

FORECAST FOCUS



Call Volume Growth Rates

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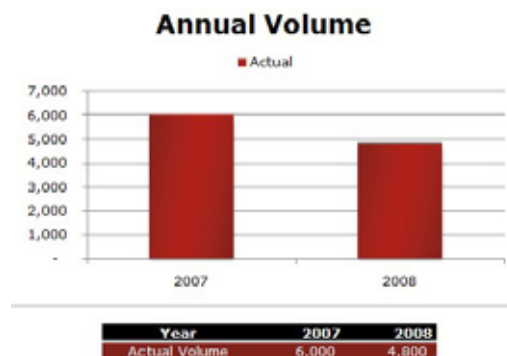
A look at the uses and misuses of call center growth rates, along with five techniques to increase your forecast's accuracy.

Past performance is the best indicator of future events. That was the first rule I learned about forecasting. The second was that forecasting is both a science and an art. Although you can use formulas and existing data to realistically predict future call volume, there are many factors and activities that affect the accuracy of the forecast and for which you must rely on the judgment and experience of the forecaster.

Determining call volume growth rates provides a key example of the perils of relying solely on historical data. The most widely used method of calculating annual growth rate is a simple formula:

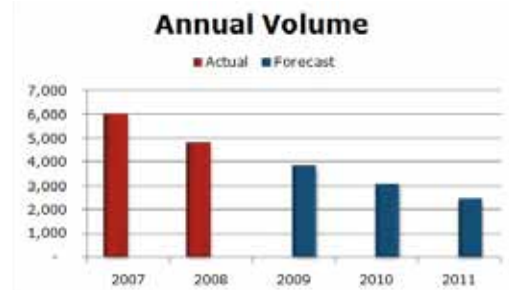
Take last year's volume and divide it into the prior year's calls. If the result is above 100%, volume has increased. If the result is below 100%, volume has decreased.

Figure 1: Sample Annual Growth Rate



In Figure 1, above, the annual growth rate for this particular contact center is 80%. Restated, last year's volume was 20% lower than the previous year. This is important information to the person who must forecast next year's volume, but be careful about stopping here. Look what happens when this negative growth rate is slapped across the next three years (Figure 2).

Figure 2: Five-Year Forecast



The 20% drop in volume from '07 to '08 may continue through part or all of '09, but is it wise to expect that trend to march on non-stop for the next three years? If your center uses a sophisticated WFM software system, you may experience dramatic declines in volume represented as negative call volumes. How can you identify the factors that adversely impact forecasting accuracy? That's where forecasting becomes an art. Human judgment needs to intervene regularly to ensure that your forecast stays grounded in reality. The following five techniques

Continued on page 2

Continued from page 1

will help you to blend the science and art, and improve your growth rates.

Dampen the Trend

In the previous example, we saw the call center's volume fall by 20%. Identifying why the volume dropped is critical to determining the rate of change, especially when the root cause is permanent and finite. For example, introducing a self-service Web site may reduce call volume initially, but that reduction will not continue at the same pace year over year.

You can compensate for an aggressive change that occurs over the course of a year by "detrrending" the monthly volumes. In other words, single out the special event and adjust the monthly volumes to exclude its effect. This will keep your monthly percent-of-year calculations stable for the upcoming

of correct staffing ratios, customers may not have to call in repeatedly to have their question answered, so, in these cases, human judgment will need to supplant math or software to scrub out those calls.

It's tempting to over-normalize growth rate volumes during the detrrending exercise. If last year's volumes were different from your forecast, but you believe that they are a valid representation of things to come next year, then leave the data alone. Resist the urge to "touch it up" just to make your forecast look good. A better method is to properly document why the change occurred, leave the forecast accuracy figure alone, and let that factor ride into the upcoming year.

Increase Calculation Frequency

Some call centers operate in a never-ending cycle of change — often at the mercy of multiple simultaneous events that take place which are beyond their control. Consider a call center in the utilities industry dealing with call volume peaks due to weather-related outages. In this case, calculating annual growth rates every January and waiting a full 12 months to recalculate would be too long an interval. A better way to keep up with rapid change cycles is to increase the frequency of calculating the annual growth rate. The formula used is the same (see Figure 4), but the difference is in the range of dates selected. You will need access to your monthly or quarterly data to make this work.

Figure 5 shows a significant increase in the growth rate (from 116% to 122%) within just the first three months. Recalculating the growth rate once a month instead of waiting until the end of the year will allow you to react faster to current events and volume drivers.

For instance, once the monthly volume for April 2009 is collected, edit the formula to exclude April 2007 from the red box, exclude April 2008 from the green box, extend the purple box down one cell, and extend the blue box down one cell.

A word of caution: Don't use this method if your call center is driven by product or service lifecycles rather than fiscal calendar years. For example, in the automobile indus-

try, as specific car models are discontinued, the manufacturer's marketing tactics and promotional activities drastically diminish from when the models were originally introduced. If that historical data set is being applied to future forecasts, it's important to note the full lifecycle, which could span multiple years.

Limit the Scope

What if your call center is brand-new and hasn't yet accumulated 24 months' worth of data? Or you've an established call center that has introduced a new product and a new forecast group to support it? Or perhaps your older data has become too stale due to an IVR upgrade or routing changes that have altered the field of reference?

Continued on page 3

Figure 3: Detrended Calculation

Months	Actual Calls	Monthly Adjustment	Detrended Calls	Formula Notes
January	12000	500.2	30550.2	=C1+(D2*(1))
February	12000	497.6	17430.6	=C4+(E1*(1))
March	10000	339	40620	=C4+(E1*(1))
April	10000	182.1	42602.1	=C4+(E1*(1))
May	10000	383.3	44522.3	=C4+(E1*(1))
June	20750	145.5	42975.4	=C4+(E1*(1))
July	22000	482.6	37950.6	=C4+(E1*(1))
August	20000	600.6	45650.6	=C4+(E1*(1))
September	41250	633.2	40337.2	=C4+(E1*(1))
October	42000	654.1	40600.1	=C4+(E1*(1))
November	41750	689.1	52230.1	=C4+(E1*(1))
December	45000	N/A	45000	Same as Current Level

Annual Growth = 18.5%
Monthly Rate = 1.54% (18.5% / 12)

months.

If the event is still occurring, you may need to apply a monthly growth rate (divide the annual growth rate by 12) to normalize each month of volumes. The further you have to go back, the more intense the adjustment will need to be. Going back one month may only require a 1x adjustment. Going back two months will need a 2x adjustment. Going back three months, will need a 3x adjustment, etc. Figure 3 offers an example of this formula.

Another approach to dampen the trend is to clean exaggerated abandons. In normal cases, you would include all Offered Calls (Answered plus Abandon), but in extreme cases (e.g., when abandons are greater than 25%), you need to assume that some of these are actually repeat callers and need to be considered duplicates. During times

=O25/N25

Month	2007	2008	2009
Jan	1,000	1,150	1,495
Feb	1,100	1,265	1,898
Mar	1,300	1,495	2,841
Apr	1,350	1,553	
May	1,200	1,380	
Jun	1,250	1,438	
Jul	1,300	1,495	
Aug	1,100	1,265	
Sep	1,150	1,323	
Oct	1,200	1,380	
Nov	1,250	1,500	
Dec	1,200	1,480	
Total	14,400	16,723	

2008 Growth Rate = 116%
Current Growth Rate = 128%

Figure 4: Yearly Calculation

Figure 5: Rolling 12-month Calculation

=SUM(P13:P15)+SUM(O16:O25)/(SUM(O13:O15)+SUM(N16:N25))

Month	2007	2008	2009
Jan	1,000	1,150	1,495
Feb	1,100	1,265	1,898
Mar	1,300	1,495	2,841
Apr	1,350	1,553	
May	1,200	1,380	
Jun	1,250	1,438	
Jul	1,300	1,495	
Aug	1,100	1,265	
Sep	1,150	1,323	
Oct	1,200	1,380	
Nov	1,250	1,500	
Dec	1,200	1,480	
Total	14,400	16,723	

2008 Growth Rate = 116%
Current Growth Rate = 122%

Continued from page 2

In these cases, it is best to scale down the length of data to a partial-year comparison. Your options here include a year-to-date growth rate, a partial-year growth rate or a seasonal growth rate. Let's look at how each is used.

A **year-to-date growth rate** is calculated by beginning on the month in which your fiscal year begins, and refreshing the rate once a month until your fiscal year ends. The benefit of a year-to-date growth rate is that it narrows the impact of your recent history to align with your fiscal calendar.

A **partial-year growth rate** is calculated by taking the data sets for the same months and comparing them against different years. The main benefit of using a partial-year growth rate is that you'll be able to determine growth or decline without having a full 24 months' worth of data.

A **seasonal growth rate** can be used for new call centers that lack a full 24-month data set. In this case, centers often make the mistake of substituting zeros for the missing data. Doing so, however, ridiculously inflates your growth rate. So keep in mind, if it's currently March 2009 and your center opened in October 2007, you need eight more months of volume before you can use a traditional growth rate calculation. Instead of entering zeros for the missing months (February 2007 through September 2007), a better alternative is to compare the history from October 2007 to March 2008 against the history from October 2008 to March 2009, and then refresh this calculation as each new month of data is pulled in.

Another type of call center that benefits from using a variant growth rate is one in which call factors are driven quarterly (think

"Quarterly Statements"). When you reset the growth rate to the specific quarter, you can form a better distinction between seasonal factors. Take a financial call center that mails quarterly statements, for example. There may be a special impact that happens during the first quarter (e.g., when taxes are due) that isn't repeated during the other quarters. If the change in growth rate is directly related to specific tax laws and would not affect the other three quarters of the year, it's best to exclude the first-quarter impact from the total annual growth rate. This can also really fine-tune your forecasting results.

Include Internal Factors

A common obstacle for forecasters stems from a disconnection with marketing, sales and other departments that may have an impact on volumes. It's essential to establish open channels of communication with each area. For the most accurate forecast, you need to know about the activities that marketing has planned before they happen. It's preferable to be informed of promotional events during the planning stages. Likewise, while sales teams usually have very strict financial goals to achieve, the finance group typically works within a budget that is prepared well in advance.


Getting input from these groups about your forecast is invaluable, yet this population is often excluded from volume forecast report. Forecasters need to change their thinking and view other departments as partners in the forecasting process. Get them involved early and on an ongoing basis. When you recalculate a growth rate — monthly, seasonally or annually — share the results with key staff members in each area.

After all, they're interested in knowing where things are heading, too.

Introduce External Factors

In addition to internal groups, there are many resources outside your call center that you can use (as special overlays) when calculating your growth rate. This happens by simply applying a percentage adjustment (up or down). One of my favorite external sources is the U.S. Census Bureau. Fertility, mortality and migration rates are all examples of external factors that may influence your forecast, especially for long-term forecasts (over one year). If you have enough data points and source material, you can also draw a correlation to your contact rates.

Another critical external factor is what your competition is doing. Regardless of your history, if your market share starts drastically changing, your growth rate will be affected and limiting your calculations to traditional math will fail.

A good forecaster realizes that a forecast is just a baseline. He or she should not be evaluated on forecast accuracy alone. Documentation review, attention to detail and the appropriateness of the selected forecasting method all contribute to the forecaster's effectiveness — and these are the key elements that will produce long-term payoffs. 

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