**Monday:**

1. Starbucks wants to evaluate whether their mobile pay solutions are having a positive impact on customer service. Outline how they might collect data to answer this question using:

A. An Observational Study

Starbucks could look at who uses mobile pay, how long it takes for mobile pay to receive their product versus a line customer. Also keeping track on how much a mobile pay customer is ordering versus a walk in customer. Finally track the mood and frustration levels of mobile pay users versus chashiere transactions. If you track all these observations Starbucks could get a better idea on who is using the feature and if it’s affecting their customer service.

B. Focus Groups

Starbucks could launch two separate focus groups one expressing interacoints and effects of using mobile pay. For example the group can present what pros and cons the mobile pay features offers and how it benefits them as a customer. The pros and cons will show Starbucks if their new mobile service is improving the perception of customer service. The second focus group can be strictly walk in customers and they can discuss why they like to walk in with money to pay and order in person. This group may expose they like the face to face interaction in store or don't like dealing with technology. Either way it shows where they need to make customer service improvements or embrace current features that work.

C. An Online Survey

This online survey could be conducted by Starbucks which has mobile pay users to take part in a survey after their experience. The question can be simple so it’s easy to tell if the mobile pay is benefiting customer service. On the other hand people who don't use mobile pay could have a online survey link on a receipt where they can express their reason for not using mobile pay and if using it in the future could benefit their consumer needs.

2. In 2014, Facebook conducted their infamous Emotional Contagion study where they manipulated users' newsfeeds to contain differing amounts of positive and negative content. Name the

(a) research question

How does the content users see in their Facebook news feed influence their own emotions?

(b) independent variables

Two seperate user population groups. Show one group negative news feed content. Show second group mostly positive news feed content.

(c) dependent variables that Facebook used in this study.

Human emotion change.

(Overall they found if someone experienced more negative post they are most likely to post negative post themselves. Problem was fb never informed any users that they were doing user data collection which was against terms of service.)

3. What kind of data collection strategies would you use to: why? (observations, questionnaires,experiments, simulations, archives.

A. Determine user perceptions of a social media campaign

Online Surveys would be most beneficial for determining perceptions of a social media campaign. Deploying a survey that asks users questions like “have you seen content form so and so campaign on social media recently?” Then ask follow up 1-10 rating questions that give a sense of their perception or feelings. This way you can learn how the user is affected or influenced by viewing or not viewing social media campaign content.

B. Assess the effectiveness of a web redesign

Using focus groups could be effective at assessing the effectiveness of a web redesign. Taking two seperate groups and having them interact with two separate web designs could uncover good data. One focus group would use the current web design that they are used to. The second group would use the updated web design and provide feedback on the pros and cons. From the pros and cons in each focus group the web designers can make sure to include the most liked features of the current design and the best features in the new design. On the other end they can update, or remove unliked features expressed by focus group interacoints.

C. Decide whether the next iPhone will live up to its hype (and turn a profit)

Observational Studies could prove weather the next Iphone will live up to its hype and turn a profit. This would take lots of observation data collection but crowdsourcing observations could be beneficial. For example observations could be collected involving the amount of add presence seen for the new iphone, how many menitonis it is getting on social media, or trending. Other observations that would prove the success would be the growing number of customers waiting in line to purchase the phone. Understanding if it will turn a profit could also use observations on how many pre orders have been posted and seeing if the preorder is sold out in most stores.

4. For the three scenarios above, describe how you would conduct each investigation (i.e., not only the type of method, but what question would you answer, what procedure would you use, what kind of data would you collect, and how would you analyze that data to answer your question).

Scenario A = I would conduct an investigation using surveys to determine user perceptions of a social media campaign. In my survey I will provide questions like “have you seen content form so and so campaign on social media recently.” Then ask follow up 1-10 rating questions that give a sense of their perception or feelings. I would post this survey on the social media sites and maybe online as an open survey for anyone to use. By analysing this survey data I could answer if the users are being influenced by viewing social media campaign content. My procedure would include producing a survey, launching it, analysing the data, determining themes and express findings. I would collect user data over the digital services. I could even launch a physical survey where a user explains their media campaign experience and then fill in the questions. My question analysis would all revolve around trends to convey findings.

Scenario B = To conduct investigation on the effectiveness of a web redesign I would use a focus group data collection method. Using focus groups can be useful for assessing the quality of the redesign. Analyzing user data can answer how effective a web redesign is or find what the main pros and cons are. The procedure I would use incorporates two seperate groups. I would have one focus group use the current web design that they are used to interacting with. The second group would use the updated web design. After both focus groups interact they will be able to provide essential feedback on what they like or dislike about the redesign. The data collected would primarily be feedback data from users. Things like comments, suggestions, and short answers could be analyzed to perceived effectiveness of web redesign. I would analyze the comment data to get a sense of what each focus groups liked and disliked. This will allow the web designers to make sure they include the most liked features of the current design and the best features in the new design. On the other end they can update, or remove unliked features expressed by focus groups who used the new redesign.

Scenario C = To conduct a research investigation on whether the next iphone will live up to its hype and turn a profit I would use observational studies. My research would answer how popular the Iphone release is going to be based on current observed trends and human behavior. This would take lots of data collection but crowdsourcing observations could be beneficial. My procedure would include observations like the amount of add presence seen for the new iphone, how many menitonis it is getting on social media, or trending. Other observations that would prove the success would be the growing number of customers waiting in line to purchase the phone. All the data collected could be both qualitative and quantitative. After analysis I could prove if society is hyping the new iphone release and understand how many customers are actively pre ordering it or making it trend on social media mentions.

5. Describe how you might use data fusion to determine how the location people are in influences the ways they communicate with others. Assume you have full access to data from all technologies that a person may be carrying with them or that may be embedded in the environment.

Since data fusion utilize data across different sources you could determine how the location people are in influences the ways they communicate with others. In order to do this I would first track the individuals location using their smartphone gps data. From the mass amount of people with smartphones you can easily determine where that person currently is or where they live. After finding the exact or general location I could then track their communication habits. To track communication habits I could gather data from digital communication transmission like texting or social media to government mail tracking systems of sent or received mail. On the flip side if there is lack of digital or mail interaction for communication I could infer these locations are influencing more face to face interaction. Those interactions further use observation data collection through ccv services. From this mix of data I could now analyze the communication tendencies of different individuals from diverse locations. Seeing how users interact based on different locations can determine how that location affects their communication style or habits. Having all these data sources would be impractical but would allow great research for the question that one source wouldn't be able to uncover.

**Friday:**

6. Format Parsing: Use the skeleton code in Problem\_Set\_5.zip to construct parsers to work with Unstructured, List, and Hierarchical data formats to analyze a text dataset. Directions are within the file. (PART 1 ONLY)