Mark Chockalingam Ph.D.   **Tel: +1(781)995-0685**   **Email:** **valtitude@ValueChainPlanning.com**

Best Practices in Demand Planning and Sales Forecasting

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www.Valuechainplanning.com
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Abstract

Organizations spend a lot of time and resources on forecasting efforts to improve the accuracy of the demand forecasts that are used in their supply chain. The practices adopted by these organizations and a poor process design can hamper your goals of an accurate demand plan and a lean supply chain process.

In this workshop, we will walk you through the best practices necessary to improve demand planning and create supply chain efficiencies. We will also discuss the worst practices in demand planning so you can steer clear of these inefficient processes.

WHY DO WE CARE ABOUT DEMAND PLANNING?

➢ Value creation through customer service

➢ Enables both service and working capital

➢ Top 10 best practices to improve demand planning

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Value Creation and Customer Service

50% of the corporate resources are devoted to forecasting, although NOT necessarily at the SKU level

Perfect Customer Service = **Accurate Demand Forecast** + **Optimized Inventories** + **Clean Execution**
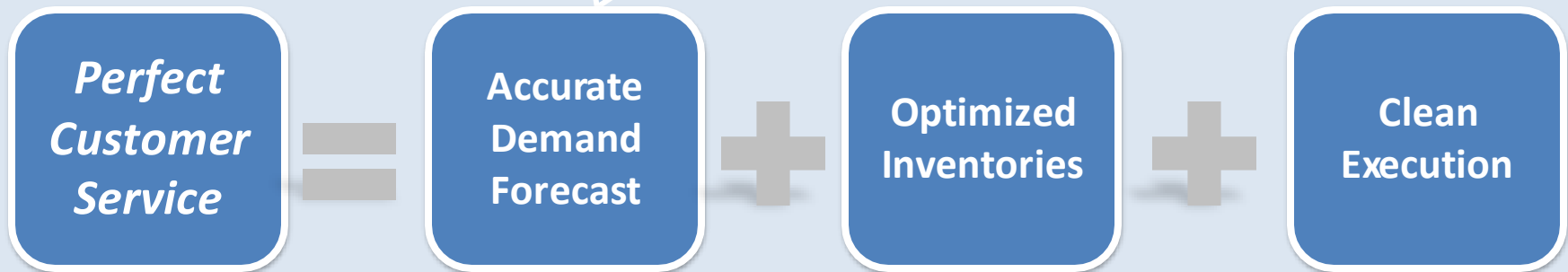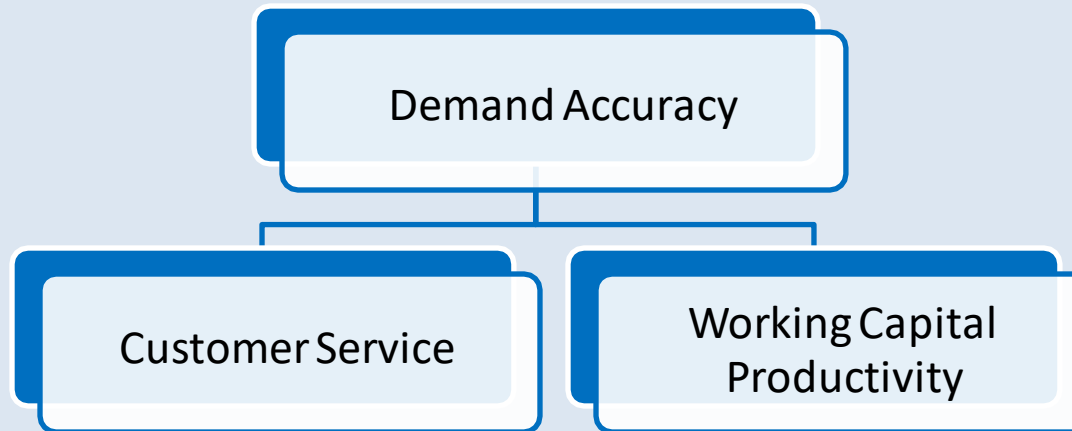
Every function in the Value Chain controls one or more of these drivers of Customer Service!

Unbiased Demand Plan – The Holy Grail

➢ Enables the Supply Chain to provide higher levels of service

➢ Optimize the working capital resources – inventory, returns

```
            Demand Accuracy

    Customer Service      Working Capital
                          Productivity
```

➢ Thus, Demand Forecast accuracy is aligned with both the Supply Chain Objectives.

➢ If Demand Forecast is not reliable, organizations will game the process and trade-off Services and Costs resulting in a yo-yo behavior.

Top 10 Demand Planning Mantras

1. GIGO – Define your demand history right before developing forecasts and plans.

   ▪

   ▪

   ▪

10. If you have a choice, KNOW the future, so you don't have to forecast it!

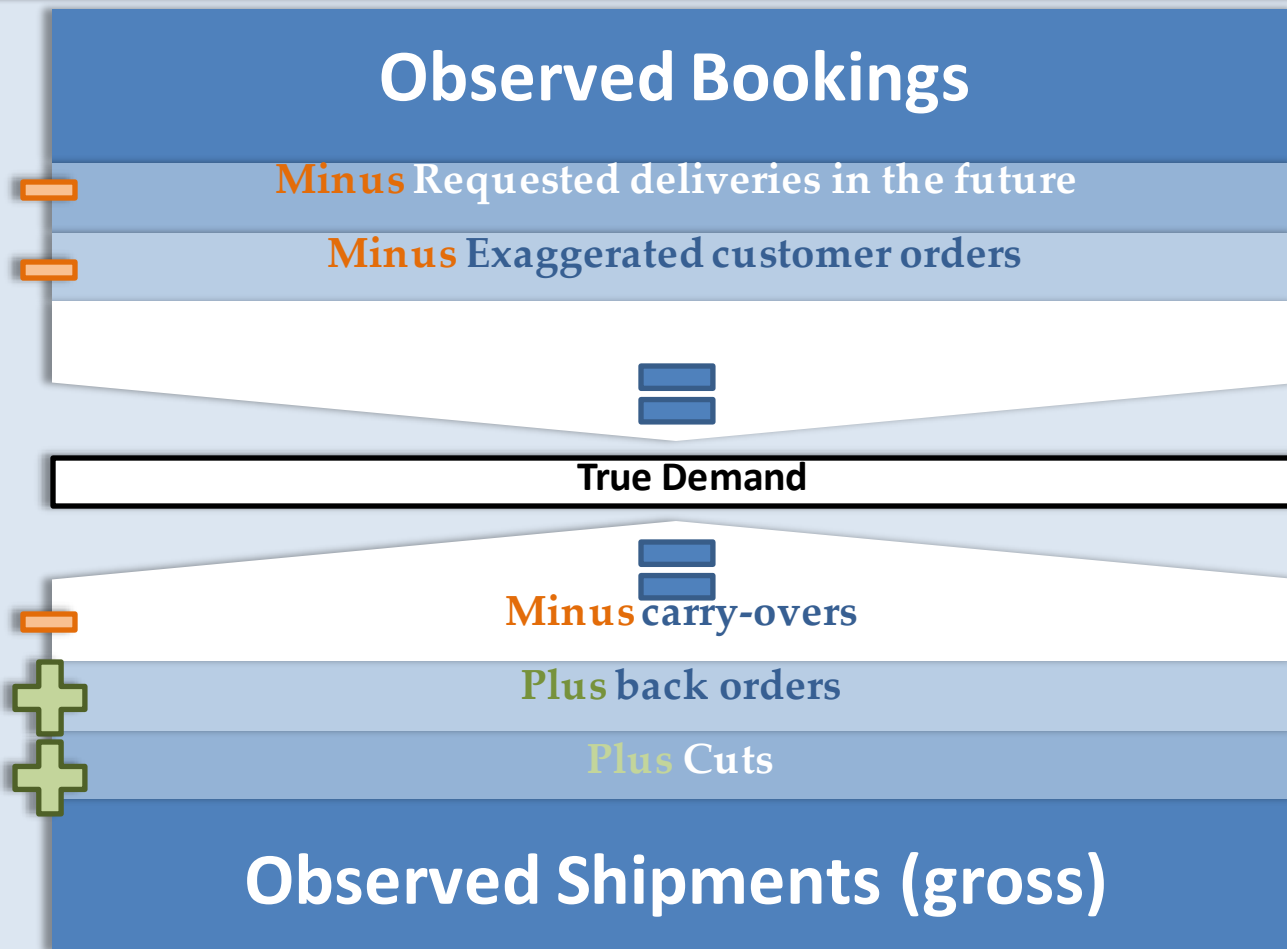# GIGO – Garbage in Garbage Out Get your Data right!

10. GIGO – Define your demand history correctly before developing the forecast.

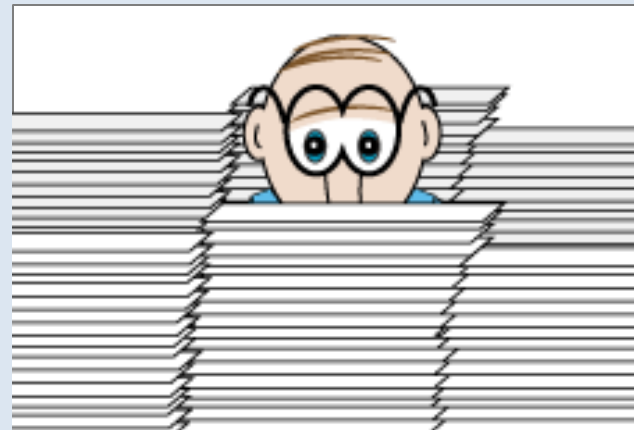# All you need to know about forecasts, you need to start from the Data Garden.

9. Understand your data and make appropriate adjustments before beginning the forecasting process.
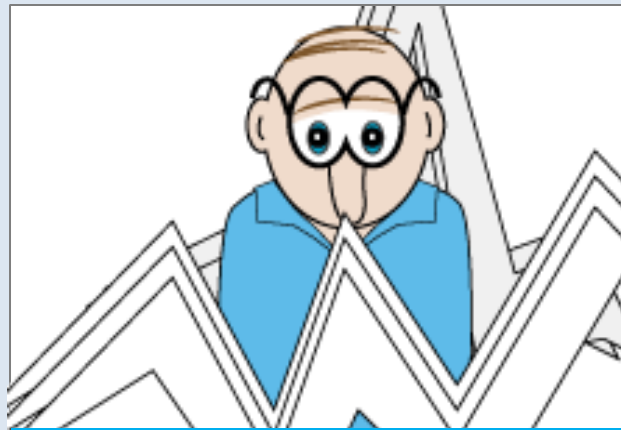
Orders Vs. Shipments

Observed Bookings

Minus Requested deliveries in the future

Minus Exaggerated customer orders

=

True Demand

=

Minus carry-overs

Plus back orders

Plus Cuts

Observed Shipments (gross)

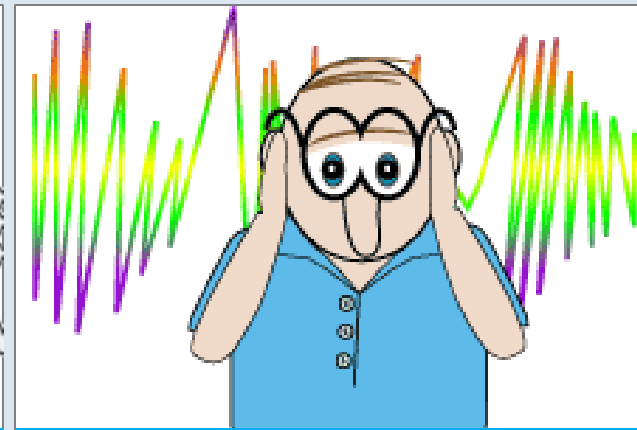# All I need to know about Data,
I learned in Kindergarten!

More is not always better

right size the historical data for modeling!

These can add volatility:

 Bullwhip effects
artificial "saw tooth" volatility
 Outliers
programs that do not repeat
 Missing data
or partially aggregated data

More detail= More noise

 More noise at SKU level than at category level
 More noise at category than at aggregate level
 Trend becomes more visible when granular data is aggregated
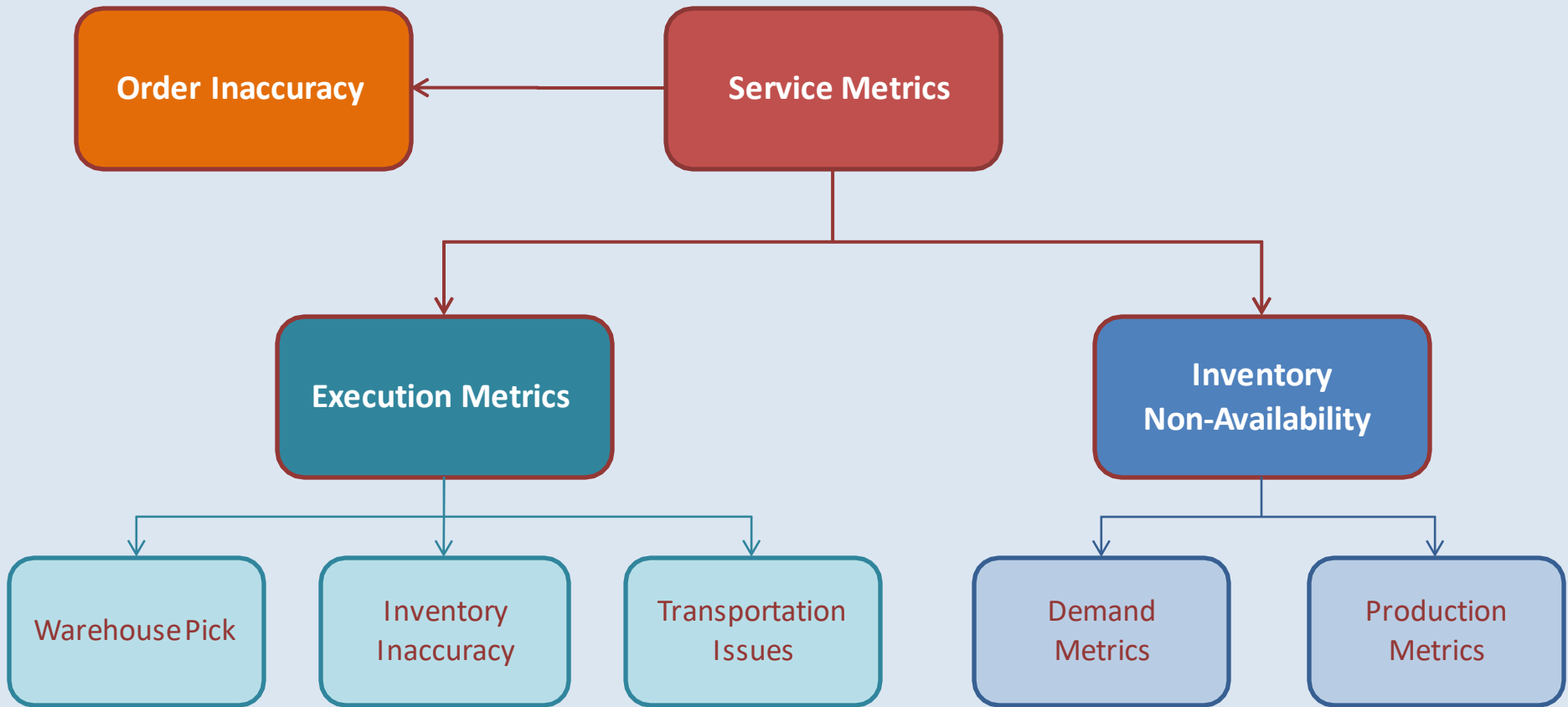
Measure to mature!
Define consistent Metrics!

You cannot improve the process unless you measure where it is right now. Design and deploy the right set of Metrics.

- Service
- Demand
- Supply

Right Set of Metrics

```
Order Inaccuracy  ←——  Service Metrics
                              │
              ┌───────────────┴───────────────┐
        Execution Metrics              Inventory
                                    Non-Availability
        ┌──────┼──────┐              ┌──────┴──────┐
   Warehouse  Inventory  Transportation   Demand    Production
     Pick    Inaccuracy     Issues       Metrics     Metrics
```

- **Order Inaccuracy**
- **Service Metrics**
- **Execution Metrics**
  - Warehouse Pick
  - Inventory Inaccuracy
  - Transportation Issues
- **Inventory Non-Availability**
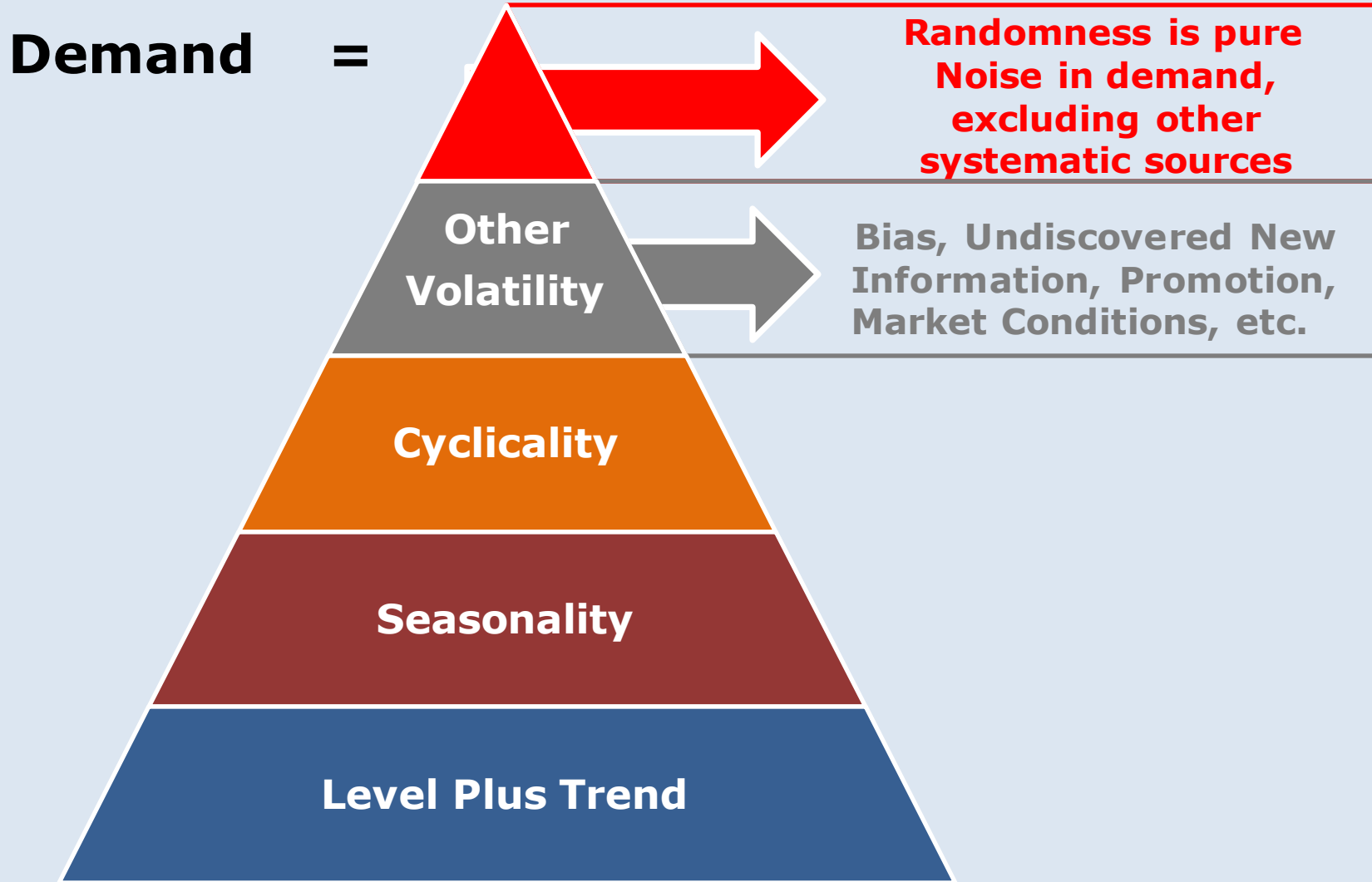 - Demand Metrics
  - Production Metrics

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Know your Stats! Leverage your Software!

It helps to start with a good statistical modeling tool to develop baseline forecasts.

Demand Components

Demand =

Randomness is pure Noise in demand, excluding other systematic sources

Other Volatility

Bias, Undiscovered New Information, Promotion, Market Conditions, etc.

Cyclicality

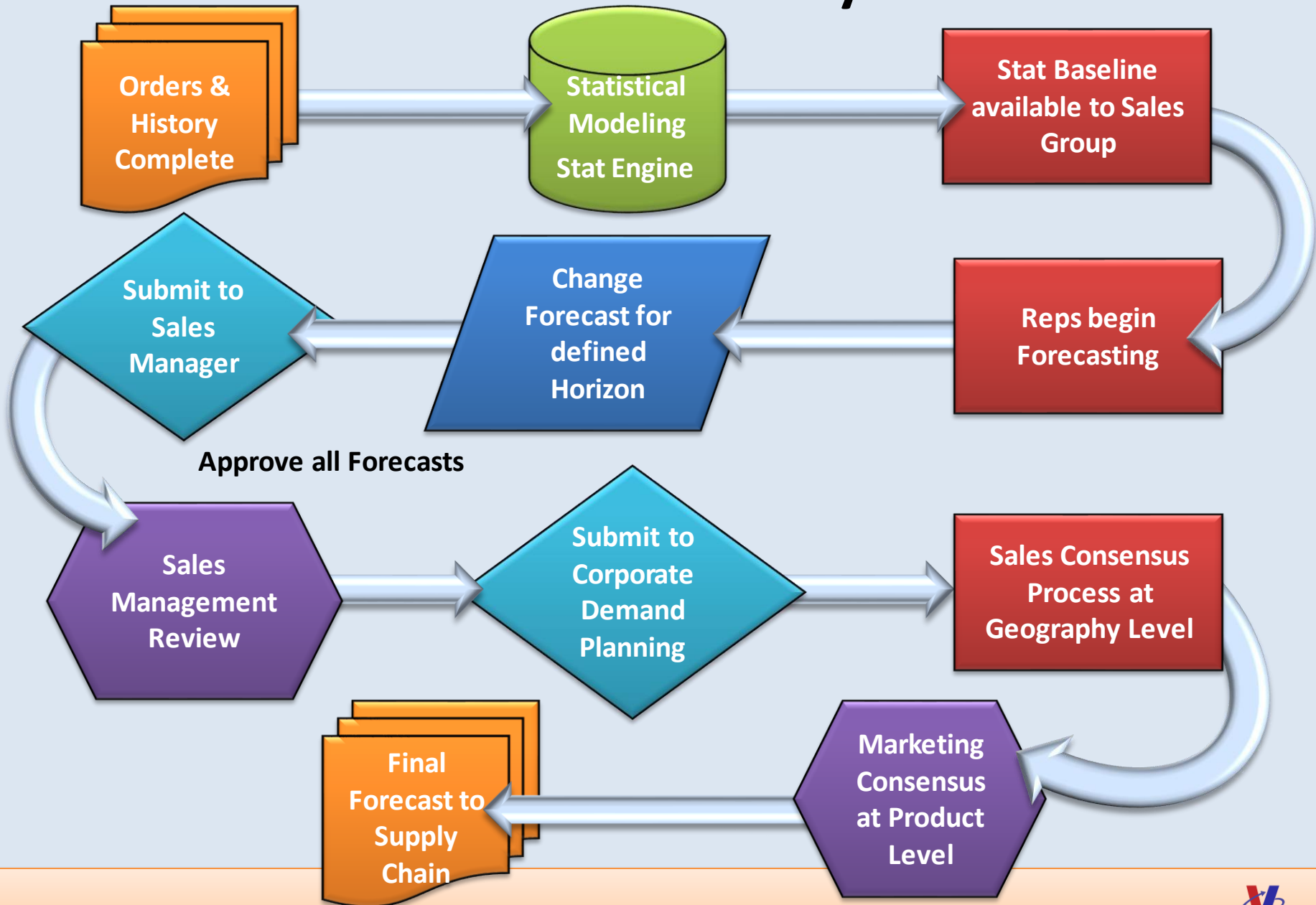Seasonality

Level Plus Trend

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Define and communicate the process flow and key calendar dates.

Define a monthly process that defines the process triggers and ends with the forecast agreement!

End-to-end Monthly Process

```
Orders & History Complete  →  Statistical Modeling Stat Engine  →  Stat Baseline available to Sales Group
                                                                              ↓
Submit to Sales Manager  ←  Change Forecast for defined Horizon  ←  Reps begin Forecasting

Approve all Forecasts
        ↓
Sales Management Review  →  Submit to Corporate Demand Planning  →  Sales Consensus Process at Geography Level
                                                                              ↓
Final Forecast to Supply Chain  ←  Marketing Consensus at Product Level
```

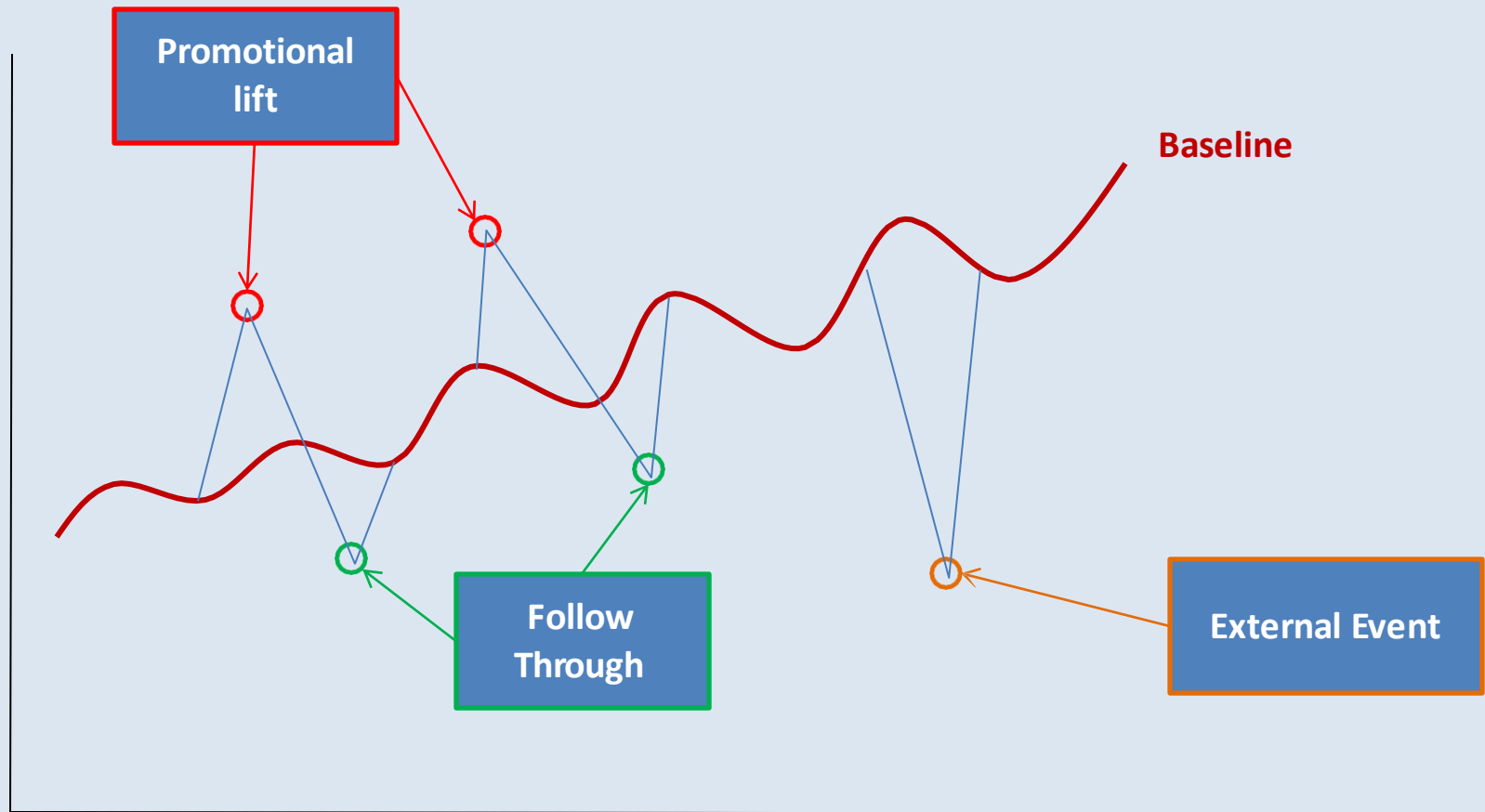© Valtitude / Demand Planning LLC   16   Valtitude

Assess and quantify your promotion. Differentiate Baseline vs. Incremental

Get promotional intelligence and do event modeling and planning.

Baseline Vs. Incremental

Promotional lift

Baseline

Follow Through

External Event

Agree to Disagree!
Seek Consensus!

Drive towards a one-number Plan. Get inputs from Marketing, Sales, and Finance in developing a consensus forecast!
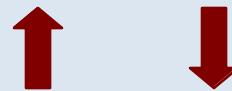
Demand and Supply Balance

- Volume is important to the Demand Side – so are the volume driven by events namely new product launch and promotions
- Mix is important to the Supply Side – What, when and how much to produce. This can affect pricing for $$ calculations.

I am ready to execute! Give me a detailed SKU plan.

Volume

New

We know the $$ Sales Target by Region. Will that work?

Pricing

Mix

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Be pro-active and responsive in planning ahead!

Ask what is your action plan for risks and opportunities to the latest forecast and the corporate plan.

Follow the 90-20 rule. Manage by Exception!

20% of your products and customers drive 90% of your revenues, sales volume, and profits.

Modeling Segmentation

A well-designed planning process uses forecasting by exception.

Majority of items
- **Use simple forecasts and automatic forecasts**
  - First order or second order exponential smoothing
  - Automatic Models
  - Moving average models

Items with High Volume/ Volatility/ Critical Importance
- **Use advanced models**
- Review carefully
- Adjust for market intelligence

Exception!

KNOW the Future! This is better than forecasting.

If you have a choice, know the future, so you don't have to forecast it! Talk to people, customers, sales reps and other gurus who have information about the future.

Your Best Practices??

We encourage you to note down your current best practices.

Food Client – Sample Example

Best Practice: Consolidated demand plan feed to production (single source of the truth). Results in assurance that we're all working off the same plan and that contributors are held accountable to delivering it. Just launching this now-tangible results to follow!

➢ We have a strong S&OPs Planning process that includes a Partnership Meeting once a month and an Executive S&OPs Meeting once a month that ensures that the entire company is planning to one set of numbers. It also ensures that everyone in the planning process is aware of any changes to those numbers and when they happen.

Your Worst Practices??

Based on this presentation, what do you think is amiss in your demand planning?

Questions?!

1. What are best practices for multi-site, multi business unit planning?

Please email your questions to
Valtitude@ValueChainPlanning.com

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ABOUT US

➢ Who is the author?

➢ What is Valtitude / Demand Planning LLC?

➢ Who are our clients?

➢ How can you contact the author of this paper?

About The Author

Dr. Mark Chockalingam is the President and Founder of Demand Planning Net, which became Valtitude beginning September 2019. In an operational capacity, Mark serves as Chief Executive Officer of Valtitude and is responsible for strategy and general management. Mark has over twenty years of consulting and corporate experience in the areas of Predictive Analytics, Sales forecasting, Supply Chain Optimization, and Integrated Business Planning.

Mark started his career as a Technical Advisor with the International Forecasting group at Federal Express in Memphis. Following this stint, he managed the Demand Forecast process for the Suncare, Footcare and OTC businesses for Schering-Plough Consumer HealthCare in Memphis. Mark moved to Gillette Company in Boston as Director of Market Analysis and Demand Planning. The Gillette Company is now part of Proctor and Gamble. He played a key role in the supply chain transformation of the North American business and in the formation of North American Value chain group.

Mark has a Ph. D. in Finance from Arizona State University, an MBA from the University of Toledo and is a member of the Institute of Chartered Accountants of India. Mark currently serves as the Executive Vice President of the Boston Chapter of APICS.

About Valtitude

Valtitude / Demand Planning LLC provides services in Demand Planning, S&OP, Sales Forecasting, and Supply Chain Optimization.

We have helped a variety of businesses across several industry verticals to improve their planning process and create value through demand analysis and diagnostics, process re-design, solutions implementation, and customized on-site training.

We provide strategy and solutions consulting to customers across a variety of industries - Pharmaceuticals, CPG, High-Tech, Food and Beverage, Quick Service Restaurants, Utilities, Oil and Gas, Aerospace, Chemicals, and Industrial Manufacturing, Automotive, Financial Services, Publishing, etc.

Our consulting expertise includes Corporate Finance, Operations Forecasting & Planning, Strategic Forecasting, Financial Planning & Budgeting, Inventory Optimization, Production Planning, and Scheduling.

What we define as usability consulting helps our clients to better use their advanced planning tools for Demand, Inventory and supply chain optimization. Our clients include Fortune 500 companies such as Pepsi Foods, Abbott Labs, Honeywell and others who seek us for our niche in the area of SCM transformation. Founded in 2004, we have offices in India, China and UK.

Our Clients

CPG / Food & Beverage

Aerospace / Technology

Fashion / FMCG / Pharma

Contact Us

Mark Chockalingam, Ph.D.
Valtitude / Demand Planning LLC
26 Henshaw Street, Suite 2,
Woburn, MA 01801

Email: markc@valuechainplanning
Web: www.ValueChainPlanning.com

Phone: +1(781)995-0685