Class Project

**Caselet**: PopRunner is an online retailer. Management of PopRunner is a little worried because of the recent decrease in traffic on their website. A manager, who is also a DePaul alum, is thinking of using the data that online retailer collects through the website to know *if online advertisement impacts sales*. She decides to do descriptive statistics. They do not have sophisticated data environment to do analytics and are relying just on SQL to understand the data. She has asked for your help with SQL. This is a very crucial project for PopRunner as they cannot waste resources and now rely on your skills to help them with the analysis.

PopRunner captures the data through their website. They have shared four tables with you: consumer, pop\_up, email, and purchase.

In the briefing with the manager, she talked to you about two kinds of advertisement they sent to the PopRunner customer. They have two tables for each kind of advertisement. The first advertisement is via an email blast. Same email is sent to all the consumers. Data related to a customer opening an email blast is in **email** table.

The second advertisement is on the website. A pop-up advertisement was sent to selected consumers. It is an advertisement with a discount code that consumers receive directly on the PopRunner’s website when they visit the website. A pop-up advertisement was sent to selected consumers right after landed on the website. Data related to this is in the **pop\_up** table.

In addition, they also capture demographic variables like age and gender. They internally assign loyalty status to each consumer depending upon their past purchase history. This is in the **consumer** table. Finally, all the purchases from the customer are captured in the **purchase** table.

Below are more details about the customers and their engagement with the advertisement. There are four tables in total as described below:

**Data dictionary**

***consumer table***

The online retailer uses its website to capture consumer and purchase data.

consumer\_id: Each consumer has a unique consumer identifer (consumer\_id) that gets assigned as soon as the consumer creates a new account on the website. Each consumer has only one consumer\_id.

age: Age of the consumer

gender: Gender of the consumer

loyalty\_status: The online retailer on the basis of past spending of the consumer assigns a loyalty status: 0-4, 0 is the lowest loyalty status and 4 is the highest loyalty status

***email table***

This table captures if a consumer a customer opened the email blast or not.

consumer\_id: unique consumer id

opened\_email: if the consumer opened the email blast (1) or not (0) from the online retailer

***purchase table***

Sales data gets captured in the purchase table

consumer\_id: unique consumer id

sales\_amount\_total: sales amount for total purchase from the online retailer (this price is without the pop-up discount)

***pop\_up table***

This table contains data about the second advertisement which is a pop-up on the website.

consumer\_id: unique consumer id

pop\_up: This shows if a consumer received a pop-up advertisement or not. For the consumer who received a pop-up advertisement, pop-up is marked one, otherwise zero

saved\_discount: This shows if a consumer saved the pop-up discount in their cart. Saved (1) and not saved (0).