

16.1: Data versus Information

Learning Objectives

1. Distinguish between data and information.
2. Define information system (IS) and identify the tasks of the information systems manager.

By the time the company took the plunge and committed \$100 million to marketing-related information technology (IT), Caesars had been collecting and storing data about customers for almost a decade. “While the company thought it important to collect customer information,” recalls a senior marketing executive, “the problem was we had millions of customers to collect information on, but we had no systematic way of turning it into a marketing decision. We didn’t know what to do with it.” In other words, Caesars was collecting a lot of *data* but not necessarily any *information*. So what’s the difference?

As an example, suppose that you want to know how you’re doing in a particular course. So far, you’ve taken two 20-question multiple-choice tests. On the first, you got questions 8, 11, and 14 wrong; on the second, you did worse, missing items 7, 15, 16, and 19. The items that you got wrong are merely data—unprocessed facts. What’s important is your total score. You scored 85 on the first exam and 80 on the second. These two numbers constitute information—data that have been processed, or turned into some useful form. Knowing the questions that you missed simply supplied you with some data for calculating your scores.

Now let’s fast-forward to the end of the semester. At this point, in addition to taking the two tests, you’ve written two papers and taken a final. You got a 90 and 95 on the papers and a 90 on the final. You now have more processed data, but you still want to organize them into more useful information. What you want to know is your average grade for the semester. To get the information you want, you need yet more data—namely, the weight assigned to each graded item. Fortunately, you’ve known from day one that each test counts 20 percent, each paper 10 percent, and the final exam 40 percent. A little math reveals an average grade of 87.

Though this is the information you’re interested in, it may be mere data to your instructor, who may want different information: an instructor who intends to scale grades, for example, will want to know the average grade for the entire class. You’re hoping that the class average is low enough to push your average of 87 up from a B+ to an A– (or maybe even an A—it doesn’t hurt to hope for the best). The moral of the story is that what constitutes *information* at one stage can easily become *data* at another: or, one person’s information can be another person’s data.

As a rule, you want information; data are good only for generating the information. So, how do you convert data into information that’s useful in helping you make decisions and solve problems? That’s the question we’ll explore in the next section.

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