Congratulations! You passed!
TO PASS 100% or higher

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100%

Self-Reflection: Business cases

TOTAL POINTS 3

1. 1 / 1 point

In this activity, you'll have the opportunity to review three case studies and reflect on fairness practices.

Case Study #1

In an effort to improve the teaching quality of its staff, the administration of a high school offered the chance for all teachers to participate in a workshop, though they were not required to attend. Instead, they were encouraged to sign up on a first-come, first-served basis. Of the 43 teachers on staff, 19 chose to take the workshop.

At the end of the academic year, the administration collected data on all teachers' performance. Then they compared the data on those teachers who attended the workshop to the teachers who did not attend. The data was collected via student surveys that ranked a teacher's effectiveness on a scale of 1 (very poor) to 6 (outstanding). The data revealed that those who attended the workshop had an average score of 4.95, while teachers that did not attend the workshop had an average score of 4.22. The administration concluded that the workshop was a success.

Reflection

Are there examples of fair or unfair practices in the above case? If there are unfair practices, how could a data analyst correct them?

In the text box below, write 3-5 sentences (60-100 words) answering these questions.

> It is an unfair practice. It does not include the previous performance for comparsion.

Correct

Thanks for your response! This is an example of unfair practice. It is tempting to conclude — as the administration did — that the workshop was a success. However, since the workshop was voluntary and not random, it is impossible to find a relationship between attending the workshop and the higher rating.

It is possible that the workshop was effective, but other explanations for the differences in the ratings cannot be ruled out. For example, another explanation could be that the staff volunteering for the workshop was the better, more motivated teachers. This group of teachers would be rated higher whether or not the workshop was effective.

It's also worth noting that there is no direct connection between student survey responses and the attendance of the workshop, so this data isn't actually useful. The data analyst could correct this by asking for the teachers to be selected randomly to participate in the workshop, and by adjusting the data they collect to measure something more directly related to workshop attendance, like the success of a technique they learned in that workshop.

2. Case Study #2 1 / 1 point

A self-driving car prototype is going to be tested on its driving abilities. The test is carried out on various types of

roadways — specifically a race track, trail track, and dirt road.

The prototype is only being tested during the day time. The data collected includes sensor data from the car during the drives, as well as video of the drive from cameras on the car.

The results of the initial tests illustrate that the new self-driving car met the performance standards across each of the different tracks and will progress to the next phase of testing, which will include driving in different weather conditions.

Reflection

Are there examples of fair or unfair practices in the above case? If there are unfair practices, how could a data analyst correct them?

In the text box below, write 3-5 sentences (60-100 words) answering these questions.

> It is an unfair practice. It does not include the perfomance of senor response during the night time.

✓ **Correct**

Thanks for your response! This case study shows an unfair practice. While the prototype is being tested on three different tracks, it is only being tested during the day, for example. Conditions on each track may be very different during the day and night and this could change the results significantly. The data analyst should correct this by asking the test team to add in night-time testing to get a full view of how the prototype performs at any time of the day on the tracks.

3. Case Study #3

1 / 1 point

An amusement park is trying to determine what kinds of new rides visitors would be most excited for the park to build. In order to understand their visitors' interests, the park develops a survey. They decide to distribute the survey by the roller coasters because the lines are long enough that visitors will have time to fully answer all of the questions. After collecting this survey data, they find that most visitors apparently want more roller coasters at the park.

Reflection

Are there examples of fair or unfair practices in the above case? If there are unfair practices, how could a data analyst correct them?

In the text box below, write 3-5 sentences (60-100 words) answering these questions.

> It is an unfair practice. It does not include the all program in the park, it might be bias result because most survey is coming form player who wait for roller coaster

✓ **Correct**

Thanks for your response! This case study contains an unfair practice. While the decision to distribute surveys in places where visitors would have time to respond makes sense, it accidentally introduces sampling bias. Because the only respondents to the survey are people waiting in line for the roller coasters, the results are unfairly biased towards roller coasters. A data analyst could reduce sampling bias by distributing the survey at the entrance and exit of the amusement park to avoid targeting roller coaster fans.