

# Holistic Demand Forecasting – A New Paradigm

By

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The current economic downturn has seen global demand for products and services nose dive. Estimating future demand based on evaluation of historical data alone is no longer an effective decision making tool and can result in inaccurate forecasting. In the short term, inaccurate forecasting delays responses to changing customer demand resulting in reduced sales, sub-optimized production and inventory planning. This reduces cash flows and can lead to high working capital requirements. In the medium to long term, the impact is more strategic and can cause ineffective decision making for new product introductions, capacity expansion, outsourcing and acquisitions.

Traditionally, businesses have used historical demand patterns and trends as an important indicator to estimate sales, for capacity and production planning and raw material requirements. This is done by assessing the impact of current economic and market factors on historical base values using statistical forecasting techniques. These estimates typically

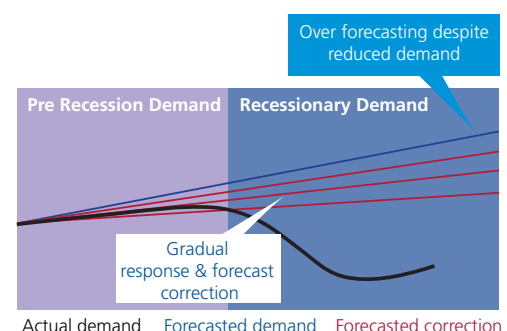
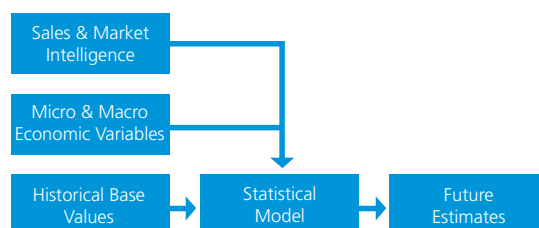
vary within the range of the historical values. However, in the current economic climate when actual demand has shifted drastically from previous references, businesses need to adopt a better forecasting model as historical data is of limited use.

## A New Paradigm

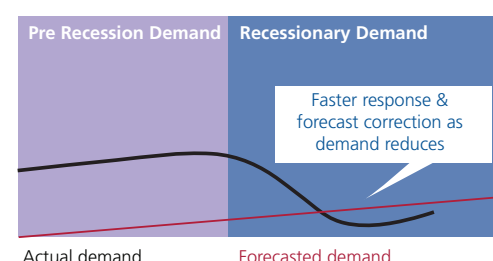
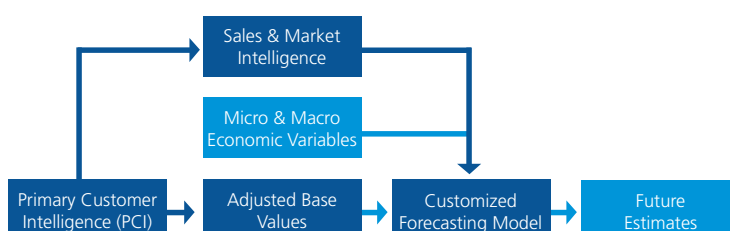
More accurate forecasts can be enabled by taking a holistic approach that provides first hand information on shifts in changing customer behavior based on recent trends. This approach, in addition to using macro economic inputs and market intelligence, includes Primary Customer Intelligence (PCI) to arrive at demand forecasts. PCI works well in B2B business models where forecasting groups have faster and wider access to customers.

Genpact has developed a model to collect granular customer intelligence, first hand. The median values of this data are used as new reference base points to optimize forecast models. Additionally, PCI is also used for customer segmentation and to determine sales conversion probability.

## Traditional Model



## The New Approach



The customized forecasting model delivers accurate estimates by combining market intelligence, operational intelligence, micro and macro economic factors with Primary Customer Intelligence (PCI)

## Key insights to effectively manage demand

Based on our experience on providing demand forecasting solutions across businesses, we have found that for a typical global B2B organization, the following insights can help drive business impact. These also enable them to respond more nimbly to changing market forces.

- **Evaluation of customer service levels expectations:**

The PCI process can provide important insights on customer expectations relative to desired service levels. Using the 80 - 20 rule, optimizing internal service levels to match customer expectations can bring down inventory costs by 10% in the short term. In the event of downward pricing pressures, cost reduction benefits through service level optimization can be transferred to customers as price reductions.

- **Strong coordination between sales and supply chain fulfillment:** Synchronized demand planning with adjusted sales estimates can lead to a 20% inventory and 10% sourcing cost reduction within a year.
- **Non silo planning:** Significant efficiencies across the supply chain can be achieved by developing consolidated

requirements, based on aggregating projected demand across product portfolios and geographies. This can result in forecast accuracy improvement, operational and inventory cost reductions and sourcing costs deflation.

## Summary

Forecasting accuracy is imperative for both operational and strategic decision making. In economic downturns, where customer demand patterns shift drastically, businesses need to adopt better forecast methods. A holistic process that provides first hand information on shifts in changing customer behavior based on recent trends is a proven option to improve forecast accuracy. Driving holistic forecasting by following a closed loop cycle of statistical output, operational and primary customer intelligence inputs increases forecasting accuracy by 14% on baseline. The ability to accurately gauge changing customer preferences and respond quickly has benefits that include increased sales, improved customer service levels, inventory reduction and capacity optimization. It can also directly impact customer loyalty and supplier partnerships.

## Case Study: Holistic sales forecasting for a major heavy equipment and services company

### Business challenge

Low accuracy - 73% in sales forecasting - resulted in less than optimal on-time delivery, high inventory costs and sub-optimized capacity management.

The client's sales forecasting group used a traditional statistical approach taking inputs from historical demand patterns and market intelligence.

### Solution

Genpact's sales forecasting team using the Primary Customer Intelligence (PCI) process reached out to the client's customers and collected product level data on various parameters to recalibrate forecast models and segment customers. The adjusted sales forecasts were fed into the client's commercial operations and supply chain processes.

### Business Impact

The holistic forecasting method led to a forecast accuracy improvement of 13% within a quarter. Adjusted downstream inputs led to improved material & capacity requirements:

- 20% reduction in inventory
- 20% reduction in field service costs