% of respondents said that they had some trouble finding answers to coding questions, and 38.5% of respondents found it difficult to understand the general website structure. 40.7% of participants reported that they only 'sometimes' find what they are looking for when they use the in-site search, and 63% preferred to use external Web searches to locate specific content on the site over navigating through menus or using the site search. However, despite some difficulties with finding content, users overall feel positively about the content itself. 76% of respondents reported that they find the answers in the forums to be helpful, with only 5.6% disagreeing, and over 50% find event information on the site to generally be accurate and up-to-date.

The most popular features in "Community" are the blog and the Answer forum

Regarding 'Community' features, the most popular are the blog and the Answers forum, with 53.8% and 50% of respondents reporting that they use them, respectively. Despite having positive things to say about the quality of event information, a majority of respondents do not regularly use IBM Developer to look it up (only 13.5% saying they do) or attend events they discovered through it (only 23.1% having ever done so). Among the developers who have attended such events at least once, 50% attend them less than once a year, and only 8.3% of them attend said events frequently (more than 8 times a year).

The Stack Overflow is one of the most popular community for developers

Aside from using IBM Developer, the most common way these developers participate in the broader community is by reading, posting and/or answering questions on Stack Overflow, with 57.4% reported as doing so (as well as 31.5% reporting that they read, post, or answer questions on other sites). 46.3% of respondents also attend events or conferences than StackOverflow, and 38.9% are in chat groups with other developers. Only 13% stated that they do not participate in the developer community at all.

The target user group for IBM Developer is most similar to the “Traditional Developer” persona

Between the above findings and the demographics mentioned earlier, the primary target user group for IBM Developer is most similar to the ‘Traditional Developer’ persona we created following our initial round of interviews. Traditional developers as we define them tend to be male, in their late 30s or older, and to have more than 10 years of experience in the field, and they prefer to look up information about code on an as-needed basis to solve specific problems. Thus, they make frequent use of question-and-answer forums (often searching for answers already posted for similar questions) as well as official documentation. They do not attend developer events with any significant frequency, and they are not heavily invested in participating in developer communities.

Recommendations

Improve the discoverability of content and the overall structure of the website.

Primarily, we recommend improving the discoverability of content and the overall structure of the website. From our analysis of the survey responses, we found that close to half of the users find it difficult to locate answers to coding questions, as well as that many consider the site structure to be hard to understand. Since the Answers forums ranks as one of the most frequently used features of the IBM Developer site, we continue to strongly recommend that it is given greater visibility on the homepage, including by adding it as an option to the upper navigation bar, as it is currently only located at the bottom of the footer area and is written in a small font that is easily overlooked. Adding other features as the Blog (another one of the most commonly used 'Community' feature) to the navigation bar may also make them easier to access. As discussed in earlier reports, we also recommend making the layout and visual style (for instance, the navigation footers on the main website vs. on the Answers page) more consistent from section to section to help make the structure of the website easier to grasp.

Improve search engine optimization on the site

Based on our survey data we also continue to recommend improving search engine optimization on the site, not only for posts in the Answers forum as we have discussed before but also for the sample code, which over 50% of survey respondents reported that they make use of. While improving the overall structure of the website would improve the discoverability of this content for users who do like to navigate within the site, a majority of users prefer to locate content using Web searches, and we believe it would be more helpful to make their current habits more effective than to attempt to change their habits.

Highlight upcoming events on the homepage

We also recommend emphasizing the section on the homepage that highlights upcoming events. Only a minority of respondents stated that they come to the site with the intention of looking up event information, and fewer than 25% had attended any events found through it. By giving the events section (currently at the bottom of the homepage) greater emphasis, users who were not intending to look up events may discover events that interest them that they might not otherwise learn about. One possible place for it would be to either replace the search bar with a large background image that takes currently takes up a majority of the homepage (the search bar itself is redundant because of the additional search button in the upper righthand corner) or to shrink the background image down and place the events section directly below it, so that the highlighted events will be visible without the user having to scroll down.

Discussion

By analyzing the data from our survey responses, we have discovered several key pieces of information about user goals, attitudes and habits. However, there are limitations to our results in terms of sample size, biases, and survey design.

The only selection criteria we intended to use for target users for our survey was that they be developers who have used the IBM Developer website. However, we ended up having to distribute the survey to a list of users who had previously signed up to receive surveys about the site, causing some initial selection bias (perhaps to users who are slightly more likely to pick up on the usability of the site than the average user). We ended up getting 54 responses on the survey, which is not a large enough sample size to allow for truly accurate and statistically significant data.

There are other factors regarding sampling bias as well. First and foremost is gender; given the gender statistics of the tech industry in general, we knew a majority of our responses would likely be from men, and our sampling group was even more predominantly male (at 87%) than we had expected. We do not have enough responses from women to be able to determine whether female users experience the site differently. The presence of the gift card incentive may have also potentially had a small effect on the data, as it could draw participants who do not care about giving accurate feedback.

When writing the survey questions, we split them into four sections based on our research goals; besides demographics, each section would provide data to help us achieve one of the goals. However, the IBM website has a great quantity of content, every user has their own habits and behaviors, and there are many nuances to what affects the usability of a website. Our survey could not include every aspect, and with more in-depth research questions and a greater number of more specific questions about the site and its features, we would have been able to get a better picture of how users feel about it and how it can be improved.

Conclusion

Overall, we analyzed 54 responses regarding the attitudes and behaviors of users of the IBM Developer website. From the response data, we learned that the primary goal for most users on the IBM Developer website is to find solutions for code problems, and that while a majority of users consider the site to be generally intuitive and well-organized, many of them found it difficult to find the exact information they needed and to understand the overall site structure. Furthermore, we discovered that while many users participate in the online community features, they have a much lower activity rate for attending real-life events. Based on these insights, we recommend that IBM improve the discoverability of important features such as the Answers forum, improve search engine optimization for forum posts and sample code, and emphasise the events highlight section on the homepage.

Appendices

Questionnaire

#1Block

Research Question 1: What are users' goals for using the IBM Developer website ?

What are your goals when you visit the IBM Developer site? (choose all that are applicable)

- To find a pre-existing answer to a specific problem
- To post a question or answer other users' questions
- To look up sample code
- To look up product documentation
- To learn about a programming language
- To look up news related to your field or a topic of interest
- To find events you are interested in attending
- Other (please specify):

What's your preferred way to locate content on the IBM Developer site?

- External Web search (Google, Bing, etc)
- Site search
- By navigating
- Other (please specify):

Which types of content do you use most on the IBM website (choose all that are applicable)?

- Locating sample code
- Looking up tutorials/articles
- Watching videos
- Reading the blog
- Participate in the Q-and-A (forums)
- Participating in code challenges
- Find events
- Other (please specify):

When I visit the Developer site, I always make sure to sign in to my account.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree
- I don't have an account

#2Block

Research Question 2: How well does the current Developer website help you to meet your goals?

You were able to achieve your goal(s) the last time you visited the IBM Developer site.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

The IBM Developer site is easy to navigate.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

The IBM Developer site is well organized and intuitive.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

I don't have any trouble finding the content I am looking for on the Developer site.

- Always
- Often
- Sometimes
- Rarely
- Never

I am able to find what I am looking for when I use the IBM Developer site search.

- Always
- Often
- Sometimes
- Rarely
- Never
- I never use the site search

When I am looking for a particular section or page on the IBM Developer site, I prefer to find it through an external Web search (Google, etc) rather than navigate within the site or use the built-in search function.

- Always
- Often
- Sometimes
- Rarely
- Never

What content have you had difficulty using? (Select all that apply)

- Finding answers to coding questions
- Participating in the community
- Finding information about events
- Using the built-in search
- Understanding the website structure
- None
- Others (please specify):

When I post in the Q-and-A forum or look up other users' posts, I usually find the answers to be helpful.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree
- I don't use the Answers forums

#3 Block

Research Question 3: What kind of community features and functions do developers expect?

Which of the following community features listed on IBM Developer do you use?

- Blog
- Event
- Cities
- Newsletter
- IBM Coder program
- Forum Q-and-A
- Other (please specify):

How do you usually participate in developer communities other than IBM Developer (Stack Overflow, GitHub, etc) (select all that apply)?

- Posting or answering questions about code on Q-and-A forums
- Attending conferences or other events
- Participating in chat groups with other developers (not including those directly related to your work)
- I don't participate in developer communities in any way
- Other (please specify):

Event information on the Developer site is always up-to-date and accurate.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree
- I never look up event information

I have attended an event that I discovered through the IBM Developer site.

- Yes
- No

#4 Block

User Profile / Demographics

What is your gender?

- Male
- Female
- Prefer to self-identify:
- Prefer not to say

What is your age?

- Under 18
- 18-24
- 25-34
- 35-44
- 45-54
- 55+
- Prefer not to say

What is your highest completed level of education?

- I have not finished high school yet
- High school diploma or GED
- Associate's degree
- Bachelor's degree
- Master's degree
- PhD
- Prefer not to say

Which of the following best describes your primary job role?

- Front-end Developer
- Back-end Developer
- Architect
- Administrator
- Q/A Tester
- Manager
- Teacher
- Student
- Designer
- Other (please specify):

How long have you been working in this position?

- Less than one year
- 1-5 years
- 5-10 years
- 10+ years

On average, how frequently do you visit the IBM Developer site?

- More than once a day
- Once a day
- A few times a week
- Once a week
- Less than once a week

Do you have a registered account on the IBM Developer site?

- Yes
- No

Screenshots of key findings

Figure1

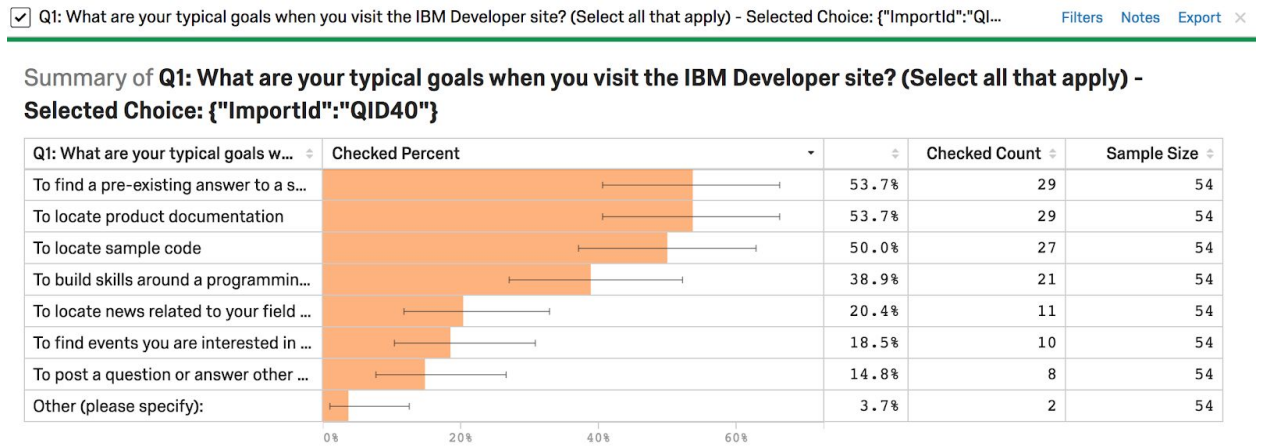


Figure2

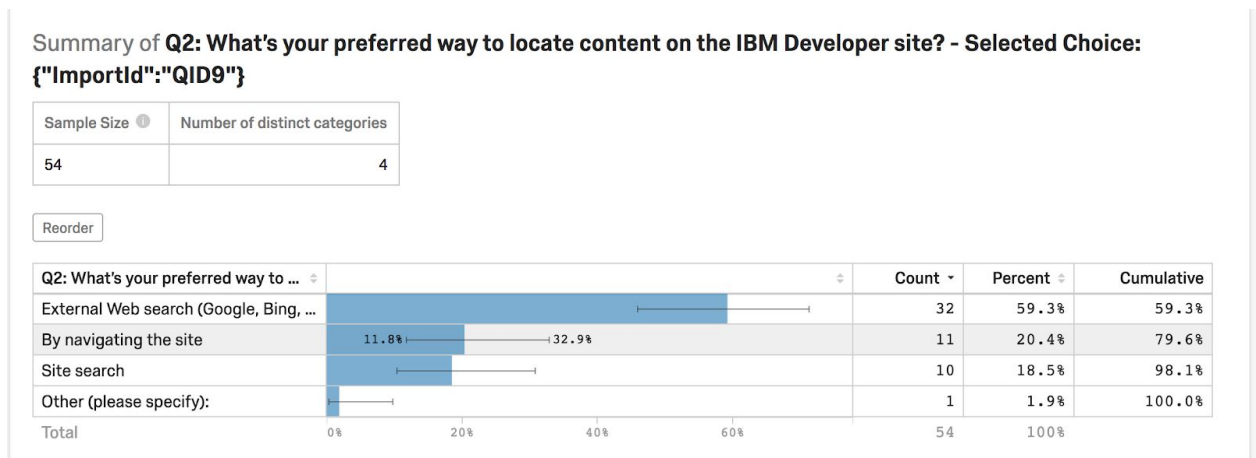


Figure3

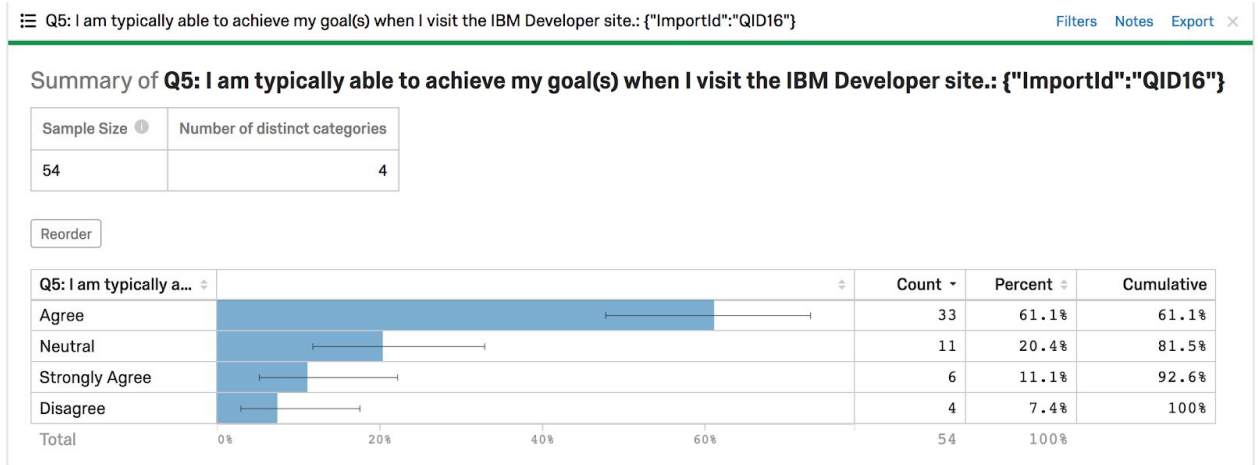


Figure4

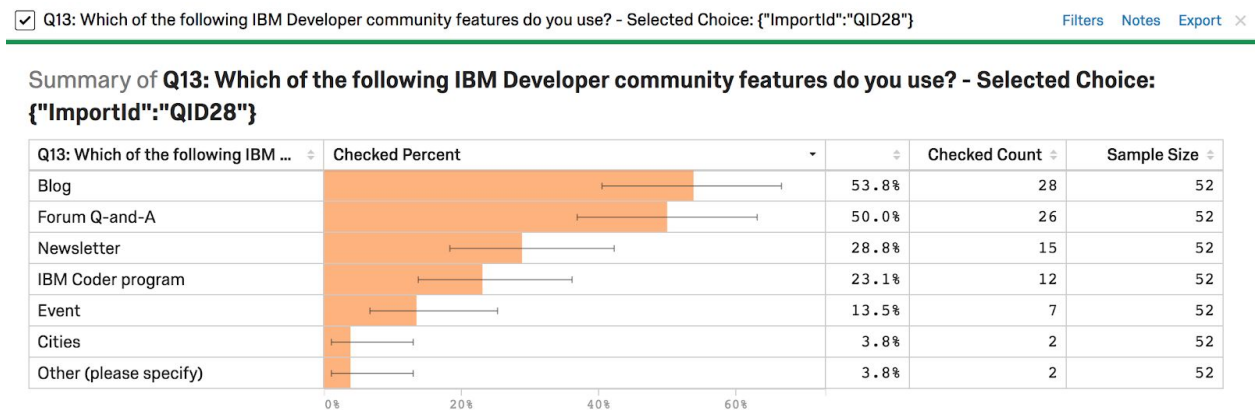


Figure5

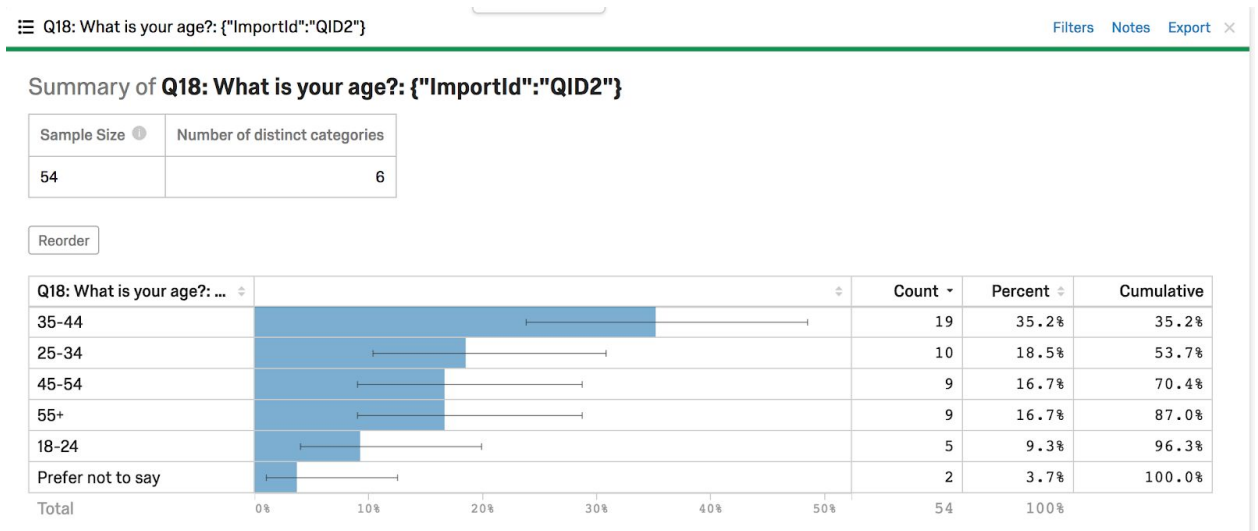


Figure6

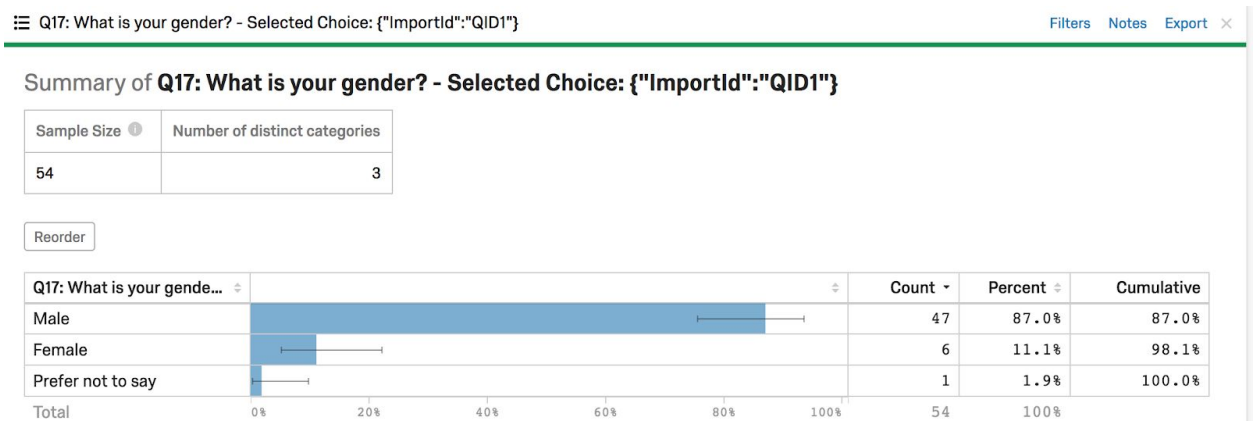


Figure7

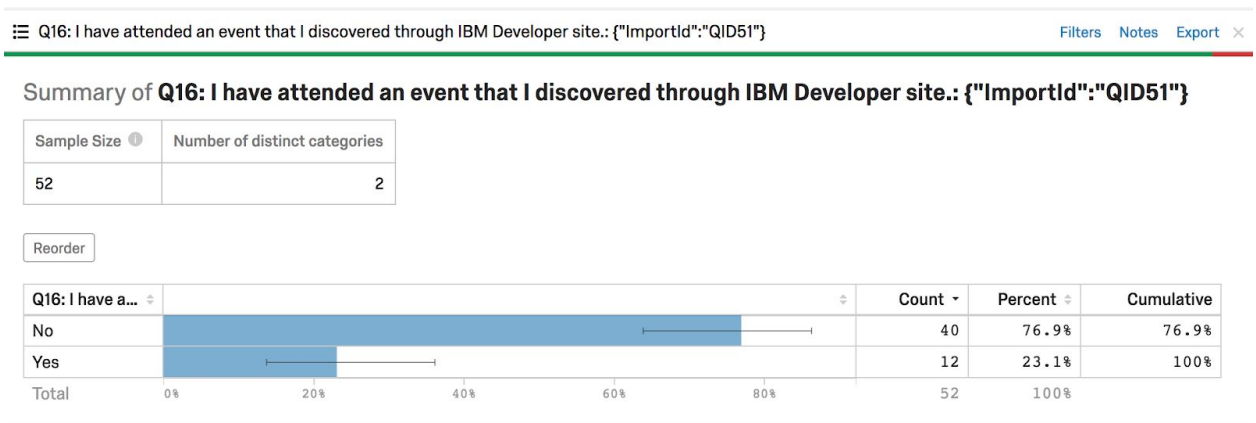


Figure8

