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Any good planning process must include some degree of **foresight**.

Understanding, anticipating, and preparing for things to come is essential when it comes to creating an effective plan of action.

In the contact center, this means knowing (or getting as close as possible to knowing) what to expect in terms of **call volume**, **average handle time (AHT)** and **more**. This kind of foresight allows organizations to staff, schedule and better prepare to face seasonal and everyday changes, and it's achieved through highly accurate forecasting.
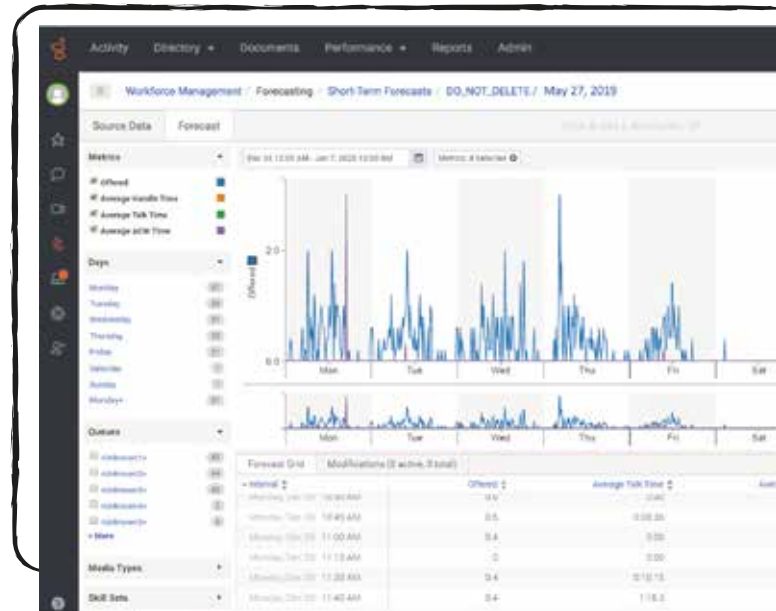
WHAT IS FORECASTING?

Forecasting is all about predicting the future as accurately as possible given all the information available; this includes information about what's happened before (historical data) and knowledge of any future events that might impact a forecast (special events or seasonality).

WHY DO WE FORECAST?

Forecasts serve an important purpose: ensuring you achieve your **goals** with effective **planning**.

* **GOALS** are what you would like to have happen. While these should be linked to forecasts and plans, they aren't always structured that way. Too often, goals are set without any plans for how to achieve them and no forecasts to determine whether they are realistic.

* **PLANNING** is a response to forecasts and goals. Planning involves determining the appropriate actions that are required to make your forecasts match your goals.

Okay, but how does this relate to contact center workforce management (WFM) and workforce planning?

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HOW DOES FORECASTING WORK IN A WFM SYSTEM?

Workload Forecasting	Staffing Forecasting	Shrinkage Forecasting

Predicting the number of incoming interactions (Volume) in comparison with the average time it takes an agent to handle an interaction (AHT).
 	
Includes:
• Analyzing historical data to identify patterns
• Considering anomalous events that might impact future work distribution patterns not represented in the historical, time-series data. Things like,
  o Marketing events
  o Company holidays
  o Weather events
	Determining the number of agents needed on the floor to handle interactions, considering the forecasted volume and AHT.
	
	Includes:
	• Applying customer quality of service goals
	  o Service levels
	  o Average speed of answer
	  o Max. abandon rate goals
	• Applying agent utilization in the form of occupancy thresholds
	• Providing the staffing needs per work channel that drive the scheduling process.
		Understanding the percentages of foreseeable (or unforeseeable) times an agent may not be able to take an interaction.
		
		Includes:
		• Applying the expected agent non-adherence rates
		• Applying planned shrinkage
		  o Breaks and meals
		  o Planned time off
		  o Optimized meetings or training
		• Applying unplanned shrinkage
		  o Sick leave
		  o Ad-hoc coaching
		  o Last minute PTO

...But

WHAT SHOULD WE DO TO GET A GOOD FORECAST?

Remember - your forecast is only as good as your data.

Gather your data
Ensure the data being collected is correct for the planning groups you have configured.

Smooth your averages
Remove 'noise' from your data.

Account for seasonality
Seasonality is a characteristic of a time series in which the data experiences regular and predictable changes that recur every calendar year. Any predictable fluctuation or pattern that recurs or repeats over a one-year period is said to be seasonal.

Don't forget shrinkage
Shrinkage itself is defined as the measure of how much time is lost in your contact center to unavoidable variables such as staff breaks, lunch, holidays, sick days, and time spent training.

WHAT ARE FORECASTING MODELS?

Okay, time to forecast. **What now?**
Well, first you need to select your forecasting model, but what are the most common models used for WFM?

✳ **Exponential Smoothing (and its iterations)** is used to get the most relevant average by assigning increasing weightings so that recent data weighs a bit more than data from the distant past. **Double exponential smoothing** takes the previous method and applies an additional exponential filter to account for trends. And **triple exponential smoothing** goes a bit beyond that to include a seasonal component by splitting data into stationary, trend and seasonality.

✳ **Auto Regressive Integrated Moving Average (ARIMA)** is used with time series data to either understand data better or to predict future points in the series. It's comprised of three main components: the ability to compare data to past patterns (auto-regression), to compare or differentiate current observation to previous (integrated), and to smooth out data over several past periods (moving average).
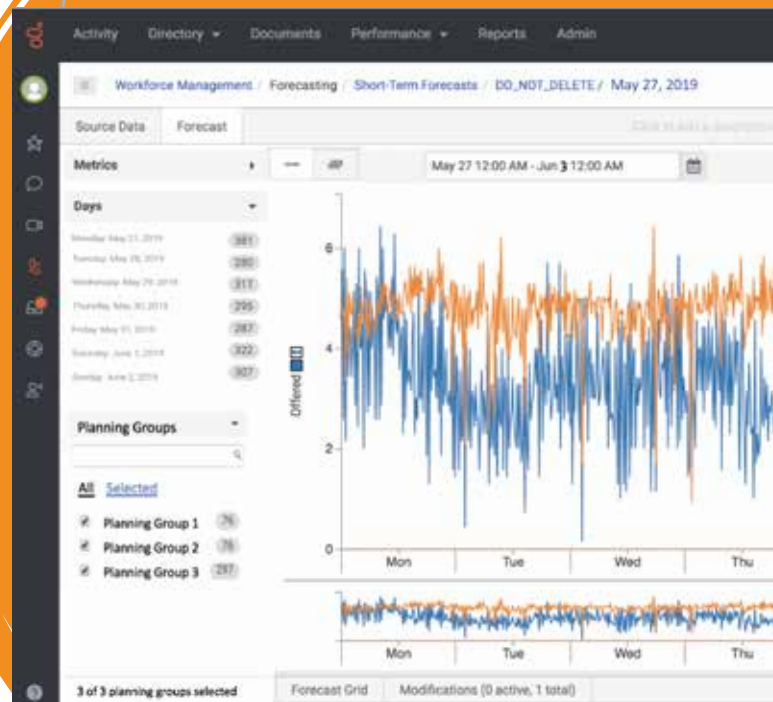
✳ **Neural Network.** Artificial neural networks are forecasting methods that are based on simple mathematical models of the brain. They allow complex nonlinear relationships between the response variable and its predictors.

✳ **Multiple Temporal Aggregation (MTA)** helps augment time series forecasting by drawing from multiple temporal aggregation views of a time series to produce a composite forecast. The key advantages are mitigating modelling uncertainty and more reliable long-term predictions.

✳ **Holt-Winters Additive Seasonality** uses exponential smoothing to encode lots of values from the past and use them to predict "typical" values for the present and future.

THE DEVIL IS IN THE DATA

Again remember — **your forecast is only as good as your data.** Which is why data processing is extremely important in order to create a good forecast. Often, WFM solutions will deliver forecasting capabilities that create forecasts based on industry standards or vertical-specific data. But, to achieve a true likeness of what volume or AHT might look for a specific business, working with your organization's real data is essential.

Preparing & understanding your data

Clean the data by identifying and handling (that is, correcting, imputing, or deleting) errors, noise, and missing values and by making the data consistent. Consider things like,
- is there any data missing?
- are there data points that need to be smoothed?
- are there seasonal or special events that might affect impact your forecast?

Consistency is key

To answer questions like "How many agents should I hire?" or "How many people are we expecting to leave due to turnover?", your forecasting process needs to deliver an acceptable level of consistency. So, it's not enough to have a forecasting model that works for weekly, daily, or even hourly intervals, but to have one that considers long-term factors things like seasonality.

Truly effective workforce forecasting should allow your organization to zoom in or out of forecasts with confidence, so that you're not ultimately looking at two different pictures of the future.

Achieving accuracy

The key to achieving an accurate forecast is using the data you already have at your fingertips. An integrated back-office system will make this easier. Combine internal data (like historical sales analysis and recent trends) with external information (such as weather, national events, and holidays).

Learn how AI Forecasting can help you achieve **greater accuracy** and **efficiency** in our next **Genesys Cloud WEM Basics**!

or check out everything you can do with Genesys WEM:

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