**INFO 3401 - Kexin Zhai**

**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

* Observe the customer’s action when they are using their mobile pay solutions.
* Observe if mobile pay solutions would be convenient than other payment method.
* Observe how many customers choosing to use mobile pay solutions.
* We will obtain the amount of customer using mobile pay solutions in a short period. The comparison of the time to purchase Starbucks between using mobile pay solutions and the normal pay solution.
* We could answer around time that people spend buying a cup of coffee by using mobile pay solutions and probability people choosing to use mobile pay solutions.

B. Focus Groups

* Find a certain group or several different groups to do in-person questionnaires to collect the data.
* List the groups that researchers want to focus and then find the certain groups.
* Give the questionnaires include the questions that wants participants to answer and wait for participants’ response
* We could obtain simple data like gender, use mobile pay solutions or not, etc.
* We could answer the gender percentage of customer using mobile pay solutions and the percentage of customer in Starbucks using mobile pay solutions.

C. An Online Survey

* Online survey could receive more broadly groups response.
* Generate the online survey question and post online.
* Besides the percentage of people using mobile pay solutions, we could receive the data that shows if mobile pay solutions are make people experience in Starbucks better.
* The frequency that customers who use mobile pay solutions go to Starbucks vs. customers who don’t use mobile pay solutions.
* We could answer if people who use mobile pay solutions go to starbucks more frequently.

**Wednesday**

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, (b) independent variables, and (c) dependent variables that Facebook used in this study.

* Research question: Determine the emotional contagion factors when users read their newsfeeds.
* Independent variables: amounts of positive and negative content.
* Dependent variables: manipulate users’ newsfeeds.

3. What kind of data collection strategies would you use to:

A. Determine user perceptions of a social media campaign

* Questionnaires
  + In order to get thought of user of a social media, questionnaires method allows us to ask question directly to the participant and get answer immediately. We can choose the targeted group to answer the question.

B. Assess the effectiveness of a web redesign

* Interview studies and observations
  + During the face-to-face interview, we could directly show redesigned web to participants. Give them the instruction to do some actions, and observe participants action if the web reach the effectiveness as expect.

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

* Crowdsourcing
  + Find people on the internet to respond to a survey related to their interested parts of iPhone. In order to let the next iPhone live up to its hype, we need to know what parts of iPhone attracts customer and which parts do people be more interested. Ask the iPhone fan why they love iPhone and find out the common point and make use of the data.

Be certain to provide a sufficient justification for why you feel this method is correct.

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).

1. For determining user perceptions of a social media campaign, we will prepare some questions to ask the random participants. We will randomly pick up participants and ask them the frequency they use the social media. Then, directly ask them the purpose they use the social media in order to receive the data that how people think of a social media. We will collect the data of the feeling of users when they use social media, the rating of emotion like positive or negative feeling. We will analyze the data we collected and see how many percentage of users have positive thought of social media. For non-number data, we will use content analysis to receive several key thoughts from the data of user perceptions of a social media campaign.
2. For assessing the effectiveness of a web redesign, we will conduct interview sessions with several participants. Before the interview sessions, we will prepare the prototype of redesigned web. During the interview sessions, we will let participants do an action like “if you want to…., then what you would do”. Then we will observe participants’ action and see if the redesigned web is user-friendly and reach our goal. At the same time, we will record the action and collect the thoughts from participants. After that, we will determine if the redesigned web reach the expectation we have and see if the web need to be redesigned again.
3. For deciding whether the next iPhone will live up to its hype, we will use crowdsourcing method to collect data. First, we will come up with a set of questions which we want to let respondent answer. Mainly, we are going to understand which iPhone functions attract users a lot or which functions users find are useful. We are going to find people on internet like on social media, iPhone forums. We will collect the data: whether you use iPhone or not, why or why not, the functions people like, the functions or features lead users to buy iPhone, etc. We will analyze the data and find out the high percentage functions and features of iPhone that participants think are attractive. Then, making use of these data to give the suggestion of how to advertise the next iPhone.

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.

First, I will gather the data contents that people communicate with others in different environment or location, such as in the classroom, in the library, in their room, etc. Then I will use these data to do content analysis and emotional analysis to find out the difference between the conversations in different environment. Also, we don’t only gather the data through technology or the data from something that embedded in the environment. “We can get a bigger picture of what data from any single source actually tells us.” Thus, we will know the features of each single source and see if similar features will lead to similar data set.