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A d v a n c e d T o p i c s

Adding the Analytics to “Analytic Systems”

By Ric Kosiba, Ph.D., Bay Bridge Decision Technologies

One of the popular buzzwords of the millennium is “analytics” and a slew of analytic systems are now available to provide automated reporting. This makes a lot of sense given corporations spent a whole bunch of money and effort gathering data in the nineties, and many showed little return for it. It follows that the next big hurdle is to take these terabytes of information and put them to good use.

Another Humiliating Life Lesson

In my first job out of college, I was tasked with building a workforce management system for airport agents at one of the major airlines. In a few months I had a workable, but rudimentary, system that could be used to more efficiently schedule airport employees in all the major airports. But we still had to convince the operations managers to use the system.

My boss at the time asked that I provide an analysis of the system, its effects, the expected improvement in efficiency, and the suggested action items.

Having just come from academia, I spent the next week putting together a 40-page dissertation on the process, the mathematics driving the algorithms (including equations), and tables of model results and what-if analysis around the resulting schedules. I even offered a proof showing how close the resulting airport agent’s schedules were to the mathematical optimal. I was proud of my report!

I turned in my book to my wiser boss and waited for accolades. Instead, I received a gentle, but still humiliating, lesson in analysis.

He rewrote the entire 40-page report for me in about three minutes. He turned my mathematical treatise into four bullet points:

- Analysis of the system: An automated scheduling tool has been created to determine the optimal schedules for our airport agents.
- Its effects: Employee schedules can be developed automatically, in minutes, for all airports and agent groups.
- The expected improvement in efficiency: We expect the airline to reduce staff required by 7%.
- Next steps: We believe the employee schedules can be rolled out immediately.
- My humiliating lesson: Nobody cared about my math, or my process (except that it worked), or the analysis around my process, or the closeness to mathematical optimality. That was all data, but it wasn’t analysis.

What is Analysis?

The same boss had a great policy for our PowerPoint reports. That is, no page was to ever be produced without the title spelling out exactly what we thought of the data on the slide. If we were showing a graph, or a table, or even discussion points, the title of the slide had to spell out our analysis of the graph, table, or discussion points. We could not ever present numbers — we had to produce analysis.

Better yet, the sequence of titles on their own in a deck of slides should point to an underlying conclusion whenever possible. A PowerPoint presentation should always present a story, and our titles a great outline. So what does this have to do with analytic systems? Well, my thought is that analysis is really tough to do without analysts.

Report-Based Analytic Systems

There are two major types of analytic systems available for contact centers today. The first are tools that provide data warehousing and reporting, like Merced System’s Merced Performance Suite and AIM Technologies’ AIMCall. These are great tools that allow reporting about performance at various levels throughout an organization, and at standard time intervals (almost real-time, too). The value of these systems is

terrific; they help contact centers organize their data and use this data to drive behavioral improvements at all levels in an organization.

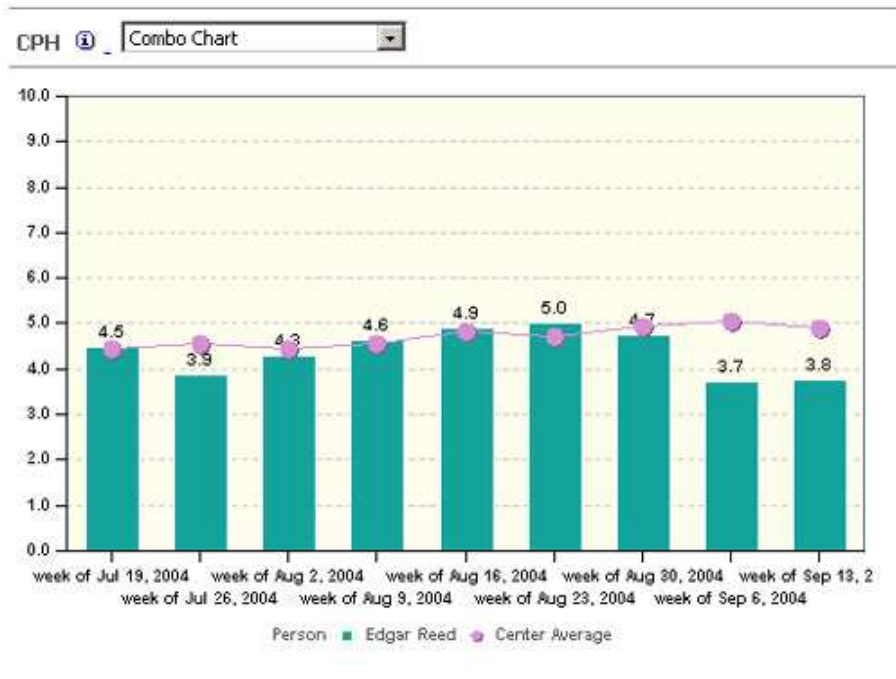
What these systems do not do is provide the analysis within the systems themselves. But, according to Mark Selcow, the President of Merced, they do something very close to it.

“Performance management applications provide actionable information to all levels of the organizations — from agents to executive management. By linking data with action, the entire organization can make better data driven decisions”

In a nutshell, by showing actionable agent performance data to the agent, you can expect the agent (or supervisor or manager) to do the analysis themselves. They internalize analysis through performance tracking (agents do their own analysis to improve their own performance).

Nifty, huh?

Here is an example of a Merced report that points to specific actions:



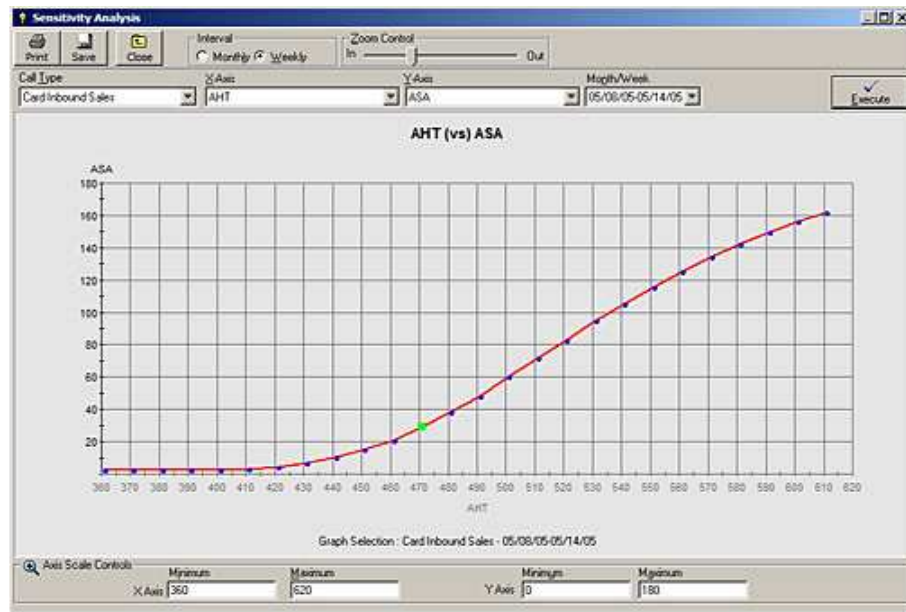
The graph above shows the individual agent how they are faring relative to the performance of their peers. Clearly, something has changed for this agent, and he may want to pick up his calls per hour. By making performance clear, agents can take their own corrective actions.

Simulation-Based Analytic Systems

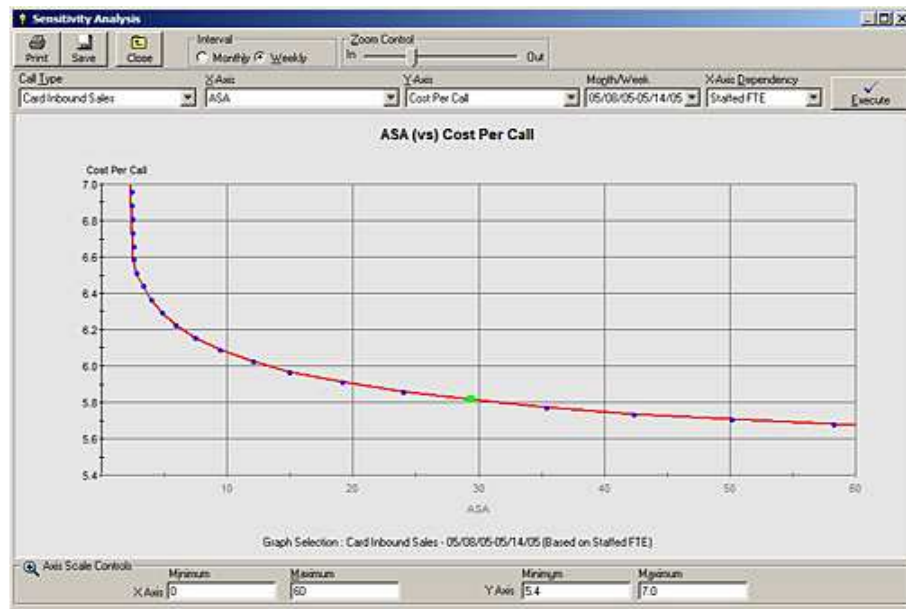
The second type of analytic tool is the what-if analysis and planning tools like our own CenterBridge product. In addition to reporting about high-level performance, CenterBridge uses a validated simulation model of the contact center to provide what-if analysis. To perform this analysis requires a few steps.

First, using real-world ACD data, a computer simulation model of your contact center is developed to accurately mimic the relationship between your inputs (e.g. staff available, call volume, and handle times) to performance (e.g. abandons, occupancy, service level, and average speed of answer). Only after the computer model has been proved accurate and validated against your real world ACD data is the system available to perform all sorts of important what-if analyses. We can't stress enough the importance of validating the results of computer models to actual performance- without validation, any analytic system and its resulting analysis is suspect.

You can then vary the inputs and determine how the changes would affect the performance of your call center. For instance, you could change average handle time to determine its effect on average speed of answer, and produce the top graph to the right.



But more important, you could use these trade-offs to help you determine a course of action. For a customer service function, it might be of value to know the costs associated with a given service goal. In the bottom graph, we plot ASA versus cost per call.



Once again, these types of graphs help make clear the course of action associated with a decision. I can desire a particular ASA target, but the cost per call may be prohibitive. The graph makes the trade-offs involved in the decision obvious.

So Do You Still Need An Analyst?

These types of systems are making the warehousing, report production, display, and distribution of critical information very easy. Many analytic functions, like the standard creation of insightful reports, are now automatic.

What still is missing from all of these systems is the human interpretation of these reports. For example, in the first graph, a reduction in calls per hour may not be a problem if revenue per call is also climbing for that particular agent. Humans still need to do the trade-offs.

So to answer the question, you still need an analyst. Here's the good part: with great tools like these, the analyst

can spend more time analyzing (as opposed to producing reports), and produce much more insightful, more accurate analysis. You still need analysts, but their job has just become a ton easier.

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