# 3 Basics to Harnessing Restaurant Big Data

Say a menu item doesn't sell. Is it overpriced, poorly described, not satisfying to the customer or a combination of these? To understand the basics of restaurant-performance management systems, here are three key teachings that would be part of any 101-level course on the topic.

In the restaurant business, competition is fierce and plenty. Owners use various types of operational strategies to stay ahead of the curve and keep profits streaming in. Measuring restaurant performance is a critical ongoing activity—to see how operations are going today, and to reveal opportunities to improve customer satisfaction and unit profitability in the future.

Strong restaurant performance-measurement systems require vast amounts of data. Your data tells you how things are going, and you, in turn, use that data to make decisions. For instance, let's imagine that your data is telling you that customers aren't ordering a certain menu item. Is it overpriced? How does it taste? How is it described on the menu? Armed with that knowledge, you can decide how to respond: Remove that item from the menu, which will also streamline your inventory; offer it as a limited-time offering with a new menu description; or lower its selling price to see if that boosts sales.

Want to learn how to make the most of your data? The first step is to understand the basics of restaurant-performance management systems, and what they can (or can't) do for you. To get you started, here are three key teachings that would be part of any 101-level introductory course on the topic.

## #1: Know the Differences between Transactional Systems vs. Analytical Systems

First thing, what type of data—and equally important, how much data—do you think you need to develop a high-quality understanding of what is going on in your restaurants? The answer: all of it. You should collect and aggregate all of the data your operations are generating so that you can then analyze that data to make smart decisions.

Where does data come from? Transactional systems, as their name implies, collect all of the details related to the transactions they manage. Common transactional systems in restaurants are the point-of-sale (POS) systems and payroll systems. Sophisticated owners may also use other transactional systems to measure key business details such as inventory, labor scheduling, waitstaff effectiveness, kitchen timers, customer loyalty, etc.

Once you understand what transactional systems do, you can better understand what analytical systems do. Analytical systems collect, organize and help interpret your transactional data. In other words, transactional systems generate data; analytical systems help you interpret that data to make better business decisions.

Tip: Transactional systems are like some of those rote memorization tests you took in school, where it was all about how much you could stuff, memorize and regurgitate verbatim. On the other hand, analytical systems are like essay tests where you had to analyze facts and draw conclusions.

The best management input comes from analytical systems that allow you to bring in and analyze all of your data from all of your sources. This way, you get a complete picture of your operations and can make fully informed decisions.

## #2: Know the Differences between Reporting vs. Analysis

All transactional systems include predefined reports that allow you to examine data that has been entered into the system. Few, if any, restaurant transactional systems include an analysis engine. The problem is that transactional reports will only give you part of the story because they are only looking at one data source (the transactional data). Plus, you will likely find it's nearly impossible to import your other data sources into a transactional system for reporting.

Over time, transactional systems collect a vast amount of information. This is a good and bad problem to have. It's a good problem because more information allows you to make better decisions. The larger your data set, the more reliable

your conclusions tend to be. But it can become a bad problem if you are not collecting and organizing your data properly.

Analysis systems such as enterprise-data warehousing provide a single place to store the large amount of data that's been collected across your company. These systems organize your data to make it easier to analyze and are designed to do more than simply regurgitate information that was entered into a transactional system. They provide tools to identify relationships between your sets of data, such as the effect of staffing levels and table turns, or drive-thru speed of service.

## #3: Know What Quality Reporting Looks Like

Now that you have a basic understanding of the difference between transactional and analytical systems, and data reporting vs. analysis, let's consider how to put the information you're collecting to the best use. This is where quality reporting comes in.

Interpreting large amounts of restaurant data takes great care. Statisticians know of the perils here. For example, the Simpson Paradox warns us to be careful using summarized information because that can distort findings and lead you to a conclusion that is opposite from the right one.

A classic example of Simpson's Paradox is how restaurant operators tend to look at labor costs as a percentage of revenues. Most companies have a labor-cost target. If you measure your restaurants each day against this target, you will not see all of the opportunities your managers had to do a better job managing labor. The more revealing analysis in most situations is to study more detailed, or granular, data in favor of summarized data.

Restaurant managers, however, typically do not have the time needed to exhaustively peruse their numbers. That's where analysis solutions can help. A quality analysis system takes many complex factors into consideration to interpret restaurant data. Good analysis systems do this by using the principles of exception-based reporting.

Exception-based reporting compares current data to an historical base. If an atypical situation arises, the system will alert management via the method of their choice—mobile, tablet, text or desktop computer—to further investigate. Exception-based reporting is kind of like that game where you compare two photographs or drawings, one original and one slightly altered, to try to identify the differences.

## What's Next

You've now got a basic understanding of how you can put your restaurant data to work for you. There are great opportunities here, as well as potential peril. The

good news is that you don't have to travel this road alone. A good solution provider won't just sell you an off-the-shelf reporting system. They will listen to better understand your specific needs, customize the data so you see the analytical data you want to see versus a pre-packaged report, and become a trusted, long-term business partner, as well.

**About the Author:**
*Dave Bennett is CEO of Mirus Restaurant Solutions, a pioneer in cloud-based restaurant reporting and analysis systems before the cloud was cool. He has more than 30 years of experience in restaurant technology and information management.*

If you liked this article, please feel free to share it with others.
For more informative articles for restaurant decision makers, please visit: blog.mirus.com