Problem Set 5

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:
   1. An observational study
   2. Focus groups
   3. An online survey

Be sure to identify what the procedure would look like, what data you would obtain, and what questions you could answer using this data.

To collect data using an observational study, they could locate a couple of different shops where people are most likely to use the mobile pay solution and document/take notes on what people’s emotions are at the time of using it. The data you would obtain include, demographics of who purchases the drinks/food, how quickly the process takes from ordering to payment, what time of day people tend to use it the most- to see if it’s used for efficiency or just so people have one less thing to hold.

If Starbucks wanted to evaluate their mobile pay solutions using focus groups, they could ask their employees to sit for on a (group) interview on how they perceive their consumers are enjoying using the mobile pay solution.

To collect data using an online survey, Starbucks would likely have to send it to anyone who has a Starbucks account- it’s possible that bias may occur from gold star members answering more frequently than those who only purchase from Starbucks occasionally. This could also be sent out via social media platforms if they were interested in perspective buyers. A final place the survey could be sent out is via Apple products- if those are the phones that offer the mobile pay solutions the most. This would also help you answer how many people would enjoy using the mobile app.

**Wednesday:**

1. 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.

Facebook’s research question for this study would be: “How does content impact a user’s desire to continue using the site?” The independent variables would be the users’ newsfeeds that were either filled with positive or negative content, while the dependent variable was the user’s emotion towards the site itself or the emotion towards using the site.

1. What kind of data collection strategies would you use to:
   1. Determine user perceptions of a social media campaign
   2. Assess the effectiveness of a web redesign
   3. Decide whether the next iPhone will live up to its hype (and turn a profit)

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

A couple of data collection strategies you could use to determine user perceptions of a social media campaign would be survey, focus group, and interviews (also known as questionnaires).

To assess the effectiveness of web redesign would be observations and a follow-up questionnaire.

A data collection strategy to use to decide whether the next iPhone will live up to its hype (and turn a profit) would be a simulation or a focus groups. Surveys would be useful

1. 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).

To conduct an investigation for A,

1. 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.

One way you could use data fusion to determine how the location people are in influences the ways they communicate with others is by collecting

**Friday**