

# Calculating Service Level

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Call center staffing level is designed to respond to calls within a set timeframe, or *Service level*, expressed as the percentage of calls that are answered within a predefined time threshold, for instance 90% of the calls must be answered within 20 seconds. Frequently, service levels are set arbitrarily, based on assumptions, often incorrect, about what is the “best” or “industry standard” service level.

There is no industry standard for service level. Rather, service level needs to reflect the needs and expectations of the population of that call center, because, as we discussed in the article about [abandoned calls](#), different callers have different expectations and tolerance levels. Most call centers use a service level metric calculated by the call center’s ACD (automatic call distributor) software, which is often displayed prominently at the call center.

Most all centers take the ACD calculations quite seriously, and it not uncommon for the supervisor to push the agents to take more calls if the service level drops below what they consider appropriate. However, many call centers planners do not know how this service level is calculated and are not aware that, in fact, there are different calculation methods that yield very different results. Some ACD software allows the call center planner to select the method they prefer and even define their own formula to best reflect their strategy and, specifically, their perceptive about abandoned calls. In this article we provide some insight into some methods used by most ACD software.

The call center's *service level target* defines the service level threshold; it is the maximum time a call is allowed to wait in a queue before being connected to an agent. To calculate the service level for a period of time, the ACD determines the number of calls that had a *service level event* within that period. A service level event is any of the following:

- The call is answered,
- The call is abandoned, or
- The call wait time exceeds the service level threshold without being answered or abandoned.

All calls that had a service level event within the service level target time period, including calls not answered, are considered *calls offered* and are factored in the calculation of service level. There are three fundamentally different ways to caudate service level.

In the following examples of service level calculation methods, we assume the following call center statistics:

- Calls offered: 100
- Calls answered within the service level target: 70
- Calls abandoned within service level target: 10

## Method 1: Abandoned Calls are Missed Opportunities

This method attributes high importance to abandoned calls and missed calls are treated as missed business opportunities. Therefore, only answered calls are counted towards satisfying service level target. This method is appropriate for call centers that emphasize customer satisfaction and use customer calls as sales opportunities, such as in retail.

*Example:*  $70/100=70\%$

## Method 2: Abandoned Calls Counted

This approach stipulates that in an adequately staffed call center, the wait time is short enough to satisfy most callers, and, at the same time, some level of abandoned calls is unavoidable. Therefore, calls that are abandoned before the service level time expires are still counted, which improves the service level.

*Example:*  $(70 + 10) / 100 = 80\%$

## Method 3: Abandoned Calls Ignored

This approach also assumes that abandoned calls are an integral part of the call center business and cannot be avoided, but unlike Method 2, these calls do not affect the service level. This is a blended approach that suits most call centers.

Example:  $70 / (100 - 10) = 77.7\%$

## Additional Considerations

In these examples, a call is considered abandoned if the caller hangs up after waiting on hold for a while, before reaching a live agent. However, if you discover that many callers disconnects the call shortly after being placed in the call waiting queue, the issues is most likely not excessive queue time, and the caller probably hung up for a different reason. These callers will have a negative impact on the ACD's service levels, and the cause should be investigated.

## Further Reading

- [The Origin of the 80/20 Rule](#)
- [Are Abandoned Calls Important?](#)
- [Service Level Calculations](#)
- [Advanced Topics in Call Center Staffing](#)
- [Introduction to Traffic Modeling and Resource Allocation in Call Centers](#)
- [Benchmarking in Call Centers](#)
- [Does Self-Help Really Help?](#)
- [Service Level Elasticity](#)
- [An Alternative to the Erlang Traffic Model](#)