W02 – Asking Questions of the Data

CASE STUDY: Discovering what question we can ask of the data in order to get information from our data to make good decision. It helps to know what the company goals or visions are to come up with good questions.

As you gathered data this week, you may have discovered a few things about yourself and that's great. How else might this data be used? Take a minute to think about ways the data gathered from many students could be used.

- How could this data help people?
- How could someone make money on this data?
- How could we provide value in some way with it?

A goal, vision, or mission is important. It is the base for the direction you want to go with the information you get from the data. That is one of the reasons why we have a Statement of Work document to help us focus on how we are going to use the data we have. The Statement of Work should fit with the goals, vision, or mission of the company.

Let's look at a fictitious company and their Statement of Work. This will give us one way we could use the data. It is a very simplified and brief statement but gives us some direction of where to go with the data.

Statement of Work for Student Data

HISTORY

AppMakers is an app development company who specialize in creating apps to benefit college students. The system they are looking to update is their database containing all their research data on college students. Currently they only keep track of data sent to them through counseling departments from a dozen colleges. Their apps don't seem to be resonating with college students and they fear that the information they have is not an accurate representation of what college students really need or want. They have decided to send out data collection sheets that allow the students themselves to gather information that might help them get the research data they need into their database system to enable them to make more personal and useful apps. They also realize that taking photos is a big part of the college student's phone use and want to incorporate images students take on their phone as part of their research.

SCOPE

This project includes creating a database for research purposes, not the application development. Any application that uses the data is not a part of this project. The database will need to be designed and populated with data. The data will come from data gathering sheets that are filled out by 150 students at more than 100 colleges. AppMakers can utilize hardware they currently have to hold the database and no new hardware is needed. Data will initially be stored in an Excel workbook by the students and then AppMakers will transfer the data to a MySQL relational database.

OBJECTIVE

The objective of this project is to have more accurate research data to base their apps on. They want to understand student's biggest worries and distractions, and also types and locations of images students take with their phones. Employees at AppMakers can use the database to obtain information to focus the development of their apps on college students and create apps that students will really use and find effective.

TIMELINE

Week 1 – Data Gathering (students will gather their own personal data and record it on three different sheets using visual/drawn data gathering techniques). The AppMakers database team will design and normalize the database. The data will be gathered into a spreadsheet with tables similar to what will be used in the database

Week 2 – The AppMakers team will develop the ERD for the database using MySQL Workbench.

Week 3 – The AppMakers team will import the data into database tables.

	Week 1	**Week 2**	**Week 3**
Students	Data gathering and stored		
Company Team	Design database	ERD development	Data imported in database

There is some information we will need from the data in order to accomplish our objectives. We need to query (or ask questions of the data) in order to get good information so we can make the decisions of what to use when creating our app. Here are just a few types of question we might want to ask of our data.

- What was the top distraction category for all students?
- What was the top worry category for all students?
- Which image location was the most prominent for each major?
- Did males or females have the most group type images?
- Which major had the most documentation type images?

The answers to these questions like these might give us some information to help produce a more helpful app for college students.

Think about trying to go through hundreds of student information in a spreadsheet for example and trying to come up with the answers to these questions. It might be possible eventually, but it would take some time.

Later when we learn Structured Query Language (SQL) to query our data, getting the information will be quick and efficient. This type of in-depth data retrieval is what databases do a great job with.