What's Your I.Q.?

Effective
Operational Objectives
for
Successful
Inbound Call Management

How important is an I.Q. score to success? For people, there may be room for debate. For contact center with inbound traffic, the answer is clear. A center's I.Q. (Incoming Queue) is one of the most important success indicators available. How good is your center's I.Q.? How do you know? How can you make it better? The ultimate success of your contact center and company may depend on the answers.

What IS the Incoming Queue? Simply put, it is the line of customers waiting to communicate with one of your service agents.

Queues are everywhere. Restaurants, movie theaters, grocery stores, expressways all have queues. The person waiting for access to a contact center representative is really no different from people waiting in line at their favorite fast food restaurant or the drivers waiting to get off at their exit during morning rush hour. In each situation, people patiently-or impatiently-wait their turn to move through a queue.

Most contact centers have many queues. People are in line to talk, web chat or get a response back to an e-mail or voice message. Each medium has at least one queue. Each medium can have many queues. Different queues may be set up for sales versus service, different products or different constituency demographics.

Why is managing the queue so important to your center? Because the speed with which people can reach your representatives directly affects your company's top and bottom line. The time a person waits for service directly affects their current and future buying behavior. The speed of access is key for sales centers trying to generate orders or service centers trying to create customer satisfaction.

Consider your own experiences. If you perceive that the wait is too long at a restaurant you leave without being seated--especially if you have other options down the street. Not only is your immediate behavior altered but your future behavior may be altered too. Where you remember long lines you tend not to go back.

What happens if people don't have timely access to a representative? First time inquirers don't become customers. New customers don't develop into loyal

customers. Loyal customers start listening to and trying your competitor's promises. For business units that rely on contact centers, accessibility is directly linked to their success.

Clearly loyalty and satisfaction are dependent upon more than the length of the line to get service. The quality of the service or product provided plays a key if not dominant factor. But, with the exception of some very exclusive goods, the desirability and consequently economic value of any good is diminished if getting access to it is too painful.

Where to Begin

That brings us to Queue Management, which provides several areas of opportunity for the Contact Center. Improving Queue Management will have an immediate impact on your operations.

It's fairly simple. The less time call handling agents wait between calls the longer callers wait. It is also fairly simple that the longer callers have to wait the more likely they are to abandon their attempt. So if one wants to reduce the time callers have to wait one has to increase the time agents wait, or are idle, between calls. The concepts are easy to understand. Determining what is the right amount of time agents should wait versus how long callers should wait is not.

The formula for successfully managing any business endeavor is straightforward: set objectives, develop a plan to meet those objectives, implement the plan, track performance and modify plans accordingly. The purpose of this document is to provide critical insights into the establishment of highly effective operational objectives for contact center accessibility.

Operational objectives are used to manage day-to-day operations in a manner that produces results consistent with the longer-term goals of the business unit and company. Underlying operational objectives are metrics for providing timely feedback to resource managers so that the supply of resources can be optimized to the ebb and flow of demand. Well-conceived metrics produce better results.

There are all sorts of contact centers in all sorts of companies. The purposes of contact centers vary widely. Corporate objectives may differ greatly. But the basis of measuring queue performance and means of setting objectives for accessibility is consistent. Establishing proper accessibility metrics and objectives for a contact center is the first step in making it a high performing asset for a company. Lacking quality metrics and objectives for contact center accessibility, a company is left with a frustrating liability that produces inconsistent, unpredictable and substandard results.

While the basis of effective accessibility objectives is consistent across contact centers, the level of the objective is not. Each contact center's objective needs to be honed to the nature of their specific business.

- callers of different contact centers have different tolerances to wait
- the economic impact of an abandoned call is different
- call queuing is different based on what technologies are used and how they are configured
- call lengths differ
- agent wages differ

Constituents of different contacts centers will have differing tolerances to wait. Contact centers offer goods that are of different value and profitability. These and other factors create a unique set of economic factors that should drive the establishment of unique accessibility objectives.

Selecting good operational objectives for queue management requires more than a simple focus on customer accessibility; it also involves resource expenditures. For example a fast food restaurant could

---

solve its queue problem by supplying more counter space and putting more staff behind it. It could even hire one server for every customer until *nobody* would have to wait ever. This however would be a very expensive proposition. Every manager needs to answer the fundamental management question: when does the next dollar spent on additional resources fall below the value of the incremental improvement in customer buying behavior? If enough resources are supplied so that a customer never has to wait, will that customer's buying behavior be more positive than if he or she has to wait one minute? Five minutes? A half-hour? The answer is unique for every business based upon its customer profile. Each company has its own customers with unique buying behaviors for its particular product and services. Therefore, you must understand the tradeoff of customer accessibility and resource expenditures for your call center and determine appropriate objectives for each.

Establishing an objective is a two-step process. First, you must select a measurement that accurately shows changes in queue performance. Based on the selected measurement factor, and study of historical performance, you can then set the level of future desired performance and begin to measure adherence to these objectives.

A good measurement index for your center is one that allows you to monitor performance against objectives in a timely and cost-effective manner. There are a variety of possible queue management measurement factors to choose from. The right one for your center depends upon the type and frequency of information that is readily available regarding customer accessibility and resource optimization. Availability of this information is largely dependent upon the call distributor you use to route incoming calls to the telephone agents. Each call distributor, whether it is an ACD, a call sequencer or CENTREX based UCD, offers different types and frequencies of queue-related information. Therefore two call centers having similar business objectives may have drastically different operational objectives because they use different call distributors.

Typical Industry Measurements

Below is a list of the more typical measurements of customer accessibility, with definitions and general uses. As you consider these measurements, it is important to keep in mind that a customer has to overcome two obstacles to reach an agent in your center. If successful, the call can enter the call distributor's queue. If unsuccessful, the customer hears a busy signal. Once in the call distributor queue, the customer must wait until the next agent is available to take the call. The first obstacle is linked to trunking, the second to staffing and the call distributor's capacity.

PERCENT ALL TRUNKS BUSY (%ATB)

A measurement of a customer's success in accessing the call distributor is reflected in the percent of time all the incoming trunks were busy compared to the time they were available, PERCENT ALL TRUNKS BUSY (%ATB) is an extremely important measurement because it is usually the only way to tell when your customers can't even access the call distributor to wait in queue for a call. The number of incoming trunks is the resource that limits or expands a customer's accessibility. The cost of each incremental trunk needs to be weighed against the incremental improvement in customer accessibility to the call distributor.

PERCENT OF CALLS ANSWERED WITHIN (n) SECONDS

This number shows the percentage of total calls that are answered within a specific number of seconds (n seconds). For example, if 9 of 10 calls are answered within 25 seconds, then 90% of total calls were answered within 25 seconds. While this measurement does not present the breadth of information provided by average speed of answer, it does provide a good benchmark for changes in performance.

It also is a valuable measurement because much of the theoretical analysis of queue performance staffing (based on Erlang C analysis or similar equations) uses this figure as its basis. Staffing tables are

valuable tools for deriving labor requirements based on forecasted work volumes. Typically, if your switch can supply the support data for this figure, it will give the actual percent also.

PERCENT ALL POSITIONS BUSY (%APB)

This measurement is very similar to %ATB. It indicates the relationship between the time all agents at their positions are occupied with calls and the total time in a given period. As in the example above, if all agents were occupied for 30 minutes out of an hour the percent ALL POSITIONS BUSY would be 50%.

This is often the only measure of customer accessibility available for a CENTURY UCD served call center. Typically this measurement is available as output of an auxiliary line scanner unit which monitors the call activity of each telephone position.

PERCENT OCCUPANCY (%Occupancy)

The key relationship between customer accessibility and staff productivity is defined by the measurement %Occupancy. Occupied time, typically referred to as work volume, is the time agents were actively working on a call and not available to take another call. This time includes the time spent talking with the customer and optionally the immediate associated wrap-up work.

The time from the completion of one call the acceptance of the next call is termed "idle time." The total available time is the sum of the work volume and the idle time. To calculate %Occupancy, divide work volume by total available time and multiply by 100.

Higher %Occupancy represents greater staff productivity. A 50% Occupancy indicates that telephone agents spent half their time working with calls and half idly waiting for a call. A 75% Occupancy means the agent spent three-quarters of the time actively handling calls and a fourth of the time waiting idly. Twenty telephone agents working at 75% Occupancy can handle the same number of calls (of equal duration) as 30 telephone agents working at 50% Occupancy.

PERCENT ABANDONED CALLS (%Abandon)

This measurement indicates the relationship between the total number of incoming calls and the number of customers who hung up before a telephone agent answered the call, and it is extremely important, as it is the only readily available measurement that directly shows a customer action reflecting behavior. The rise and fall of this number represents a good barometer of changing clientele satisfaction with your call center's service and their subsequent change in behavior. %Abandon may be available directly from your call distributor. If it is not, you can calculate it manually by dividing the number of calls abandoned by the number of calls received (offered) and multiplying by 100. You can use calls answered (handled), instead of calls received in the denominator, if desired.

AVERAGE QUEUE TIME (AQT)

This metric shows the average time a caller had to wait before an agent answered the call. Some PBXs and ACDs report AQT as Average Speed of Answer (ASA).

The Danger of Averages

Back in the 1970s, contact centers were simply call centers. ACD technology was just emerging. Myths regarding accessibility measurements and objectives prevailed. For a long time companies were told by switch manufacturers that answering 80% of the calls in 20 seconds was the proper objective. Companies would look back over a day, week month or year and decide whether they provided good accessibility if they answered 80% or more of the calls within 20 seconds.

Unfortunately callers don't care about averages. All callers care about is right now. Callers don't know, or care, that right now is an unusually busy time or that the center is shorthanded. Callers don't care that

later today plenty of agents will be on hand providing instantaneous access making the average look good. Managing queues is a constant challenge. Contact centers need measurements and management processes that reflect this.
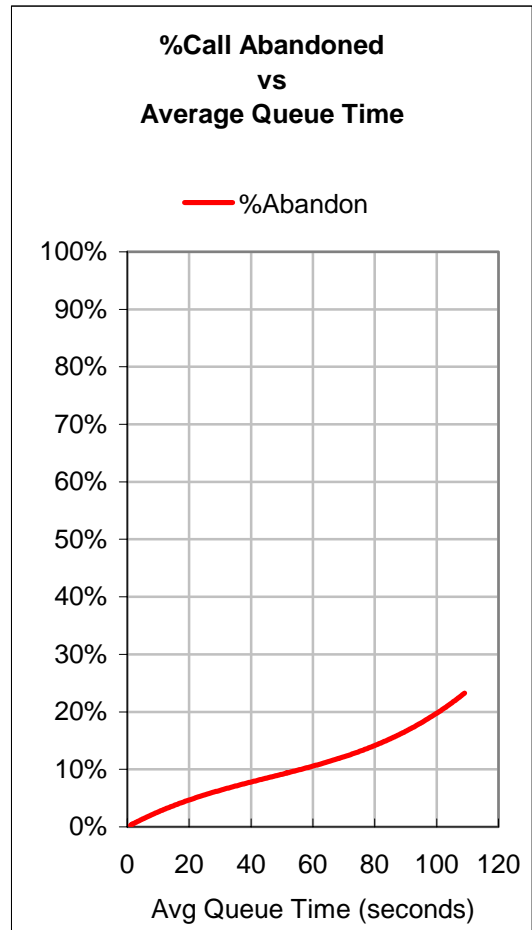
Key Relationships

%Abandon vs AQT

AQT is valuable because it is a good predictor of %Abandon (see Figure 1) and it is typically available directly from your call distributor. If AQT figures are not available, you can manually derive them by dividing the total time calls spent waiting in queue by the total calls received answered.

Figure 1 shows actual data from a call center. Each data point represents the %Abandon and the AQT for a particular half-hour. The line drawn through the data points delineates the trend.

Notice how when the AQT is relatively low (0 to 5 seconds) there is minimal customer abandonment indicating virtually no change in customer behavior.

Then, notice how the curve rises rapidly beginning at an AQT of 25 seconds indicating that for each second AQT rises customer behavior is changing negatively quickly.

Every call center, regardless of services offered or its customer's unique buying behavior, has a unique queue tolerance threshold that can be determined by examining the AQT to %Abandoned relationship.

%Call Abandoned vs Average Queue Time

%Occupancy vs AQT

By comparing %Occupancy to AQT one can see a direct relationship between staff productivity and customer accessibility as indicated in Figure 2.

The data is from the same call center and time periods as Figure 1. Notice the relatively small increase in AQT (0 to 4 seconds) compared to the large productivity gains as %Occupancy rises from 0% to 75%. Also notice how when %Occupancy rises from 90% to 95%, AQT increases about 30 seconds. That last 5% productivity improvement is very costly to customer accessibility.

In addition, note that how the predictability of AQT diminishes as %Occupancy increases. When %Occupancy exceeds about 92% this call center has entered virtual TWILIGHT ZONE-not knowing what AQT is up ahead.

**% Occupancy &
vs
Average Queue Time**
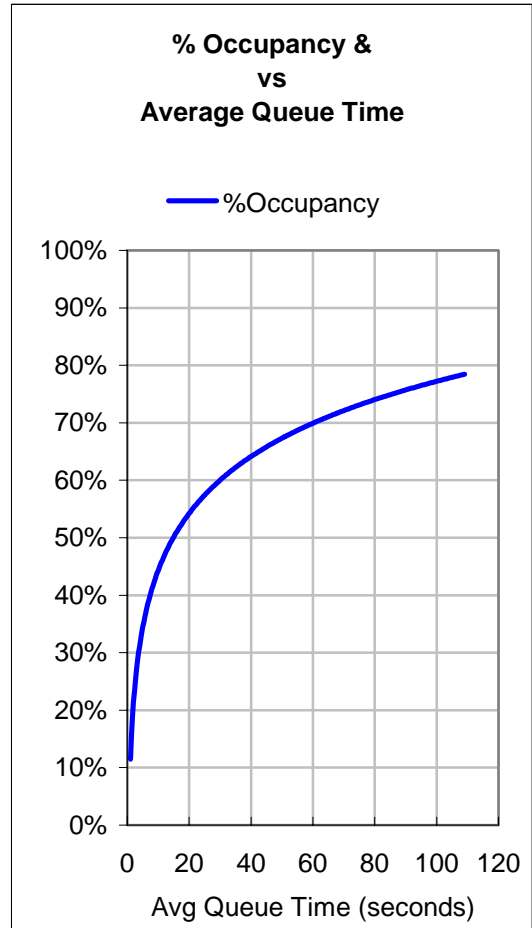
%Abandon and %Occupancy vs AQT

Now after examining and selecting appropriate measurement indices, you can proceed to the second steps of establishing objectives: setting target levels. To determine the target levels for queue management in your call center it is important to understand the balance between resource optimization and its impact in customer behavior.

Figure 3 on the following page provides a graphic representation of this relationship by combining the information available in Figures 1 and 2. By examining this relationship for your individual center, you can quickly answer the fundamental management question: when does the next dollar spent on additional resources outweigh the value of the incremental improvement in customer buying behavior?

Just as every call center has its TWILIGHT ZONE, each also has a demonstrable WASTELAND. Note in Figure 3 that at 80%Occupancy with and AQT of 7 seconds % ABANDON is less than 1%. However, if the number of telephone agents were doubled, thereby dropping %Occupancy to 40%, and AQT dropped 2 seconds, % ABANDON could drop at most that 1%. The band from 0% to 80% Occupancy can be referred to as the call center's WASTELAND. When agents are less than 80% occupied with calls, this center is wasting money because the improvement in customer-perceived service that would achieved by faster AQT is negligible.

% Occupancy & %Call Abandoned vs Average Queue Time

%Occupancy — %Abandon
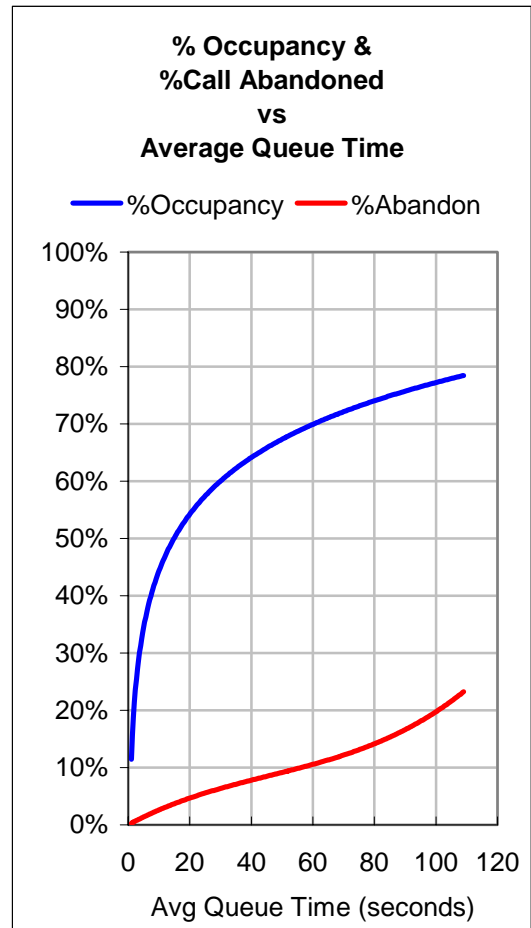
By examining the relationships in Figure 3, the call center can set operational objectives which are in harmony with their overall business goals of sales volumes or customer satisfaction.

The center would find the target zone between the WASTELAND and the TWILIGHT ZONE. It would target a minimum %Occupancy of 80% corresponding to an AQT of 7 seconds and a maximum %Occupancy of 92% corresponding to an AQT of 20 seconds.

The shaded area highlights the range of optimum queue performance for this call center.

By performing within a band of AQT performance of 7 to 20 seconds, this center can achieve the optimum balance of customer accessibility and resource expenditure.

Average Queue Time

This graph shows the relationship of percent occupancy and percent call abandonment to the length of time the customer has to wait in queue prior to a live agent answering the call.

Percent occupancy is defined as the relationship between the time an agent is handling calls including after call work time, as it relates to total time an agent is logged in and available to handle calls. Percent occupancy is a key indicator of how busy the agents are handling calls. Fifty percent occupancy, for example, means that of the total time an agent was available to handle calls they were handling calls for half of the time. The other half was waiting to receive a call.

**% Occupancy &
%Call Abandoned
vs
Average Queue Time**

━━ %Occupancy ━━ %Abandon
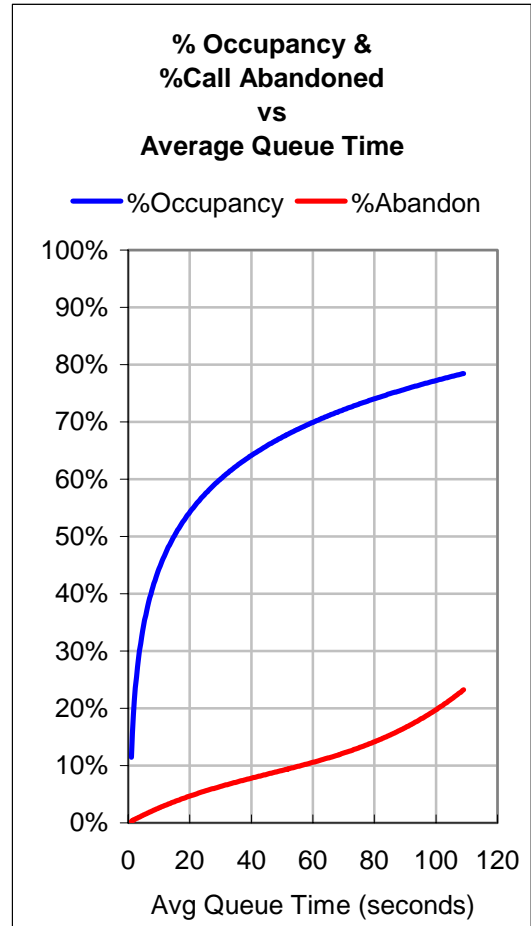
Call Handling Time & %Occupancy

This chart shows the relationship of call handling time (both talk time and after call work or work) to percent occupancy. This chart will give us an indication of how the work time increases as the agents get more "occupied".

All of the components discussed here are inter-related and it is important to determine which component is causing issues. Further analysis is required to determine the appropriate "standard" work time for the various call types and experience levels of the agents.

**Call Handling Time
(Talk, Work, Total)
vs
%Occupancy**

— Talk — Work — Total
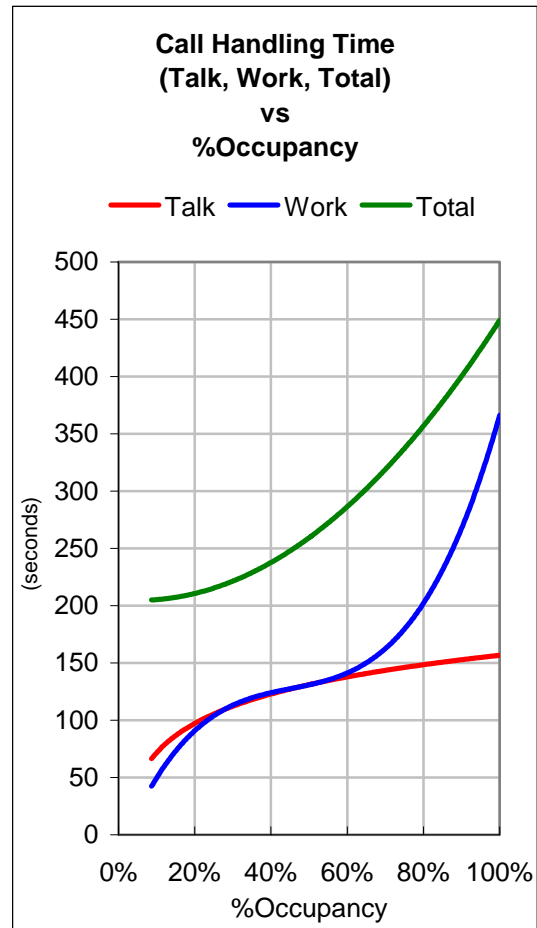
Costs vs. Queue Time

The chart below on the left shows the impact on costs based on various queue times. You can cut down on labor costs by running a higher queue time, this will increase Network fees for 800 service and also raise the number of calls that are abandoned in queue. By analyzing this chart you can see the impact of the individual components based on various queue times.

Determining the cost of abandoned calls – Three factors:
1. Retry Rate
2. If the attempt is abandoned, how much profit would the company lose from the transaction if the customer remains a customer
3. If the customer is lost as a future customer, how much profit would have been generated over the lifetime of the customer.

The chart below on the right shows a combined view of the costs associated with various queue times. This enables the selection of a "target range" to manage service level and costs.

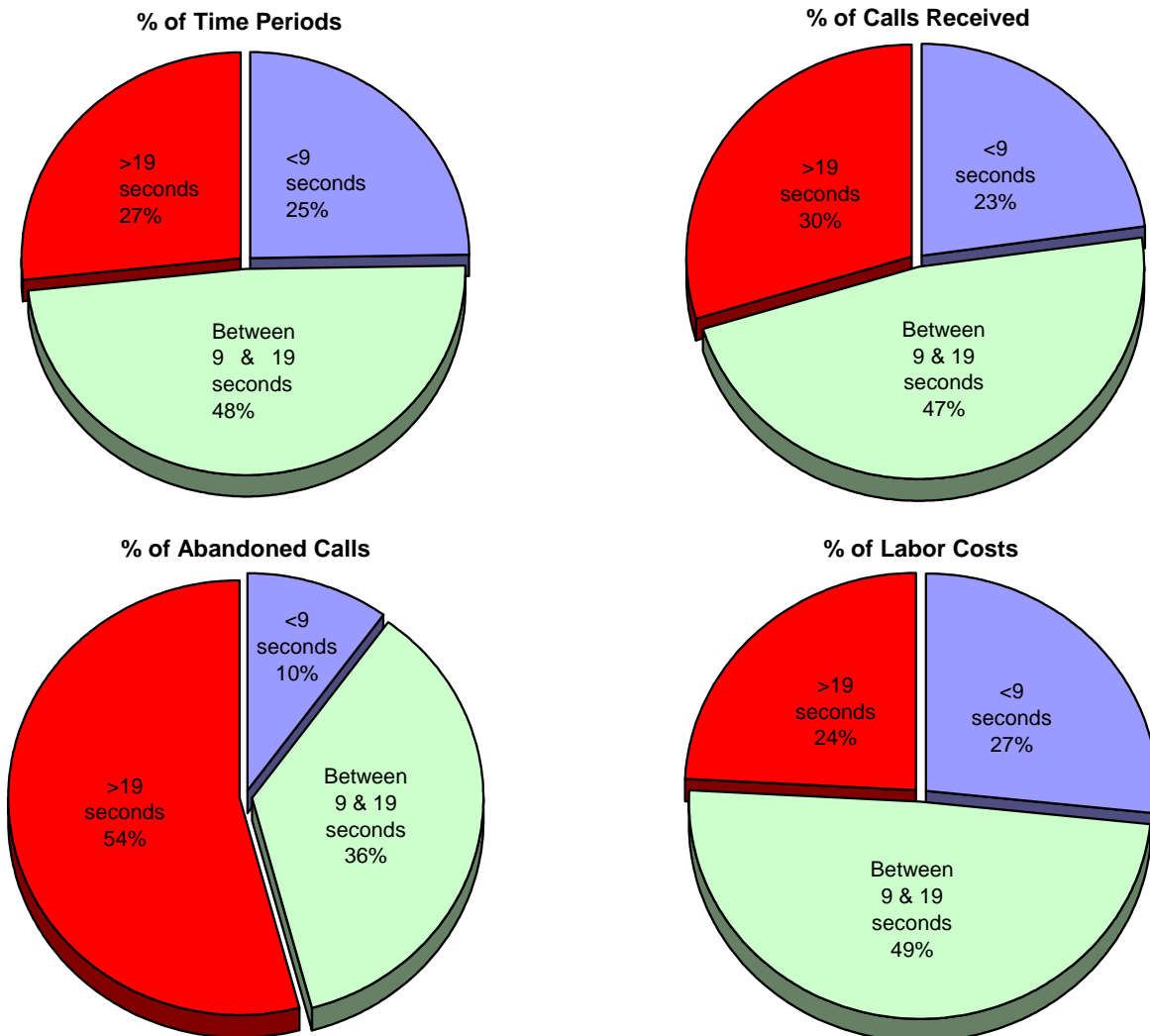© 2010 Impact Technologies, Inc., All Rights Reserved
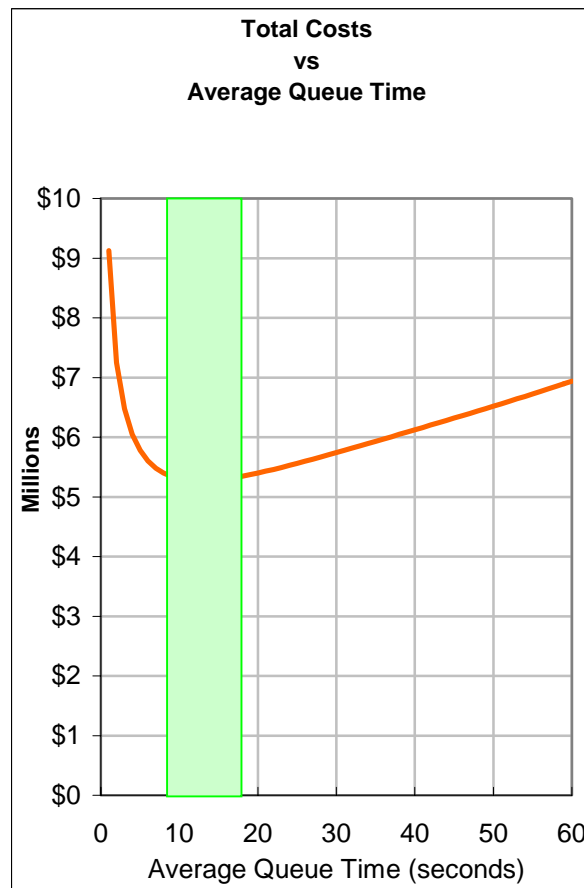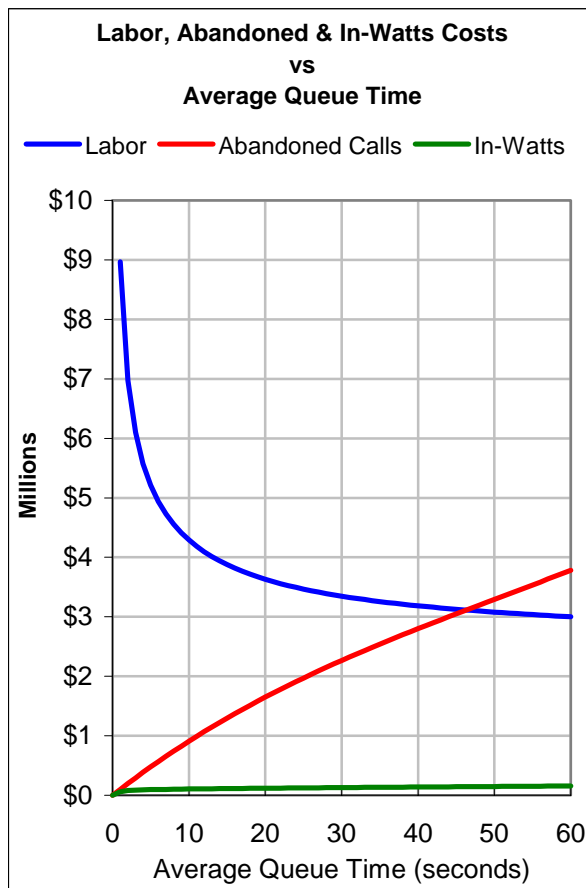
Performance Ranges

Once the Target Zone is determined a call center's results are examined for what percentage of the time did the contact center operate in the target zone. This is critical. Too often contact centers are evaluated on the average time callers spent in queue over a long range of time (day, week, month, year). Callers only care how long they have to wait at the time they are waiting. They don't care what the average is. So it is critical that contact centers consistently operate in the Target Zone throughout the day not just on the average.

This chart shows the the number of half hour periods within the selected target range for queue time. The half hours > the Target zone typically will indicate less than the necessary resources were provided to the queue and caused more than anticipateed abandoned calls. Equates to savings on labor and lost value/revenue on abandoned calls.
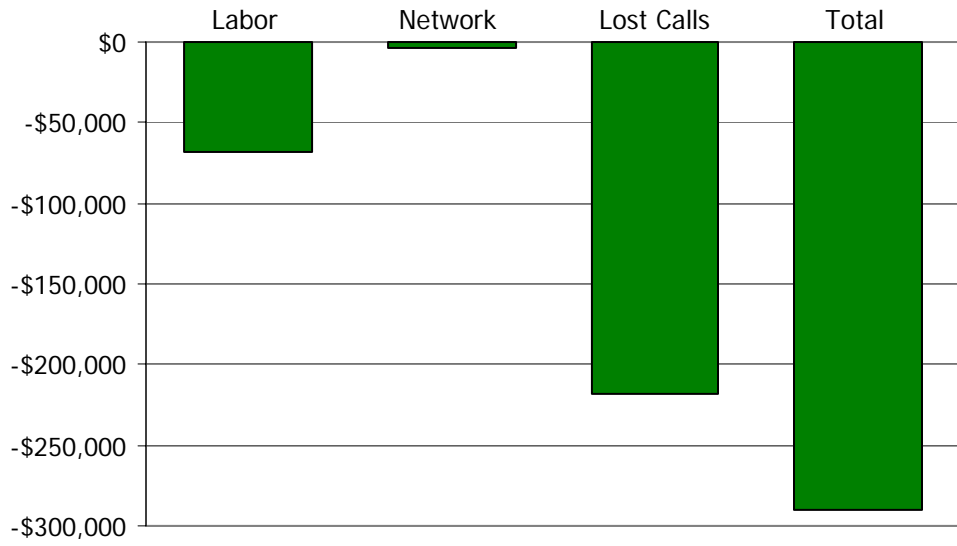
The half hours < the target zone indicates that there were more than required resources or labor used to service the queue. Equates to increased costs for labor and savings on the gain of value/revenue on fewer abandoned calls.

The general idea is to keep each interval in the target zone. If on a particular half hour you over provide labor to the queue this does not mean you can under provide the next to make up the "miss".

% of Time Periods

>19 seconds 27%
<9 seconds 25%
Between 9 & 19 seconds 48%

% of Calls Received

>19 seconds 30%
<9 seconds 23%
Between 9 & 19 seconds 47%

% of Abandoned Calls

<9 seconds 10%
>19 seconds 54%
Between 9 & 19 seconds 36%

% of Labor Costs

>19 seconds 24%
<9 seconds 27%
Between 9 & 19 seconds 49%

Value of Improved Queue Management

**Savings Opportunity from
Improved Queue Management**

What Can You Do To Improve Your Call Center's I.Q. Score?

Obviously from this discussion, effectively managing an inbound call center's queue, is a sophisticated process. There are several software tools available today which can greatly assist you in meeting the queue management challenge in your center. Such tools can significantly complement your own efforts to improve performance.

However, you can start your effort today by simply applying the concepts outlined above to your own unique environment. To do that you can 1) find out what information is available to you from your switch, 2) choose a performance indicating measurement (or set of measurements) which is practical and cost-efficient to track, 3) begin gathering and analyzing the supporting data to determine your center's optimal operational objectives as outlined above. 4) begin a plan to implement your new objectives, 5) watch your I.Q. steadily improve, and enjoy the results.

16650 Chesterfield Grove
St. Louis, MO 63005
voice: 314.743.1400
fax: 314.743.1401
web: www.impacttech.com