Jack Sandberg

INFO 3401

Problem Set #5

9/30/2018

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
        i. By doing an observational study, Starbucks could find out more, in person, about people's thoughts towards mobile pay. They might have a worker or a listener stand or sit casually nearby the payment stand, and record information about their experience with mobile pay. The studiers could observe real interactions, although there could be bias, as since people would not know that they are being recorded, they might act, react, or not react about their true thoughts. In other words, there could be bias. Doing an observational study would allow questions regarding how people interact with mobile pay, as well as their thoughts on it in general.
    b. Focus Groups
        i. In order to learn more in-depth answers, Starbucks could ask a group of people to meet to ask them about mobile payment. It would be important to have both people that use it as well as people that don't, to have a more holistic perspective. The data obtained from a focus group would be open-ended responses, taken from customers. Using this data would allow answers to be given to questions such as "What are the thoughts on mobile pay?", "Is mobile pay convenient?", and "What are some of the downsides of using mobile pay?".
    c. An Online Survey
        i. If Starbucks wanted to generate a lot of data of more quantitative data, they could provide an online survey for their customers. Doing this would allow them to ask typically multiple choice questions about mobile pay, and would let them gather tons of data relatively

cheaply. Using this type of data would allow them to answers questions regarding the general consensus of customers in regards to mobile pay.

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

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
      i. How can Facebook maximize users enjoyment of their site?
   b. independent variables
      i. Positive and Negative Content
   c. dependent variables that Facebook used in this study.
      i. Emotional results of people

3. What kind of data collection strategies would you use to: (Be certain to provide a sufficient justification for why you feel this method is correct.)
   a. Determine user perceptions of a social media campaign
      i. In an ideal situation, a combination of collection strategies would be used. Surveys would be very effective for collecting mass amounts of data, while focus groups would allow Facebook to dive deeper into the insights and perspectives of users.
   b. Assess the effectiveness of a web redesign
      i. Effectiveness of a web redesign is a form of infrastructure, in that no one cares unless it is working *well*. Since this is the case, a survey would be the best option, combining with asking to interview people that leave negative responses. This would allow for follow-up and would allow the web designers to understand why certain incorporated aspects might be neither effective nor appealing, with the intent on changing them.
   c. Decide whether the next iPhone will live up to its hype (and turn a profit)
      i. Data fusion, a combination of simulations and focus groups, would be best for this case. Developers would want to predict whether the iPhone will be successful, and therefore they need to do a

simulation. However, they need information about previous versions and about what people like, therefore focus groups would allow the developers to attain good, detailed information about what consumers and end-users like, want to see, and care about in the next iPhone. After this, a simulation would be made to test if they have done it well.

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).
    a. Determine user perceptions of a social media campaign
        i. Survey & Focus Group
        ii. By providing an online survey to everyone who uses a social media program, tons of data would be able to be gathered to check the general consensus of opinions, while a focus group would allow for more in-depth analysis and opinions to be voiced. This is an example of data fusion, as it is effective for gathering opinions.
    b. Assess the effectiveness of a web redesign
        i. Data fusion - Survey & Interview
        ii. A survey could be given out, or incorporated on, the intended website. This could be a short survey, asking questions, which the intent on singling out those who leave poor responses. Anyone that does leave a poor 'grade' could be asked if they would be willing to participate in an interview, and offering them some kind of compensation would help them want to participate. Then, in the interviews, questions could be asked of how to improve, what was so bad about the site, etc. and information could be derived from that data to redesign the site.
    c. Decide whether the next iPhone will live up to its hype (and turn a profit)
        i. Data Fusion - Simulation & Focus Group
        ii. A simulation implies modelling what will happen in the future, which is needed for this example. To do this, you would first need to collect data (e.g. complaints from previous versions, improvements on things that people deemed important, etc.), primarily using focus groups. These focus groups could be assembled by emailing people that have Apple accounts, and asking them (maybe bribing) to participate in a focus group, and using lots of buzzwords, people

would be interested in helping out Apple and in deciding aspects of the next iPhone. Using this information, a simulation could be made of the next model of iPhone, which could be used to predict and model what the real thing would look like, and whether it would be successful. Using this method would be most efficient because it would be the best way of predicting, for both individual features and the overall product, whether success was probable.

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.
   a. Assuming that people carry cell phones with them everywhere (because they do), GPS or location tracking could first allow analyzing location versus amount of online communication. Analysts could match up frequencies of texts, social media use, emails, or other online communication to location services, and determine which locations (workplaces, schools, etc.) tend to be more likely for online communication. Also, by taking another aspect of this use (timestamps/time data), analysts would be able to cross reference and decide as to whether it could be simply the time of day that changes how communicate. This would help to eliminate some bias.
   b. Surveys could be provided and distributed to people. Data generated from this would be quantitative, and would allow the analysts to understand general trends in responses as to why people communicate the way that they do. This would allow them to find a sort of bell curve.
   c. Interviews could be done on a small group of people. This would provide for a lot more qualitative data, and would allow analysts to dive deeper and ask a lot of open ended questions with people about their location vs communication.
   d. Observations could be made as well. This could be done at public places, to observe how people act and react when in public and surrounded by people. This would provide context to part a., and would allow analysts to further understand what people are like in public and match up the GPS/online communication data to tendencies when in public.