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INFO 3401

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:**

*A. An Observational Study*

In order to conduct an observational study, you can first brainstorm the type of things you are going to be looking for and have a general idea of the data you would like to collect. Once this is done, you can choose a location that you feel will best benefit you. In this case, that would be a Starbucks that remains busy throughout the day. You can then observe customers and take notes on the interactions that occur when using the mobile pay solutions. It is important to pay attention to the target (customers using the mobile pay service) and notice the effects. This study will be able to show you in real time how people interact with the service, and how they feel about it.

*B. Focus Groups*

First, focus on identifying the group that you would like to evaluate. Once you have the group that you would like to work with, you must then generate questions or statements that will lead to discussion and response from the group. It is important to take note of the responses, and pay attention to the majority of the opinions of the group. With this data, you could answer what people think is working right, and what changes need to be made. You will also know if the service is having a generally negative or positive effect.

*C. An Online Survey*

Send out a survey to customers that come into the store. Offer them some sort of benefit for taking the online survey as well as provide them with an estimated time for completion. Then focus on asking any questions that you feel will be helpful to understand the impact that the mobile pay solutions are having. Also after providing questions, leave a space for comments for the customer to tell you how they feel about the impact of the product. The survey results will allow you to gather a large amount of data, and you are able to see what people are thinking in quick time.

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

**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.**

a.) The research question would be: “Does the content present on the newsfeed affect how users interact with the site?”

b.) The independent variables would be the positive and negative content on the newsfeed.

c.) The dependent variables would be the users emotions and interactions with the site.

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

*A. Determine user perceptions of a social media campaign*

I believe that the most effective form of data collection in this case would be a survey and focus groups. I think this would be the most effective because you could get information that is desired in large quantities. You could also consider conducting interviews, however, in this case I believe quantity is important.

*B. Assess the effectiveness of a web redesign*

I believe that a focus group as well as observation could be used to assess the effectiveness of a web design. I think it would be important to hear what people think, as well as see.

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

I believe that simulation would be the best method to decide if the next iPhone will live up to the hype and return a profit. Simulation is the best option because it would provide data that would allow you to see the possible success or “failure” of the phone.

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).**

A.) To determine user perceptions of a social media campaign, the question to answer could be: “What is the user’s general response to the campaign that they are being shown?” For the procedure, you would create a short survey that would allow people to quickly reveal their thoughts and reactions. You could then from these responses select a focus group and conduct research deeper into the campaign. You would collect data on the reactions of the users.

B.) To determine the effectiveness of a web design, the question could be: “Is a user able to actively navigate and understand the site?” For the procedure, you would first observe user interaction with the site and take note of the response. You could then from this determine a set of questions and conduct a focus group. You would be collecting data on the accessibility and user operation of the site.

C.) To determine if the next iPhone will be successful, a question could be: “Is the next iPhone expected to generate more sales compared to previous iPhones?” The procedure would be to simulate sales based off of previous phones and data. The data created would then be examined to determine the most likely outcome.

**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.**

You could take the data from a person’s phone tracking their location from an app such as find my iPhone. You could then access various other apps that are used for communication, such as text message, phone call, social media, etc. You would then be able to cross the two sets of data and determine how people communicate based on their location.