

# T-Shirt Designs

## >Abstract

This case focuses on research done by Julio, a student who wants to raise money to pay off a portion of his student loans. The case provides a survey and data set and then asks the student to prepare a report recommending one of two prototype T-shirts Julio is considering.

## >The Scenario

Julio has one semester left in his MBA program and is looking at paying back some hefty student loans. Even though he has had to borrow money to complete the program, he's decided it was a worthwhile investment. Nonetheless, Julio would like to repay some of his loans before graduating, if at all possible.

Julio has recently taken entrepreneurial and small-business classes and has decided to put some of this knowledge to work. He suspects that a number of his fellow students would be willing to shell out a few bucks for school memorabilia. Since summer is right around the corner, Julio is pretty sure that he can make some money by selling t-shirts to students on campus.

Informal conversations with people in the hallways have given him some ideas about popular t-shirt designs. Julio has narrowed down the possibilities to two. He's given sketches to a local t-shirt printing company, and they have made two prototype shirts. At this stage, Julio has no idea about the relative demand for the two t-shirt designs. If he's going to all the trouble and expense of having the shirts made up, it would be useful to know which of the two shirts is more popular.

The two shirts look something like this. The red shirt has a scoop neck and is made of 100 percent cotton. On the back of the shirt is a logo of the school. Under the logo are the words "PARTY TIME at PU UNIVERSITY!" Julio suspects that this shirt will mostly appeal to the party-goers.

The other shirt is more conservative. It is a white, button-placket, collared t-shirt made of 50 percent cotton and 50 percent synthetic materials. This shirt has a simple, and small, version of the school logo on the upper right-hand section of the front of the shirt.

Julio has decided to gauge the relative markets for his two t-shirts by running a quick survey. With permission from the student government, he has set up a table in the student union. The two prototype shirts are there for inspection, along with a survey designed to gauge people's reactions to the two shirts. He has a big sign over the table offering a free soft drink to all participants to induce people to stop by the table and participate in the survey. On the corner of his

table is a big cardboard box with a slit in the top. Students are instructed to put their completed questionnaires in the box, thereby guaranteeing anonymity of the responses.

### **T-Shirts Questionnaire**

I am trying to measure people's preferences for one of two different t-shirt designs. Please help me with my study by answering each of the following questions to the best of your ability. Do not put your name on this page because all responses should be anonymous.

1. My gender is  
1 = female  
0 = male
  
2. My current or most recent scholastic grade-point average on a 4-point scale is \_\_\_\_\_.
  
3. Circle the number that most accurately describes your attitude about the red and white t-shirts on the table.  
1 = I strongly prefer the red t-shirt to the white t-shirt.  
2 = I somewhat prefer the red t-shirt to the white t-shirt.  
3 = I like both equally, or am indifferent between the two.  
4 = I somewhat prefer the white t-shirt to the red t-shirt.  
5 = I strongly prefer the white t-shirt to the red t-shirt.
  
4. I am \_\_\_\_\_ years old.
  
5. My gross annual income for 1993 was \$\_\_\_\_\_. (If you were not gainfully employed, enter 0.)
  
6. I am (circle one)  
1 = left-handed  
2 = right-handed  
3 = ambidextrous (both left- and right-handed)

The data set is on the DVD that accompanies your text in the file named T-SHIRTS.

Variable	Label
GENDER	Female = 1, male = 2.
GPA	Current grade point average on the 4-point scale.
PREFER	Preference of red or white shirt (1, 2 = red; 3 = neutral; 4, 5 = white).
AGE	Age in years at the time of the survey.
INCOME	Gross annual income for 1993.
HANDED	Left-handed (= 1), right-handed (= 2), or ambidextrous (= 3).

> **Discussion**

- 1 Reconstruct the management-research question hierarchy.
- 2 Evaluate the sampling design.
- 3 How would you judge the quality of the survey instrument? Explain.
- 4 Interpret the data in reference to Julio's management dilemma.
- 5 Prepare a report about the preferences revealed.

> **Sources**

This case was based on a survey designed by M. A. Smith, who also wrote the survey questionnaire. Used with permission of Peter G. Bryant and Marlene A. Smith, *Practical Data Analysis: Case Studies in Business Statistics*, Irwin, 1995.