Card Sorting Analysis

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Introduction

We were tasked by the University of Michigan School of Information to look into how its students gather information about the recruiting process. The University of Michigan School of Information Career Development Office currently offers resources regarding the job search process. However, the CDO believes that the resources could be better labeled and presented to the undergraduate student body.

The following research questions were posed for this report:

- How do students look for resources during their job search, especially in light of this difficult job market?
- How can we organize and label our resources to help students access what they need?

We aim to provide data on student preferences of how resources are labeled and organized on the CDO website to help CDO redesign/reorganize its website. This redesign would also be extremely helpful to the undergraduate students in SI currently in the recruiting process, especially during this COVID-19 pandemic.

Methods

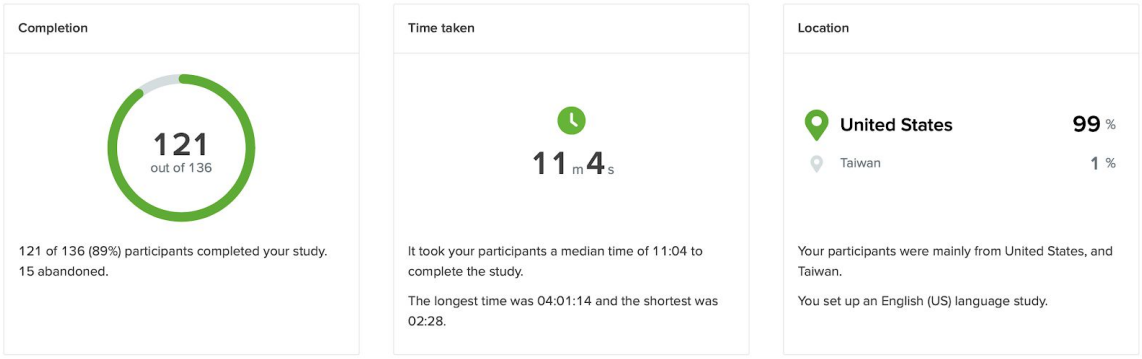
The Card Sorting Analysis method was selected for this report. The Card Sorting Analysis method was chosen in response to the research questions. As our main goal is to understand how SI students sort and consume data, the Card Sorting analysis is the perfect method to collect these data. The method allows us to collect information on how participants would group "cards," or resources provided by CDO, and allows for more specific data than a usability evaluation, survey, or interview could provide.

Data collection

- Demographic Criteria:
    - Student at the University of Michigan
    - Enrolled in the School of Information
    - Undergraduate Student
    - Taking SI 422 course
- Methods of Recruitment:

    - The card sorting activity was required by the SI 422 course
- Card Sorting Tool
    - The web application Optimal Workshop was employed to conduct the card sorting exercise.
        - https://app.optimalworkshop.com/optimalsort/pqut0by8/ziob5yu7/shared-results
        - Password: si422
    - Participants would visit the site and begin an unmoderated card sorting exercise with pre-determined cards. There are no pre-determined category names so the users are free to add as many cards into one category and as many categories as they wish.

Summary of Participants



- The analysis was successfully completed by 121 students
- The median time it took participants to complete the card sorting exercise is 11 minutes and 4 seconds, with the fastest outlier at 2 minutes and 28seconds and 1 second and slowest outlier at 4 hours and 1 minute.
- As expected, the majority of the students in the class are currently in the United States. Due to the quarantine, 1 or 2 international students have traveled back to their home country of Taiwan.

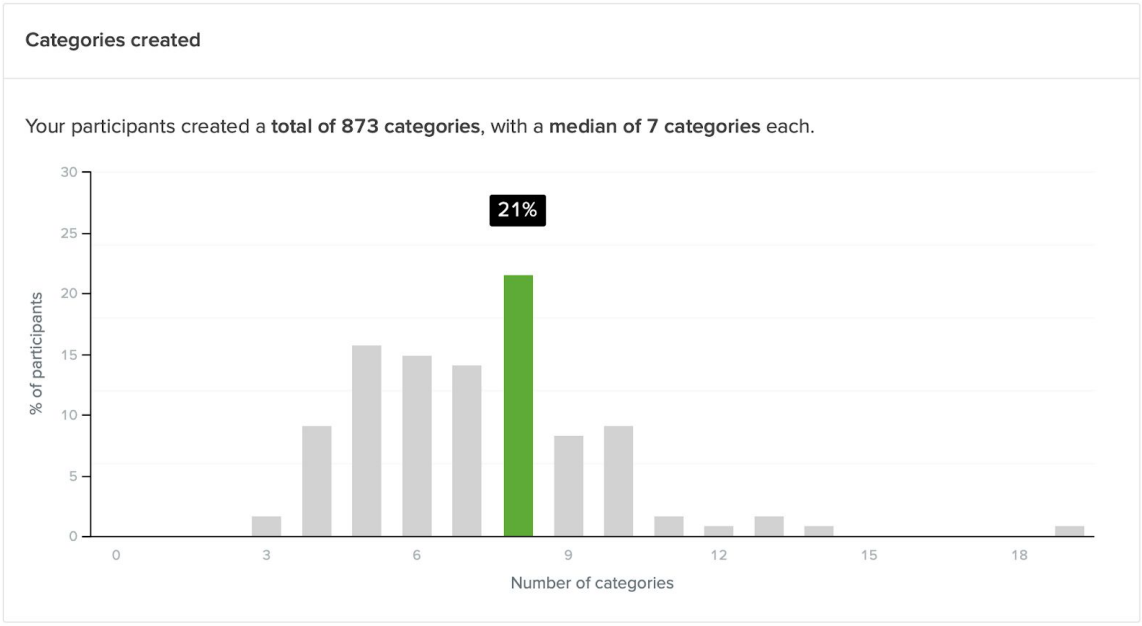
Data analysis

Participant category average:

The participants created a total of 874 unique categories. This data point is less important as participants may have written similar category names just with plural or capitalization differences.

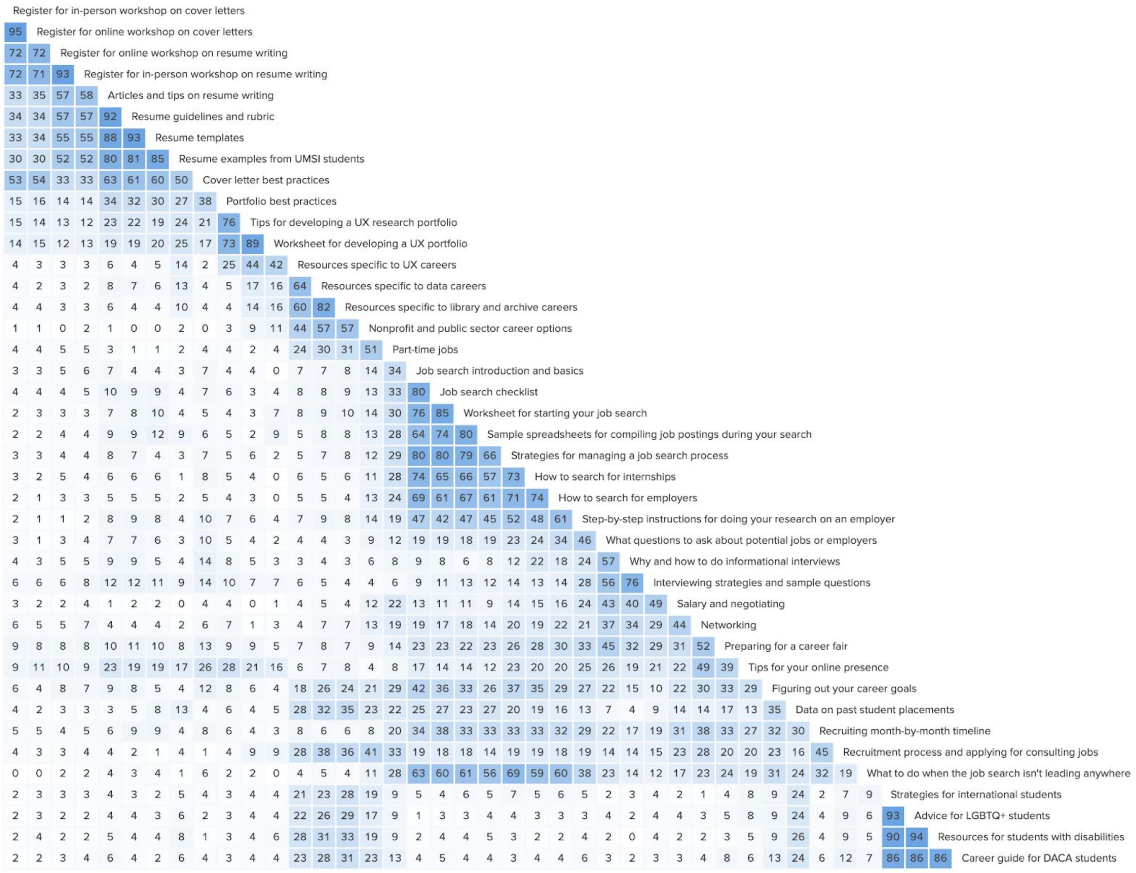
The median number of categories was 7, meaning half of the students used 7 or fewer categories while the other half used 7 or more. The mean was calculated using

a weighted average method:
(2(3)+9(4)+16(5)+15(6)+14(7)+21(8)+8(9)+9(10)+2(11)+12+26+14+19)/100.
The average turns out to be 7.3 categories.



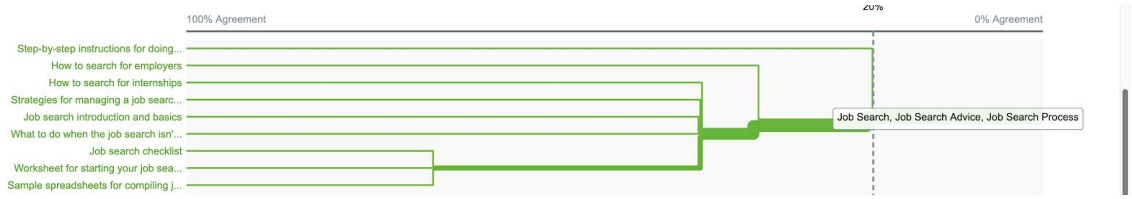
Similarity Matrix:

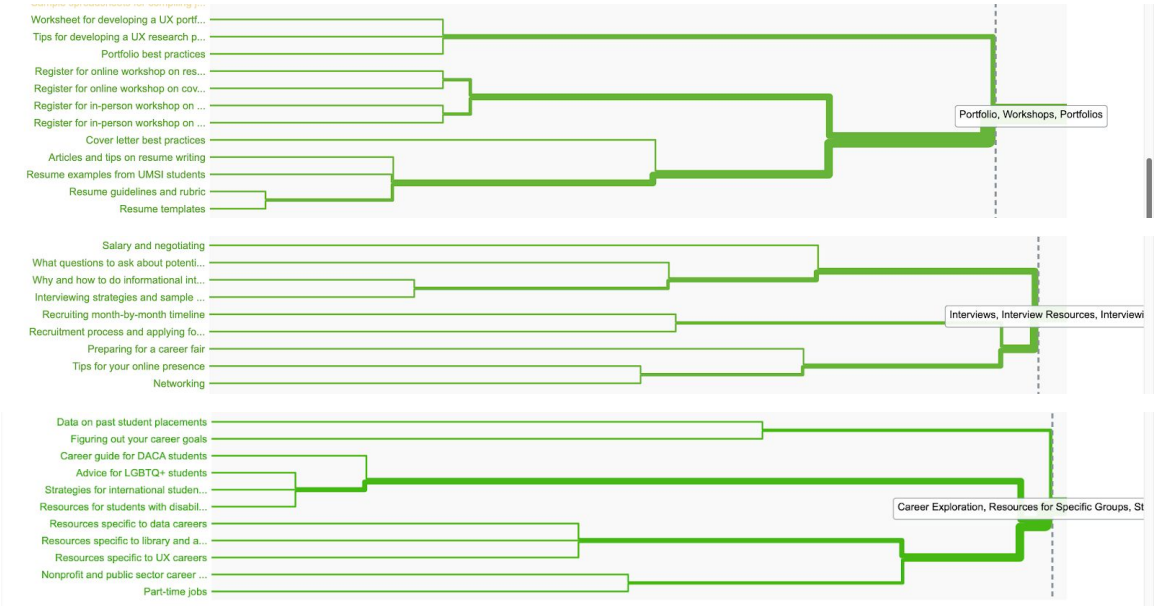
A similarity matrix could be utilized to see how which cards were most frequently grouped together by the participants. The matrix was organized so that the further distance two cards are from each other, the less frequent they were categorized together.



Dendrograms:

A set of dendrograms were utilized to show the hierarchical relationship between the objects. In the dendrograms, the cards are placed into representative groups that grow from smaller groups to all-inclusive groups. Essentially, the dendrogram creates a representation of the most inclusive group possible, what groups could be in that group, and then more specific groups that could be in the groups. The further left on the dendrogram, the smaller the number of cards in the group, until each card becomes individual cards; the further right on the dendrogram, the larger the number of cards in the group, until an inclusive group is created that is generally agreed by some of the participants (In the case of the first dendrogram, about 20% of participants, and last diagram, about 2%).





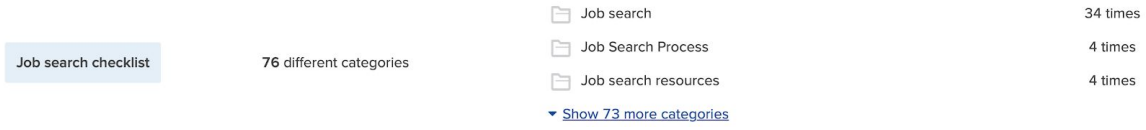
Findings

Summary of Findings

The key findings address the two research questions posed at the beginning of this report: Students first look for generic folder/group names on a website that addresses the challenges/needs presented to them during this difficult job market.

Key Findings

Findings 1: Students who chose more broad categories (more cards in the category they used) generally agreed on what the category is.	For almost every card, the categories with the highest frequency of participants naming the same thing are very broad and only had small differences in their category title. For example, the "Job search checklist" was the card with the highest same category title at 34/121 students. The top 5 frequently chosen title names, accounting for 47/121 students, all had the term "Job Search" in it. The same generality can be observed with the most popular category titles for other cards.



Findings 2: The titles represent the needs of students	A trend where category names are needs surfaced when analyzing the data. Titles like "interview," "portfolio," "UX," and "Cover Letter" all are either a specific part of the job search process or a specific track in SI. An inference could be made that students who would visit the CDO site probably have very specific questions already in mind.

Recommendations

After analyzing the data and sorting the findings, we can begin implementing recommendations based on the answers to our research questions. Collectively, these recommendations should enable CDO to redesign how it currently presents resources to the undergraduate students in SI. The redesign will allow students to be more efficient when searching and utilizing the resources offered by CDO as the organization will be more intuitive and in-line with what they expect.

Recommendation 1:

The way students are looking for resources during their job search is by their specific needs. A student looking for interview tips are not looking for a "Workshop" folder; they would look for an "Interview" folder. The recommendation here for CDO is to group their resources by specific needs such as "interviews," "cover letters," and "UX Design" while making the title as general as possible. It would be easier for students to find "Interviews" than "Interview Follow Up Email."

Recommendation 2:

Even though we now know that students like resources organized to specific needs, there is still a considerable variety of labeling preferences among students. The recommendation here would be for CDO to use generic group names with each individual resource being labeled with more detailed labels. For example, "Salary and negotiating" could be placed in a folder of "Post Offer Resources" but labeled with salary, negotiating, and post-interview labels. There should also be other features on the website, such as a robust search and filter tool for folders and labels.

Conclusion

Combining the recommendation of using generic folder/grouping names and more

specific labels with a robust search/filter tool will allow SI CDO to drastically reduce confusion when students visit its resource page. By understanding that students look for resources during this difficult job market by their needs and that organization based around those needs is the best approach, CDO could come up with even better ways to organize other parts of its resource catalog such as the employer pages.