



## Unraveling the Mystery of Service Level Discrepancies

You've covered all the bases in creating your call forecast – evaluated past trends and calling patterns, incorporated marketing's new promotional campaign, and you're convinced you've got an accurate forecast. You've fine-tuned handle time predictions by half hour to be even more accurate. And your "bodies in chairs" count today is just what you scheduled. Aaaaah..... life is good.

Then your call center manager drops by with reports from the ACD that shows service levels to be significantly different that what you'd predicted.

Let's compare forecast and actual numbers for the 9:00am period below. You've forecasted 173 calls and 180 arrived...a little more than expected, while handle time and staff numbers are perfectly on target. More calls arrived than expected, yet service level is better than the forecast. What's going on?

Your Forecast:

ACD Report:

|      | Number of Calls | Handle Time | Number of Staff | Service Level |  | Number of Calls | Handle Time | Number of Staff | Service Level |
|------|-----------------|-------------|-----------------|---------------|--|-----------------|-------------|-----------------|---------------|
| 8:00 | 125             | 240         | 20              | 78%           |  | 128             | 240         | 20              | 82%           |
| 8:30 | 148             | 240         | 23              | 73%           |  | 154             | 240         | 23              | 75%           |
| 9:00 | 173             | 240         | 27              | 80%           |  | 180             | 240         | 27              | 82%           |
|      |                 |             |                 |               |  |                 |             |                 |               |

### Your Prediction

Whether you've done your forecasts and schedules with workforce management software, with spreadsheets, or the old-fashioned way with a pencil and a calculator, you've likely arrived at your numbers and predictions of service with an Erlang C model. This is the most widely used mathematical model for calculating staff requirements and predicting service delays in a simple call center scenario. It assumes a random arrival of calls within the half-hour and indicates staffing levels needed for various levels of service.

Within any half-hour period, there will be times when only part of the agents are occupied with a call and the others will be idle and available for the next call. A few minutes later, all agents will be busy with perhaps several calls in queue. The Erlang C model takes this randomness of call arrivals into account when determining staff requirements and predicting service levels.



## Call Abandonment

It's a fact that during many periods of the day, the workload will exceed the number of available agents. As calls go into queue and the delays get longer some callers will abandon. Sometimes they abandon as soon as the delay announcement plays and others will abandon further into the delay time depending on their tolerance levels for queuing.

One of the assumptions of the Erlang C model is that callers will wait an infinite amount of time for an agent. But in real life, we know that some will abandon. And that's the reason your forecast (based on Erlang C) may be different than the actual service levels reported by the ACD. As the queue builds and callers abandon, there are fewer calls left in the queue so those remaining are handled more promptly. Actual service levels are then better than the predictions.

## Erlang C Alternatives

So should we continue to use Erlang C even though it's not 100% accurate in predicting service levels? The answer is yes. Erlang C is still the best model to use in a simple queuing scenario. It shows what would happen if all callers did indeed choose to wait.

Some might argue that abandons should be taken into account in predicting staff needs. But be careful about doing this. Let's say 10% of calls are abandoning...so you only staff for 90% of the workload and base your service prediction on the reduced number of callers. The 10% that are abandoning are probably doing so based on poor service, and reducing the staff to handle the calls will only result in poorer service levels and more abandons. It gets to be a vicious cycle at some point, so beware of modifying the model and your staff requirements without a careful analysis of your abandoned calls.

## Explaining the Differences

In explaining the differences between your service level predictions by half-hour and what the ACD shows as actual numbers, look first to your abandonment levels. If they're high, you will see a sizable variation between forecast and actual numbers. Reducing the number of abandons through shorter delays, better placement of delay announcements, or more effective content in the recordings will bring your numbers closer to a perfect match.

## About the Author....

Penny Reynolds is a Founding Partner of **The Call Center School**, a Nashville, Tennessee based consulting and education company. The company provides a wide range of educational offerings for call center professionals, including traditional classroom courses, web-based seminars, and self-paced e-learning programs. For more information, see [www.thecallcenterschool.com](http://www.thecallcenterschool.com) or call 615-812-8400