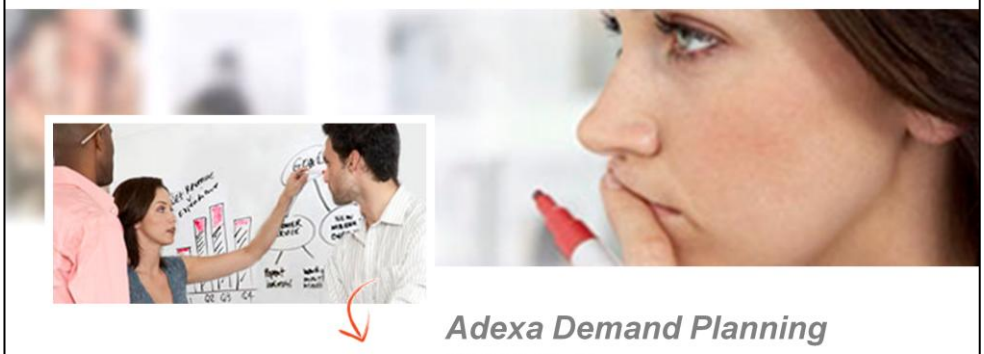


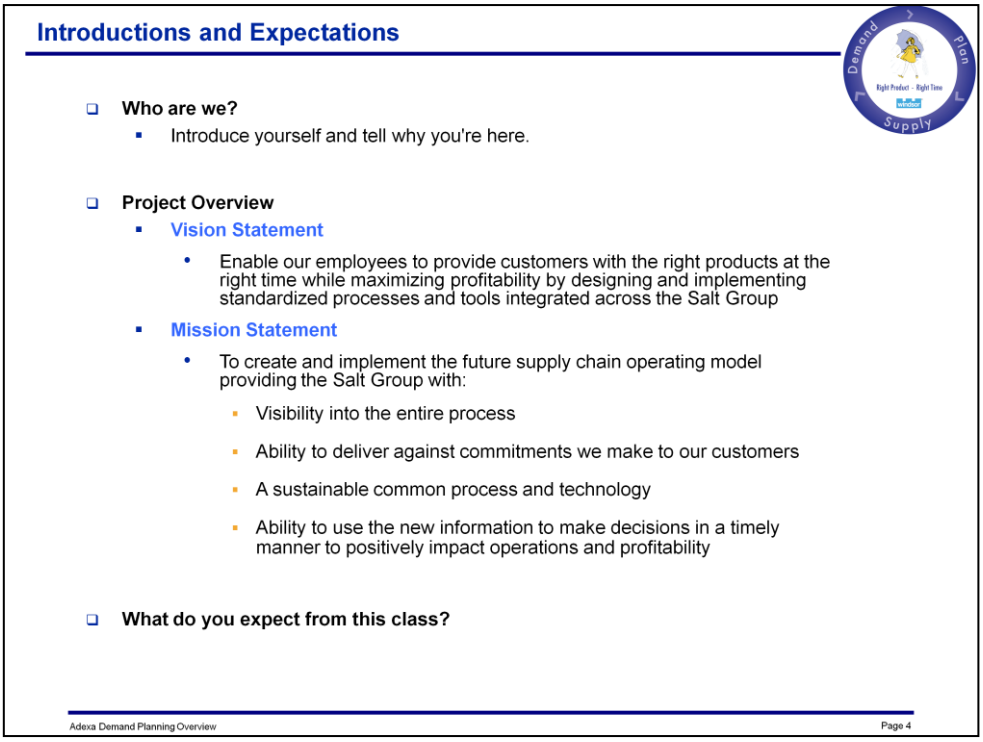
Adexa Demand Planning Overview

February, 2009

Adexa Demand Planning Overview--Agenda

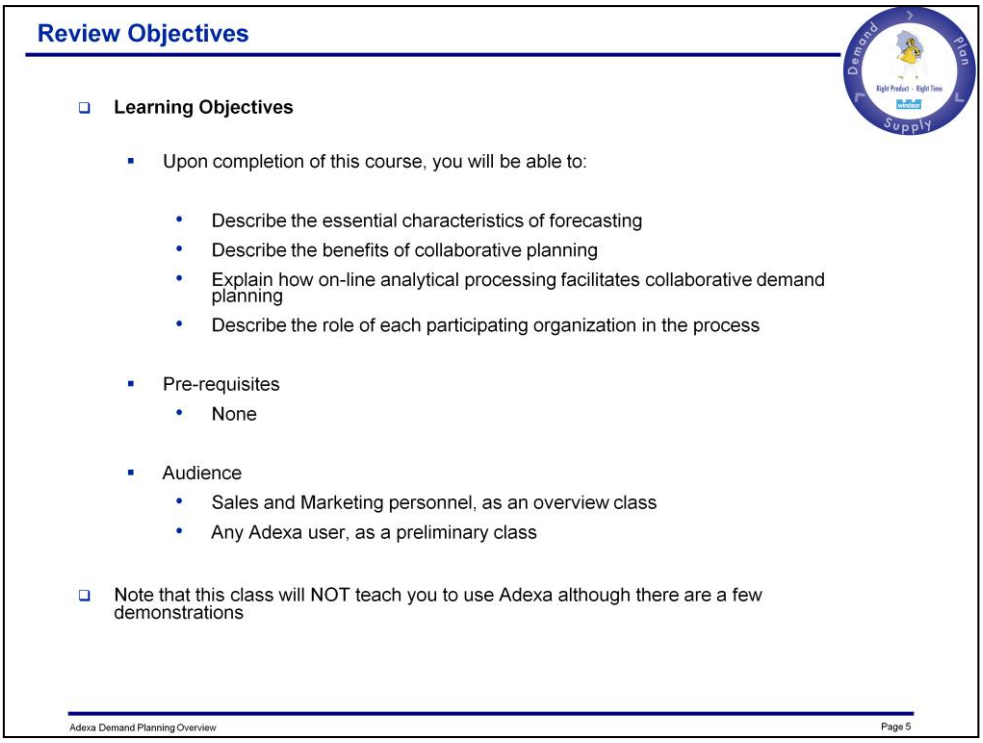
- **Agenda**
  - Introductions/Expectations
  - Review Objectives
  - Process Overview
  - Characteristics of Forecasting
  - Benefits of Collaborative Demand Planning
  - Adexa Data Organization

Introductions and Expectations



If you have prepared an ice breaker, do it now.

Expectations--Capture answers on flip chart, post on wall. You will review at end of class.

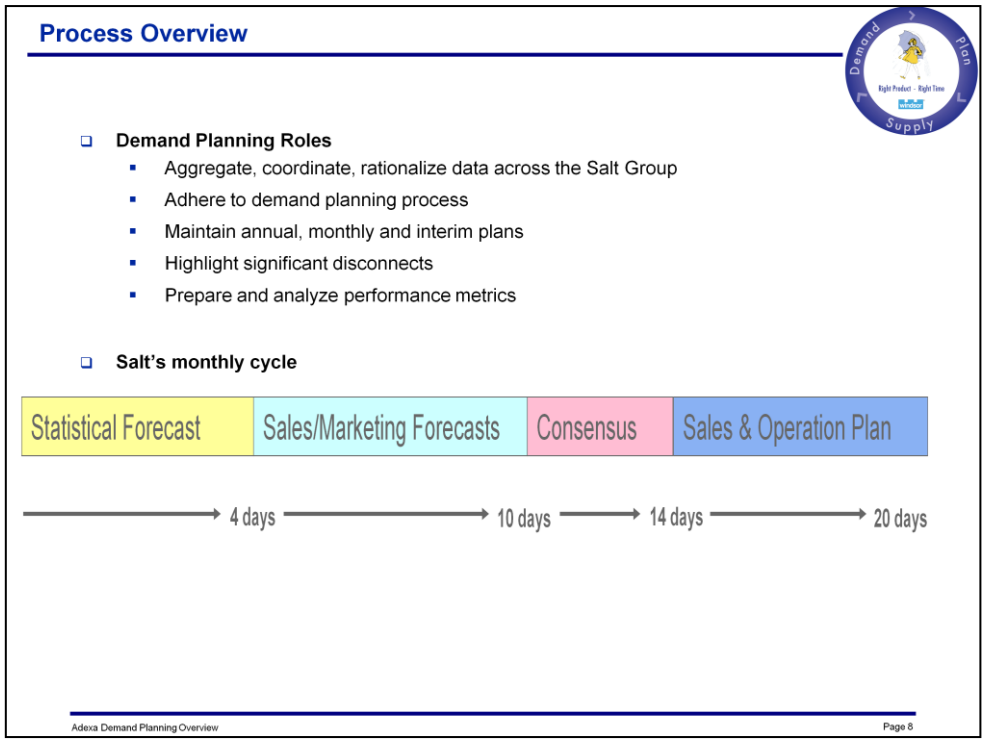


Compare *expectations* to objectives.

Process Overview

Process Overview

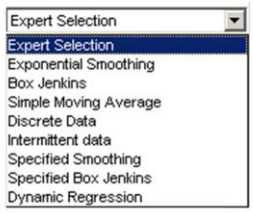
- **At the end of this section, you will be able to:**
  - List the four parts of the cycle
  - Explain how the consensus plan is achieved
  - Describe the role of the demand planner
  - Describe the role of the Sales organization
  - Explain how inter-company transactions should be handled
  - Describe the role of the Marketing organization
  - Describe the role of the Sourcing/Supply organization
  - Explain how the Sales & Operations Plan impact production and inventory
  - Describe the business rules established by Morton Salt for collaborative demand planning.



There is a poster you could use on the four parts. Just be sure to take it down for the quiz later.

Process Overview

- **To build the statistical forecast**
  - The Demand Planner meets informally with Sales, Marketing, and Sourcing/Supply to determine if data-skewing events should be excluded from the forecast.
    - Adexa manages the process
  - Adexa generates Accuracy Metrics
    - Defined by Salt's business rules
  - Adexa generates a Statistical Forecast
    - Robustness achieved by utilizing a statistical algorithm selected by business rules from:
    -



Process Overview

- **To build Sales/Marketing Forecasts**
  - Adexa loads previous forecasts
  - Adexa generates Accuracy Metrics
    - » Defined by Salt's business rules
  - Sales and Marketing meet independently to build their organization forecast
    - » Attempt to resolve accuracy issues
    - » Sales and Marketing add notes and assumptions to data as appropriate
    - » Sales controls/negotiates inter-company transactions to prevent double forecasting
  - Directors approve

Process Overview

- **Where does Sales/Marketing forecasting information come from?**
  - There will likely be products that your manager/forecaster will *always* want to know about, e.g., kosher, and for which you should expect to provide input every month.

    The Managers/forecasters may use the export Excel feature in Adexa to gather this information.
  - How will that work?

Process Overview

» **Here's how it would work:**

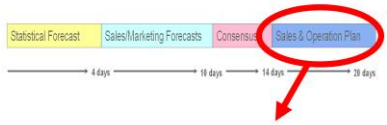
1. Sales/Marketing managers will export their forecasts from Adexa and distribute Excel spreadsheets to their personnel for verification and/or change.
2. Reps will
   - » Enable Adexa macros
   - » Make changes
   - » Return spreadsheets to managers
3. Adexa macro highlights any cell that has changed so manager can easily review
4. Manager inputs updated forecast into Adexa.

- **Export may initially result in an error, but a second try will work fine. This is an integration issue with Hyperion that will hopefully be fixed by go-live.**

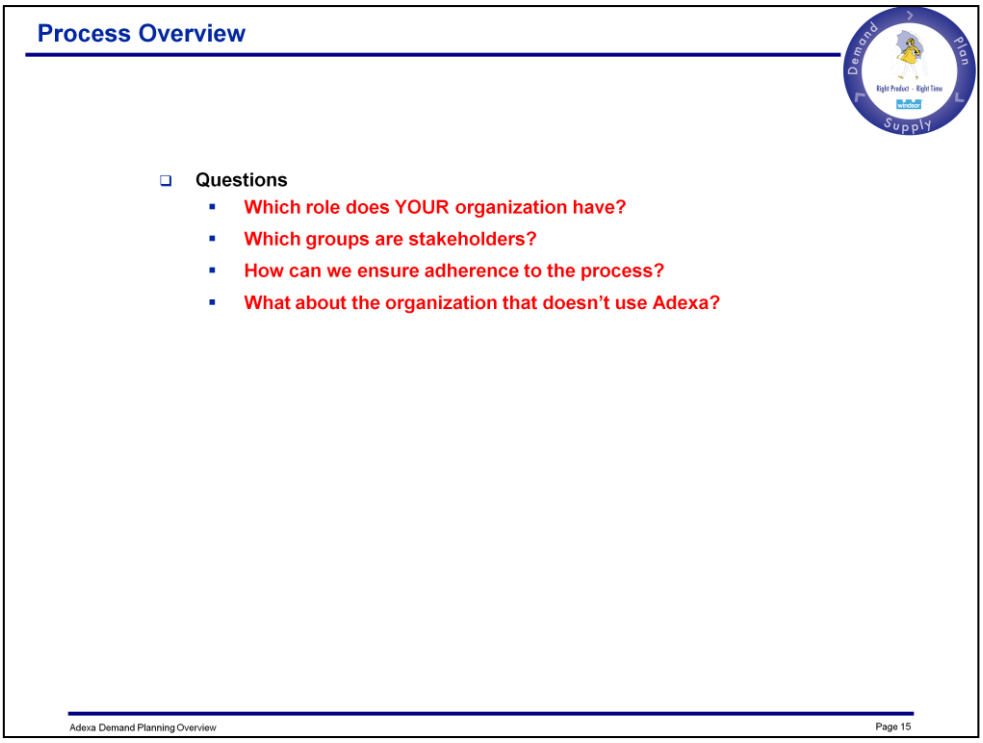
Process Overview

- **To achieve consensus**
  - **Adexa generates Accuracy Metrics**
  - **Directors of Sales and Marketing review variance and discuss risks and assumptions**
    - Demand Planner facilitates
    - Marketing reviews
      - New product strategy
      - Overall marketing strategy or trends
      - Major ad campaigns
      - Economic environment
    - Sales reviews
      - New accounts
      - Closed/closing accounts
      - Short term promotional strategies
      - Retail strategy

Process Overview

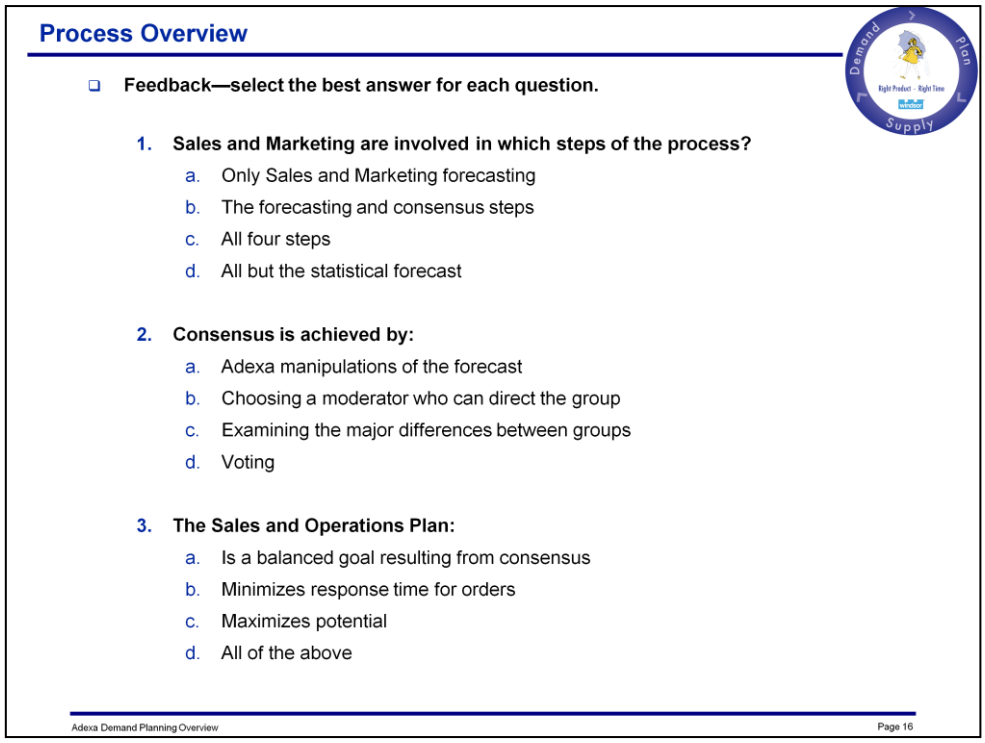


- **To create the Sales & Operation Plan**
  - Adexa generates Alerts
    - Defined by Salt's business rules
  - Adexa determines production capability
    - Driven by Salt's business rules
  - If Production can meet demand, Plan is produced
  - If it cannot, Directors of Sales and Marketing review alternatives with Demand Planner and propose plan
  - Plan approved by VPs of Sales, Marketing, Manufacturing, and Supply Chain



Engage participants in discussion, and capture answers on flip charts.

If participants represent various organizations, it may be beneficial to put them into groups, have the groups answer the questions, and present their answers to the large group.



Go over answers. This is your opportunity to clarify, to verify that everyone gets it, to eliminate misconceptions.

Sales and Marketing are involved in which steps of the process?

Only Sales and Marketing forecasting

The forecasting and consensus steps

All four steps

All but the statistical forecast

Consensus is achieved by:

Adexa manipulations of the forecast

Choosing a moderator who can direct the group

Examining the major differences between groups

Voting

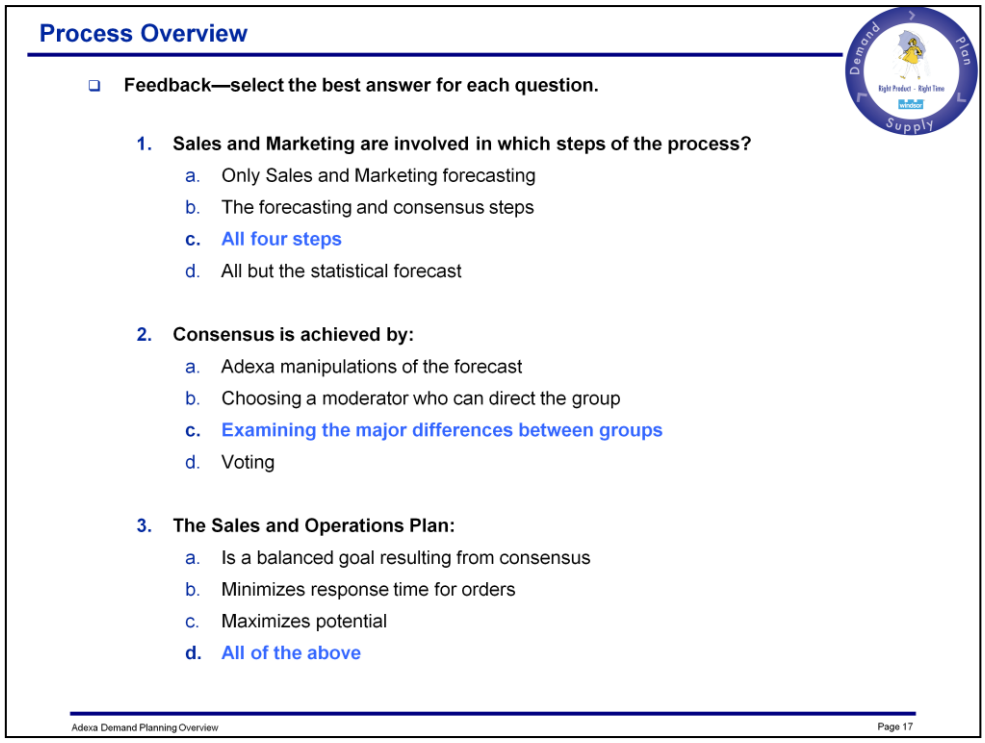
The Sales and Operations Plan:

Is a balanced goal resulting from consensus

Minimizes response time for orders

Maximizes potential

All of the above



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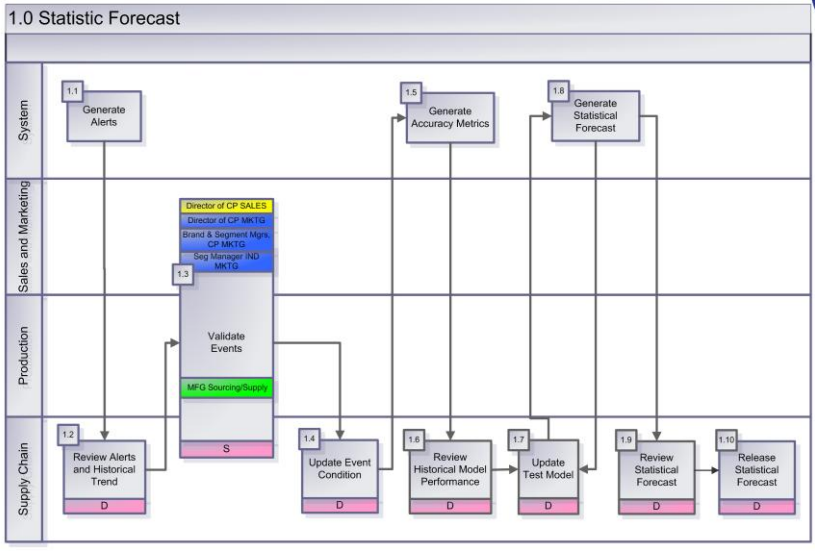
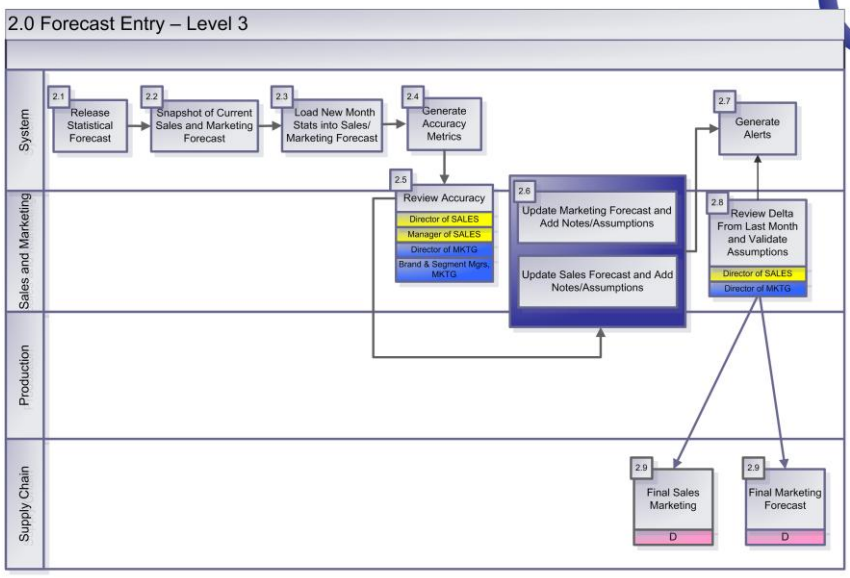
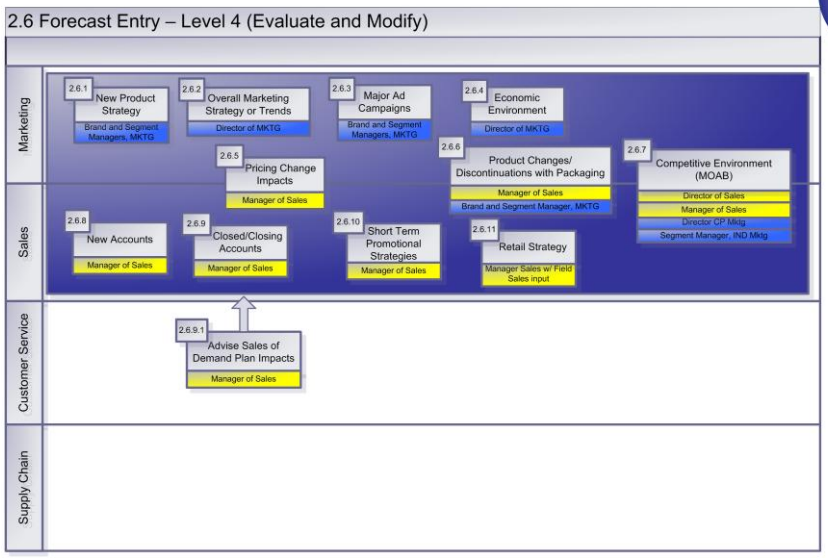


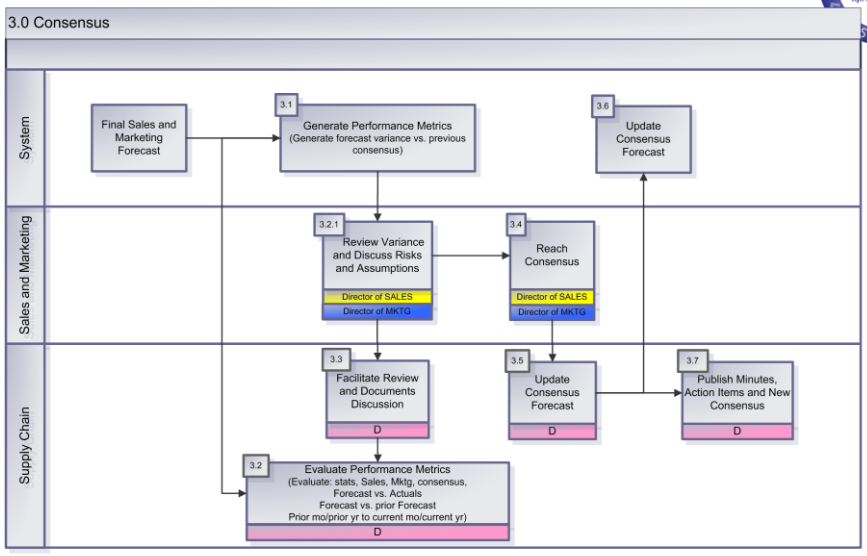
Process Overview



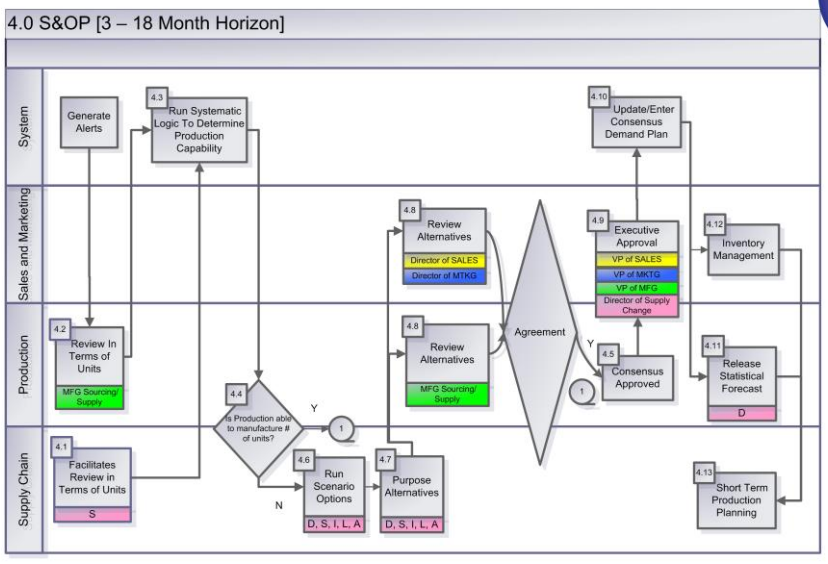
Process Overview



Process Overview



Process Overview



Process Overview

- **Salt's Business rules drive collaborative demand planning.**
  - **For example, they specify:**
    - Who will input demand
    - Who can update a forecast
    - Who must review and approve a forecast
  - They also
    - Specify units of measure (e.g., cases, tons)
    - Specify time granularities for forecasts
    - Set permissions for user groups
    - Set forecast accuracy requirements

Process Overview

- **Morton Salt Demand Planning Business Rules**
  - **Demand Data will be formally reviewed on a monthly basis, at a minimum. (More frequent updates can be done if desired)**
  - **Changes to demand +/- 5% of the system-generated demand shall be updated in Adexa**
    - Users should use discretion and also input changes of less than +/- 5% that may have a significant impact to Salt Group financial or operational performance
  - **The Demand cycle will be:**
    - Statistical forecast review - work days 1-4 of the month
      Sale & Marketing Forecast updates - work days 5-10 of the month
      Sales & Marketing Consensus – work days 11-14 of the month
      Sales & Operations Planning – work days 14-20 of the month
  - **Changes to demand data will be input into Adexa by:**
    - Marketing Managers (3) (Industrial)
      National Account Managers (3) (Industrial)
      Sales District Managers (3) (Industrial)
      Brand Managers (2) (CP)
      Demand Planner Ice Melt (CP)
      Grocery Managers (6) (CP)
      National Accounts Managers (2) (CP)
      Retail Sales Managers (2) (CP)
      Marketing Manager (CP Canadian Salt)
      Grocery Manager, (CP Canadian Salt)
      National Accounts Manager (CP Canadian Salt)
      Retail Sales Manager (CP Canadian Salt)

Process Overview

- **Demand Data will be reviewed, edited and consensus reached by:**
  - Sr. Director Marketing & Sales (Industrial)
    Director of Sales (Industrial)
    Director of Marketing (CP)
    Ice Melt Director (CP)
    Grocery Director (CP)
    National Accounts Director (CP)
    Retail Sales Director (CP)
    VP Marketing & Sales (CP Canadian Salt)
- **Updates or recommended changes to demand will be provided by:**
  - Assistant Segment Managers (Industrial)
    Field Sales (Industrial)
    Segment Managers (CP)
    Assistant Brand Managers (CP)
    Brokers (CP)
    National Accounts Team (CP)
    Field Sales (CP)
    Assistant Marketing Manager (CP Canadian Salt)
    Brokers (CP Canadian Salt)
    Field Sales (CP Canadian Salt)
- **The consensus demand will be reviewed monthly by:**
  - VP Marketing & Sales (Corporate)

Process Overview

- **Follow the instructions below, and perform the Knowledge Review for Section 1: Process Overview.**

If you… ▪feel that you understand the concepts and can meet the objectives	then… ▪write your initials in the Initials box on the Knowledge Review form
Otherwise, if you… ▪feel that you do NOT understand the concepts and can NOT meet the objectives being taught	then… ▪leave the initial box blank ▪draw a line though the concept or objective that is unclear ▪meet with the trainer during break or at the end of class ▪initial only after assistance from the trainer, which may occur within weeks after the class

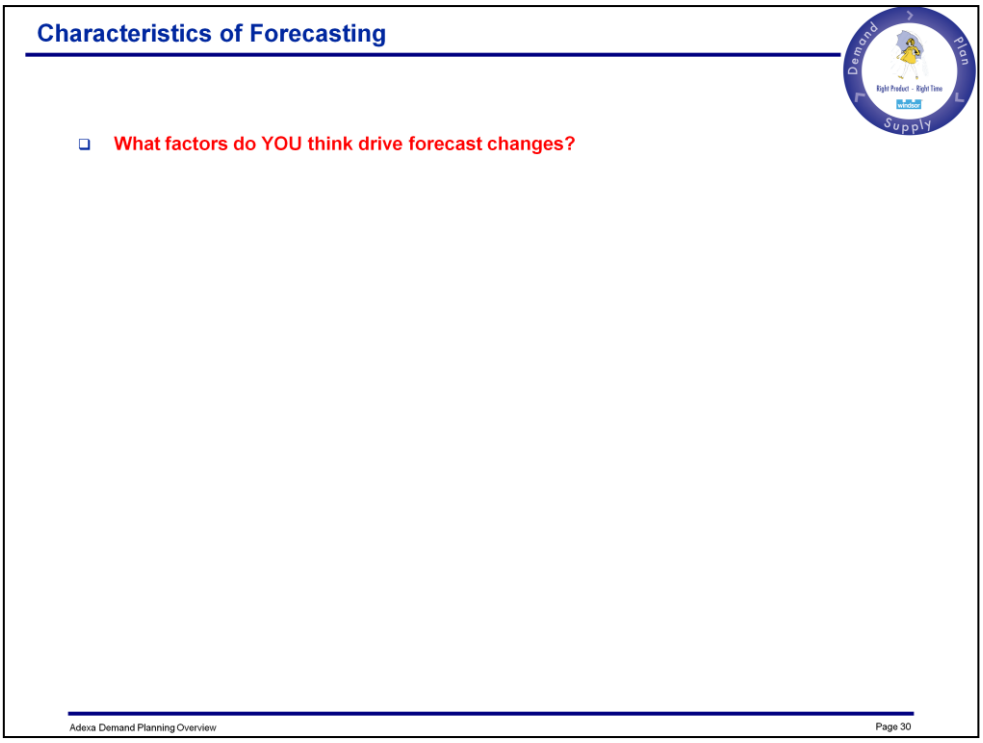
Characteristics of Forecasting

Characteristics of Forecasting

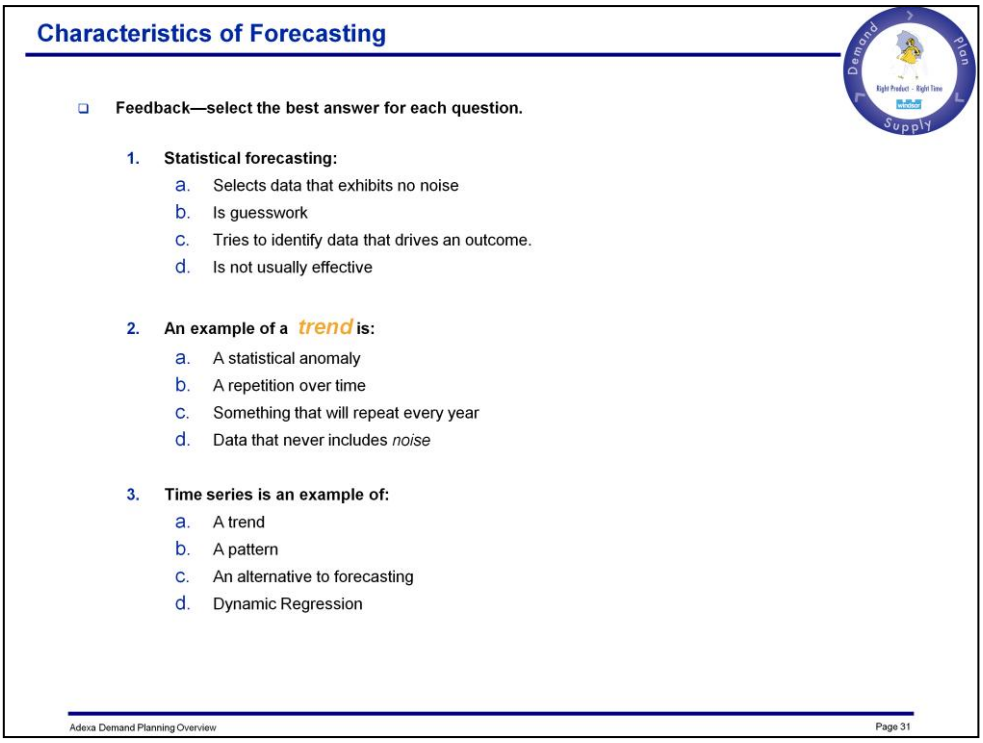
- **At the end of this section, you will be able to:**
  - Explain forecast accuracy constraints
  - Explain how trends affect forecasts
  - Explain how bias affects a forecast
  - Describe factors that drive forecast changes

Characteristics of Forecasting

- **What are the characteristics of forecasting**
  - **Statistical forecasting uses the *past* to predict the *future***
    - Since the sun rose yesterday, we can forecast that it will rise tomorrow.
    - Since we sold 2 tons of rock salt last January, we can forecast that we will sell 2 tons next January.
  - **Forecasting identifies *trends*, *patterns*, and business events that affect or *drive* the data.**
    - A trend is a long-term movement in an ordered series, say a time series, which may be considered, together with any *noise* variations, to have generated the observed values.
      - Trends can be cyclical or seasonal, for example.
    - A pattern is groups of measurements or observations.
      - Statistical pattern recognition assumes that the patterns are generated by a probabilistic system.



Collect answers on flip chart



Go over answers. This is your opportunity to clarify, to verify that everyone gets it, to eliminate misconceptions.

Statistical forecasting:

Selects data that exhibits no noise

Is guesswork

Tries to identify data that drives an outcome.

Is not usually effective

An example of a *trend* is:

A statistical anomaly

A repetition over time

Something that will repeat every year

Data that never includes *noise*

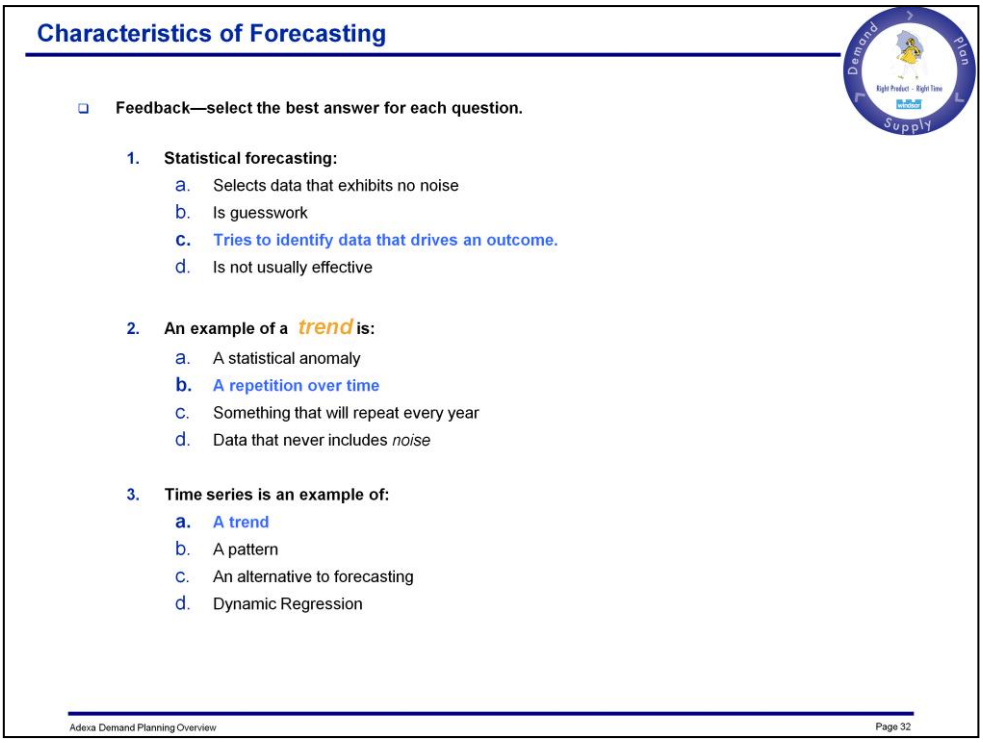
Time series is an example of:

A trend

A pattern

An alternative to forecasting

Dynamic Regression



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Something that will repeat every year

Data that never includes *noise*

Time series is an example of:

A trend

A pattern

An alternative to forecasting

Dynamic Regression

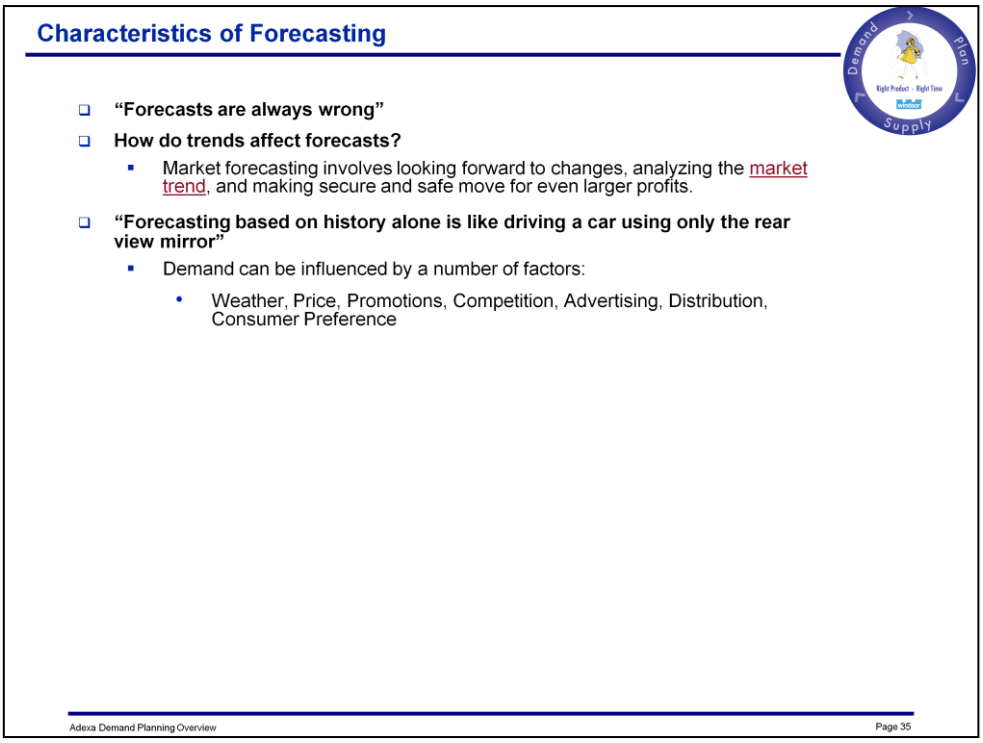
Characteristics of Forecasting

- **Is statistical forecasting necessary?**
  - Yes, statistical forecasts are still needed as a **reference** or starting point
  - Statistical forecasts can be a **sanity check** for bias in other forecasts
  - Products that are mature with stable demand patterns can be forecasted statistically
  - An exception based process can detect when intervention is required

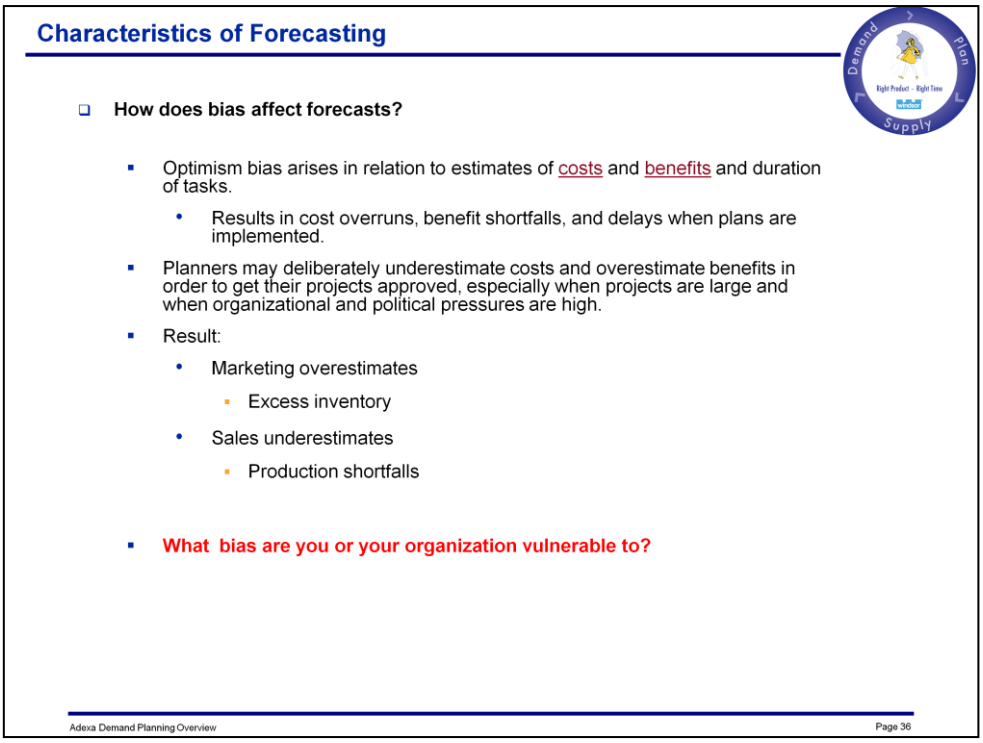
- **It tests for reasonableness using mathematical formulas such as:**
  - *Exponential Smoothing*--used to account for level, trend, and seasonality.
  - *Box-Jenkins* Methodology--used to propagate historical patterns into a future time series.
  - *Simple Moving Average* --specifically designed to deal with short-term and variable data that includes a lot off extraneous noise.
  - *Dynamic Regression*--although complex, used where an independent variable (such as increase in advertising budget) heavily influences the data.

Characteristics of Forecasting

- **What are Forecast Accuracy Constraints?**
  - Insufficient information
    - Lack of formalized production capacities
    - Unreliable inventory data
  - Reactive decision making
    - Customer priorities drive production
    - Plants frequently adjust production causing loss of efficiency
  - Uncontrollable events
    - Impact of short lead time orders
    - Production schedule emergencies



Engage participants in discussion about forecasts.



Engage participants in discussion about bias. This is important because their bias can *really* mess up the utilization of the forecast. They need to understand that they HAVE a bias and need to work at not letting it affect their forecast.

Characteristics of Forecasting

- **Feedback—select the best answer for each question.**

1. **Bias affects forecasts by:**
   a. Creating excess inventory
   b. Creating production shortfalls
   c. Creating cost overruns
   d. All of the above

2. **Demand may be influenced by:**
   a. Weather, Price, Promotions
   b. Production capacity
   c. Inventory levels
   d. Bias

3. **An example of a forecast accuracy constraint is:**
   a. Formalized production capacities
   b. Reliable inventory data
   c. Insufficient information
   d. All of the above

Go over answers. This is your opportunity to clarify, to verify that everyone gets it, to eliminate misconceptions.

Bias affects forecasts by:

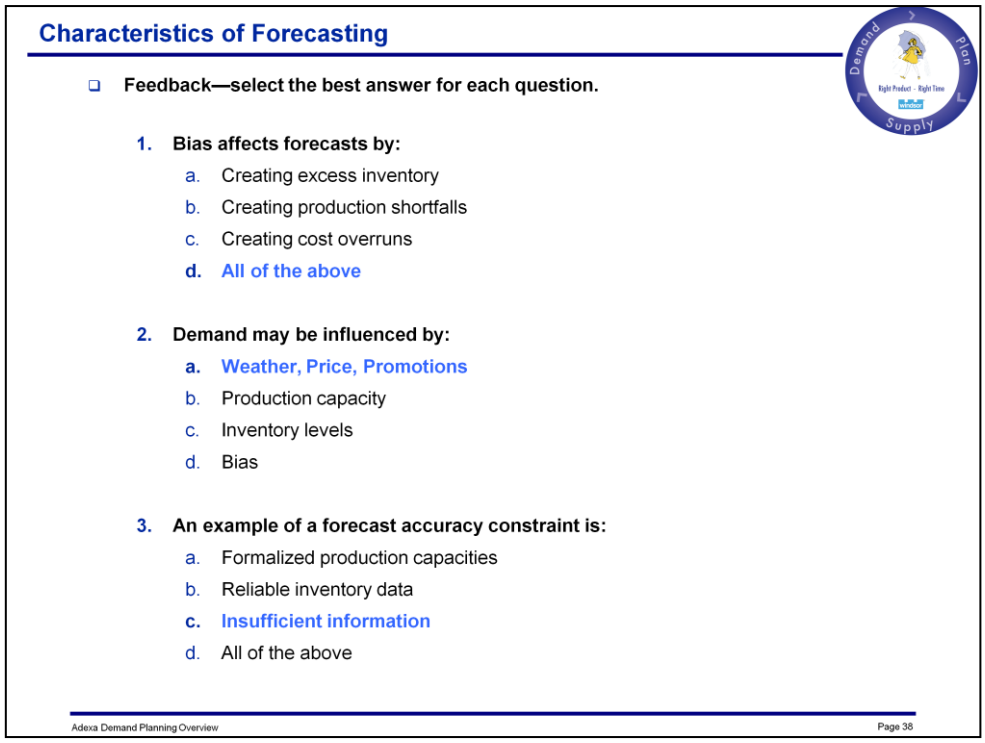
Creating excess inventory
Creating production shortfalls
Creating cost overruns
All of the above

Demand may be influenced by:

Weather, Price, Promotions,
Production capacity
Inventory levels
bias

An example of a forecast accuracy constraint is:

Formalized production capacities
Reliable inventory data
Insufficient information
All of the above



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Bias affects forecasts by:

Creating excess inventory

Creating production shortfalls

Creating cost overruns

All of the above

Demand may be influenced by:

Weather, Price, Promotions,

Production capacity

Inventory levels

bias

An example of a forecast accuracy constraint is:

Formalized production capacities

Reliable inventory data

Insufficient information

All of the above

Characteristics of Forecasting

- **Follow the instructions below, and perform the Knowledge Review for Section 2: Characteristics of Forecasting.**

If you… ▪feel that you understand the concepts and can meet the objectives	then… ▪write your initials in the Initials box on the Knowledge Review form
Otherwise, if you… ▪feel that you do NOT understand the concepts and can NOT meet the objectives being taught	then… ▪leave the initial box blank ▪draw a line though the concept or objective that is unclear ▪meet with the trainer during break or at the end of class ▪initial only after assistance from the trainer, which may occur within weeks after the class

Benefits of Collaborative Demand Planning

Benefits of Collaborative Demand Planning

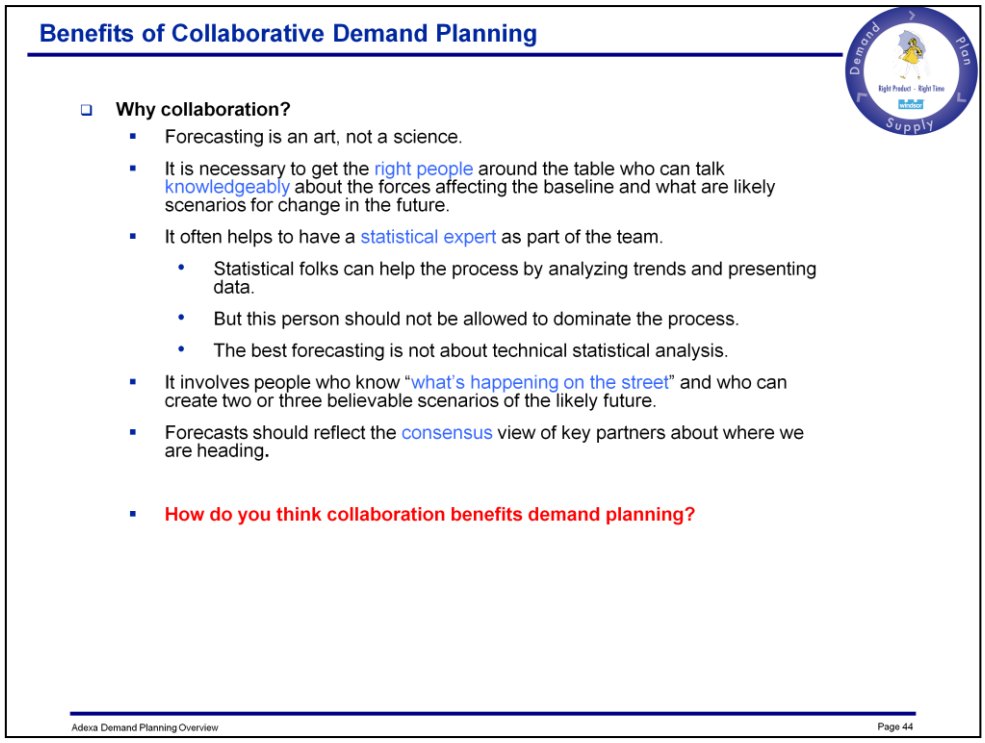
- **At the end of this section, you will be able to:**
  - Explain how an accurate demand forecast drives production and inventory.
  - Explain how collaboration improves a forecast

Benefits of Collaborative Demand Planning

- **Demand Planning is a process of managing various sources of information and groups to arrive at plans for future demand of our products**
  - It is proactive versus reactionary
  - It is the "signal" that drives Supply Planning
  - It can improve accuracy of forecasts
    - Appropriate inventory levels
    - Increase customer service
  - It can enhance the financial projection

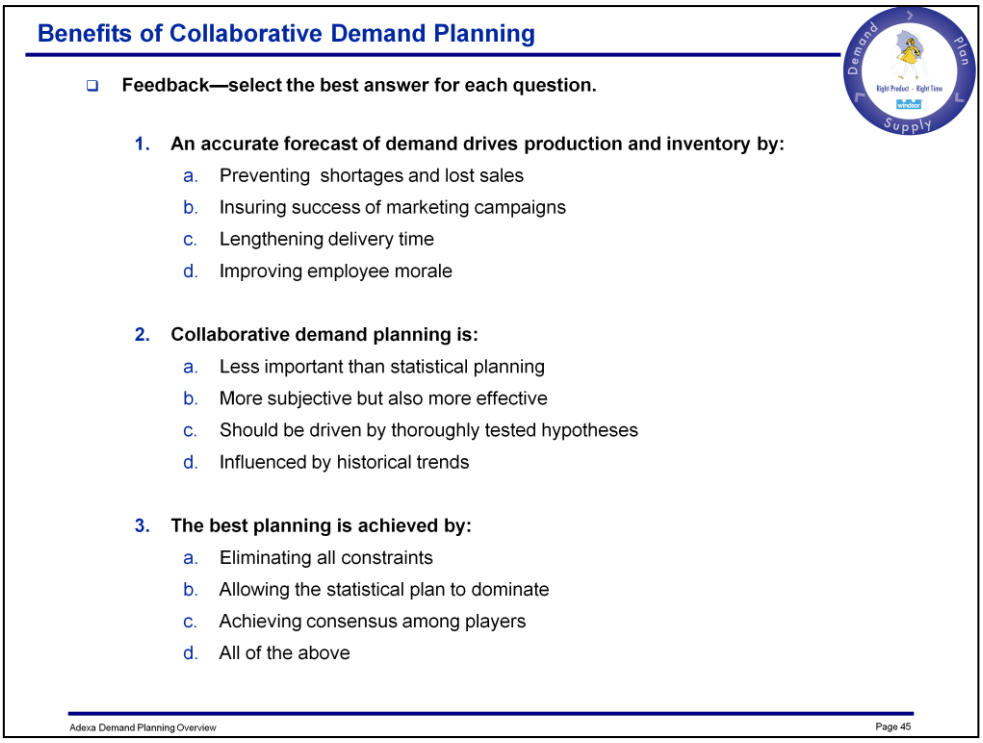
Benefits of Collaborative Demand Planning

- **How does an accurate demand forecast drive production and inventory?**
  - Regardless of your manufacturing model, you need to know -- accurately and quickly -- what your customers want.
    - Forecast too low and you'll have shortages and lost sales.
    - But predict a high demand that doesn't materialize and you're stuck with excess inventory, idle lines, and damaging write-offs.
    - Forecast accuracy is determined by input from internal and external stakeholders, along with historical demand-trend data.
  - Demand Planning is the process in which companies are able to forecast into the future to determine what future demands may be.
    - This is important to businesses due to the fact that it enables them to be sufficiently prepared and ready, in terms of inventory, for their customers.
  - Customer-focused businesses need an accurate picture of demand to drive production, inventory, distribution, and buying plans across their operations.
    - These challenges are intensified by the effects of seasonality, promotions, and product proliferation,



Engage participants in discussion and capture answers on flip chart.

Emphasize role of sales force as Salt Group's face to the outside world – Expectation that you bring knowledge to your forecaster



Go over answers. This is your opportunity to clarify, to verify that everyone gets it, to eliminate misconceptions.

An accurate forecast of demand drives production and inventory by:

Preventing shortages and lost sales

Insuring success of marketing campaigns

Lengthening delivery time

Improving employee morale

Collaborative demand planning is:

Less important than statistical planning

More subjective but also more effective

Should be driven by thoroughly tested hypotheses

Influenced by historical trends

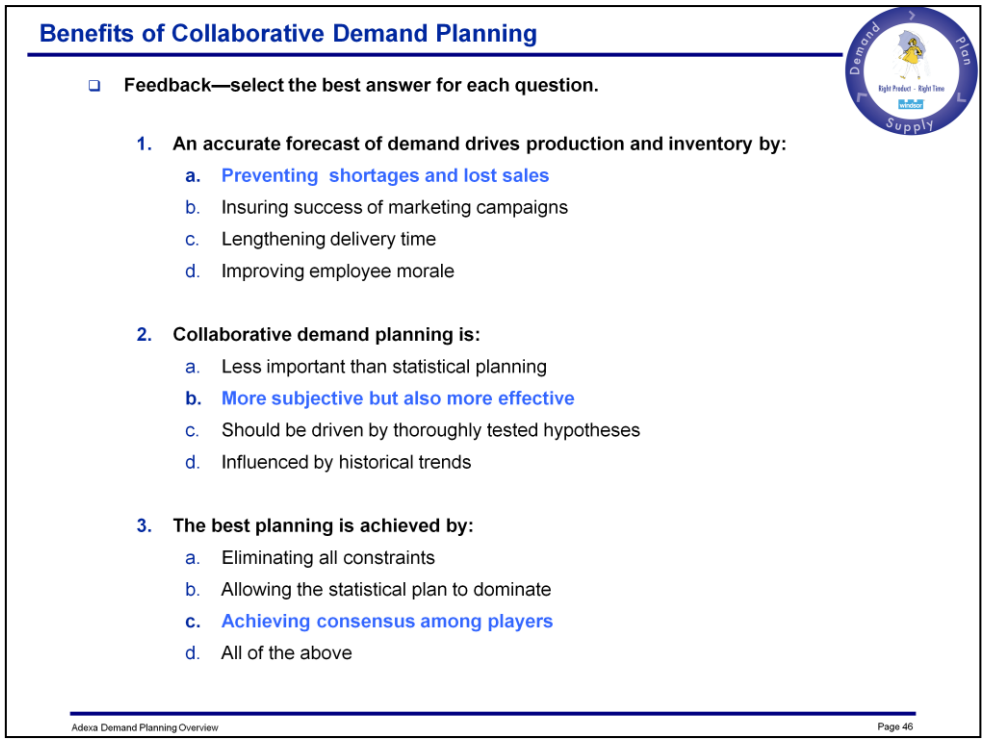
The best planning is achieved by:

Eliminating all constraints

Allowing the statistical plan to dominate

Achieving consensus among players

All of the above



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The best planning is achieved by:

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Allowing the statistical plan to dominate

Achieving consensus among players

All of the above

Benefits of Collaborative Demand Planning

- **Follow the instructions below, and perform the Knowledge Review for Section 3: Benefits of Collaborative Demand Planning.**

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Adexa Data Organization

Adexa Data Organization

- **At the end of this section, you will be able to:**
  - Explain a cube
  - Explain measures
  - Explain dimensions
  - Explain filters
  - Explain a view
  - Explain how one's **role** affects what one can see and do in Adexa
  - Use Adexa terminology (notes, alerts, tasks) to describe how Adexa facilitates collaborative demand planning.

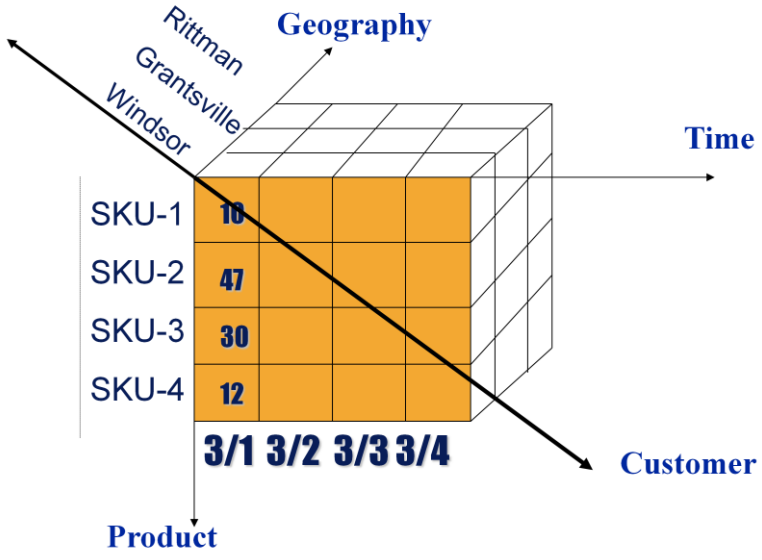
Adexa Data Organization

- Adexa organizes data to facilitate demand planning
  - Data is organized into ***views*** based on a multi-dimensional CUBE.
  - Dimensions selected for the rows and columns create the basic structure of the view.
    - ***Dimensions*** are characteristics such as
      - Customer
      - Product
      - Date
  - Data is dynamically displayed depending on the dimensions
    - Data is called ***Measures***
      - Tons of salt forecast
      - Number of sales professionals
      - Number of days
  - Filters
    - ***Filters*** allow you to hide extraneous data.
    - For example, you may be only interested in one customer.

Make point that this database relates to future, whereas other databases are history

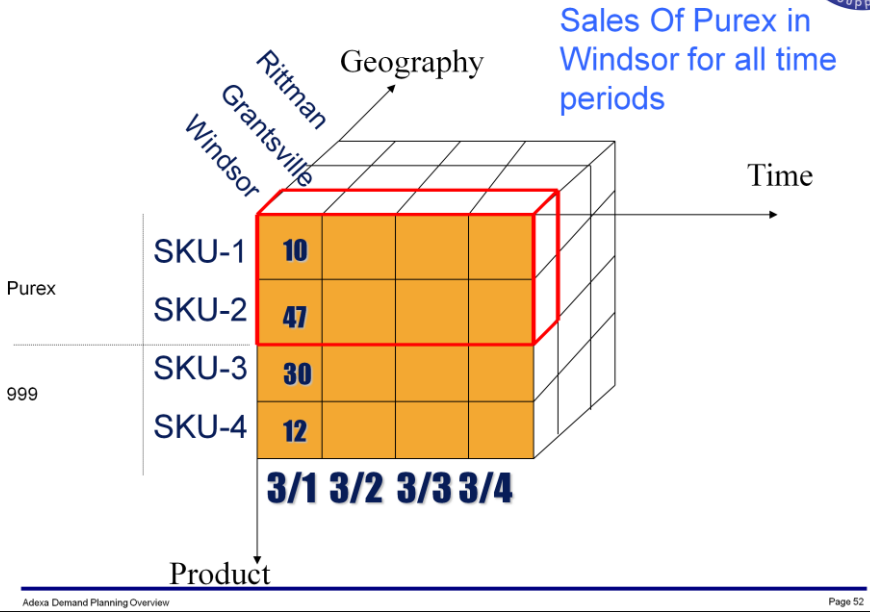
Adexa Data Organization

- Below a cube shows sales volume (a measure) as a function of time (dimension), location (dimension), and product (dimension)

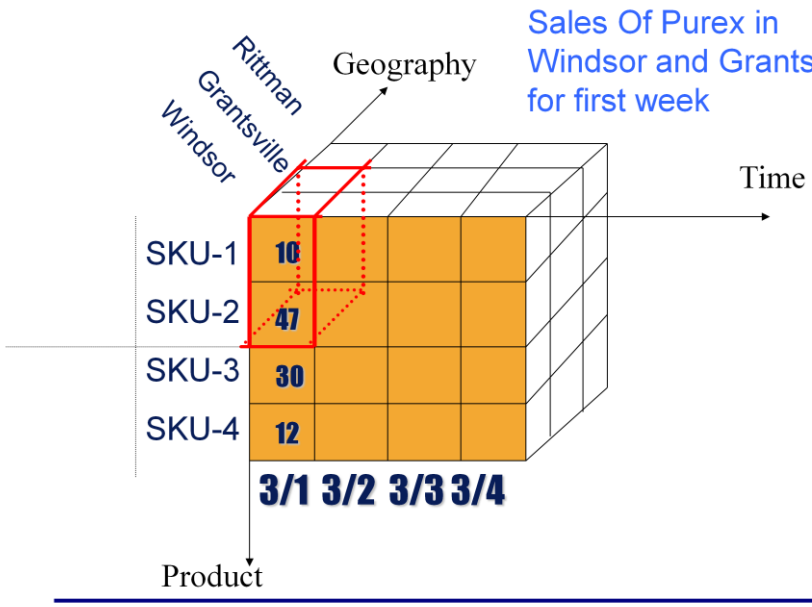


Adexa Data Organization

- Adexa facilitates sub-categories also

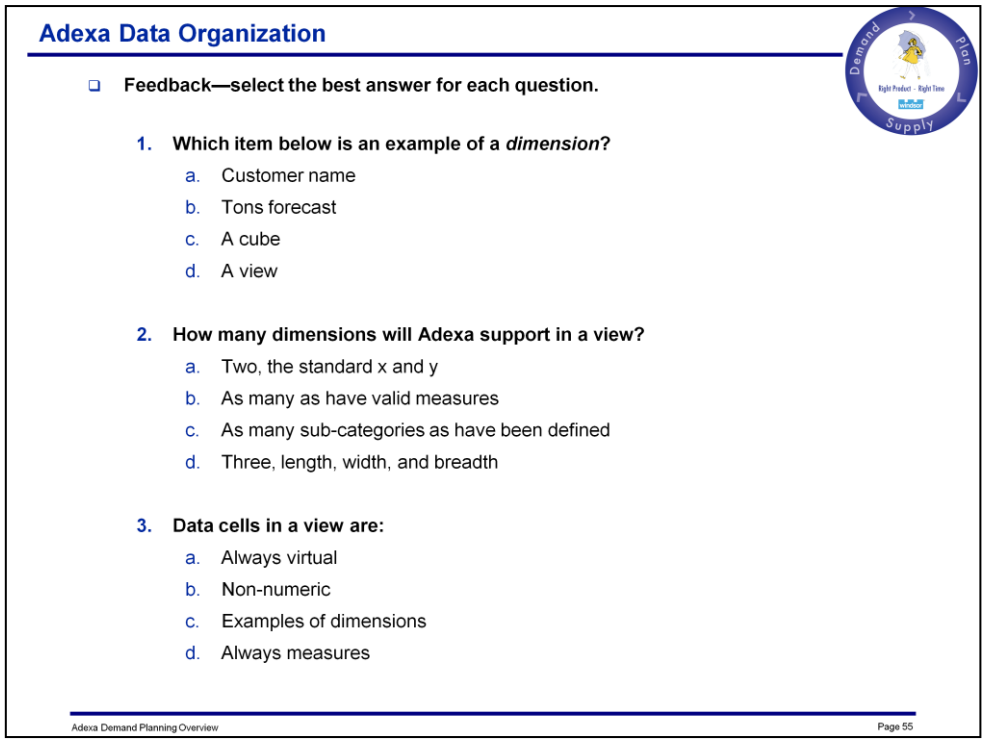


Adexa Data Organization



Adexa Data Organization

- **Adexa system structure**
  - Data organization permits grouping or summarizing data in a myriad of ways.



Go over answers. This is your opportunity to clarify, to verify that everyone gets it, to eliminate misconceptions.

Which item below is an example of a *dimension*?

Customer name

Tons forecast

A cube

A view

How many dimensions will Adexa support in a view?

Two, the standard x and y

As many as have valid measures

As many sub-categories as have been defined

Three, length, width, and breadth

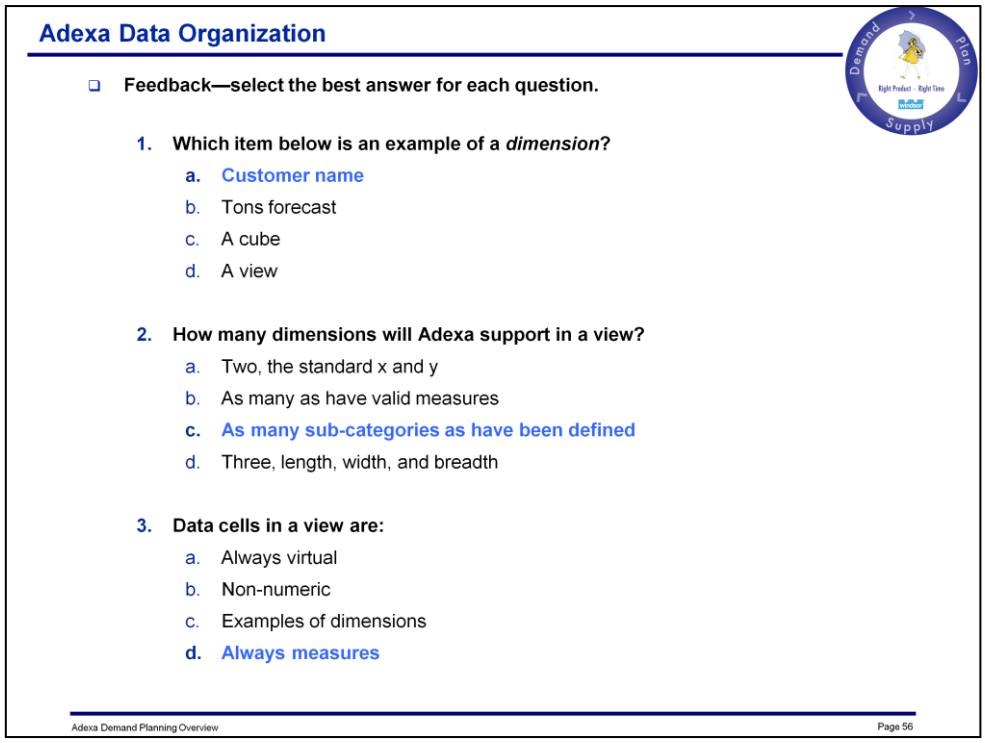
Data cells in a view are:

Always virtual

Non-numeric

Examples of dimensions

Always measures



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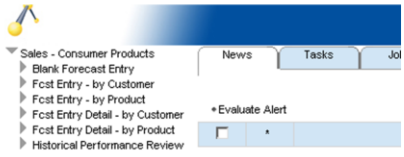
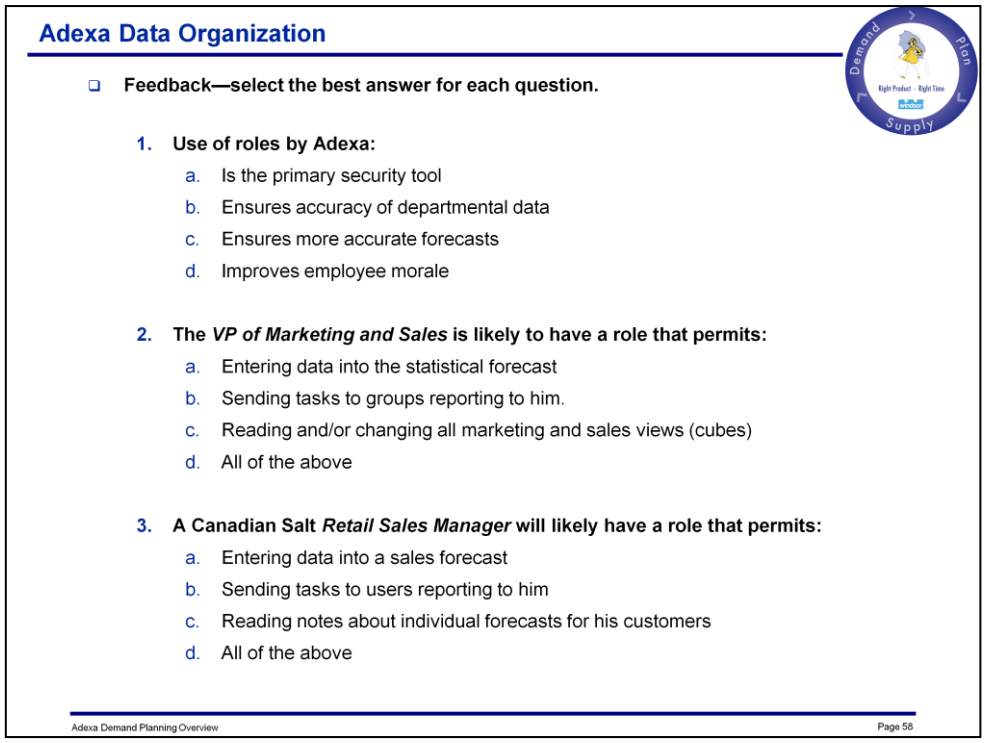
Always measures

Adexa Data Organization

- **Security is achieved by assigning *Roles***
  - Determined by Salt's business rules
  - Users interact with Adexa based on their ***Role***
    - Some roles can only read but not edit
    - Some roles can view detailed data from one view but only general data from another view
    - Some roles can administer security
    - Some system buttons will not be visible to certain roles
  - Here, User 1 only has access to **Industrial Sales** while User 2 only has access to **Consumer Products.**





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Use of roles by Adexa:

Is the primary security tool

Ensures accuracy of departmental data

Ensures more accurate forecasts

Improves employee morale

The *VP of Marketing and Sales* is likely to have a role that permits:

Entering data into the statistical forecast

Sending tasks to groups reporting to him.

Reading and/or changing all marketing and sales views (cubes)

All of the above

A Canadian Salt *Retail Sales Manager* will likely have a role that permits:

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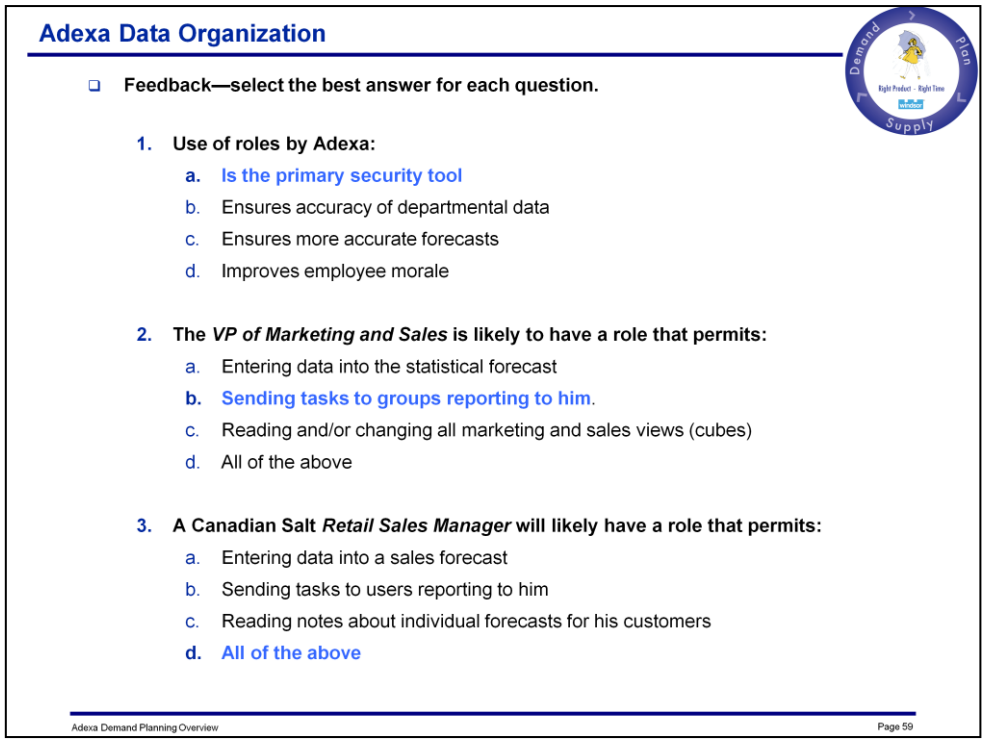
Sending tasks to users reporting to him

Reading notes about individual forecasts for his customers

All of the above



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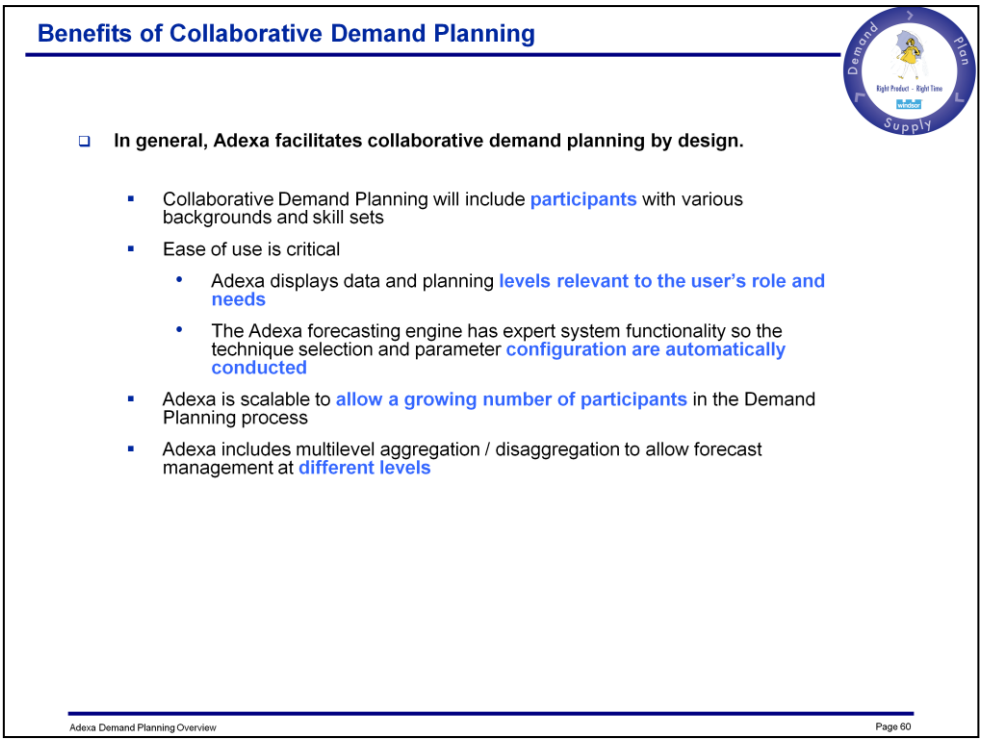


Aggregation/disaggregation – sub-categories, rolling up or down, i.e.,

consumer products can ***dis***aggregate into

bulk ice

food process

grocery

non-food

Benefits of Collaborative Demand Planning

- **It specifically facilitates communication with:**
  - **Notes**—to communicate to individuals or groups
  - **Alerts**—to bring a situation to the attention of an individual, a group, or yourself
  - **Tasks**—to assign a task to yourself, an individual, or a group

Benefits of Collaborative Demand Planning

- **Notes**
  - You can attach a note to any cell (piece of data) and send it to a specific user or all users in a role.
  - For example, you can attach a note indicating that the data for the cell will be two weeks late.
  - Notes can be viewed from your home page.
  - You can search for notes in any view.

Benefits of Collaborative Demand Planning

- **Alerts**
  - Alerts are how Adexa reports violations when cell values meet one of eight conditions such as above a threshold, not equal to, or rejected by any business rule.
  - Alerts sent to you appear in your personal notice board. You can click the icon to view it on your message board and view comprehensive information about the alert on the Alert Details Page.
  - **What alerts would your and your organization like to receive?**

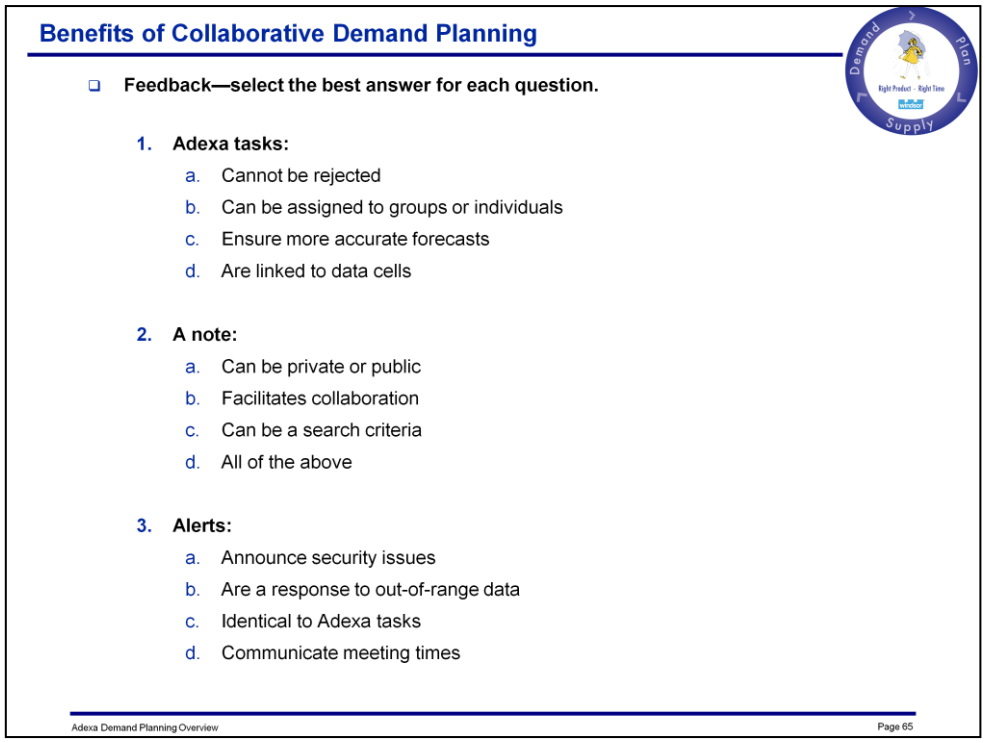
Engage participants in discussion, and collect answers on flip chart

Benefits of Collaborative Demand Planning

- **Tasks**
  - Tasks can be assigned to any user or group of users (role).
    - **E.g., as a reminder that data is ready to be used in a forecast.**
  - The user completing the task will mark it complete
  - Tasks may trigger execution of an Adexa job.
  - You can assign tasks to yourself.
  - You can reject a task.

- **When might YOU want to create a task? Who would you give it to?**

Engage participants in a discussion, and capture answers on flip chart.



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Adexa tasks:

Cannot be rejected

Can be assigned to groups or individuals

Ensure more accurate forecasts

Are linked to data cells

A note is:

Can be private or public

Facilitates collaboration

Can be a search criteria

All of the above

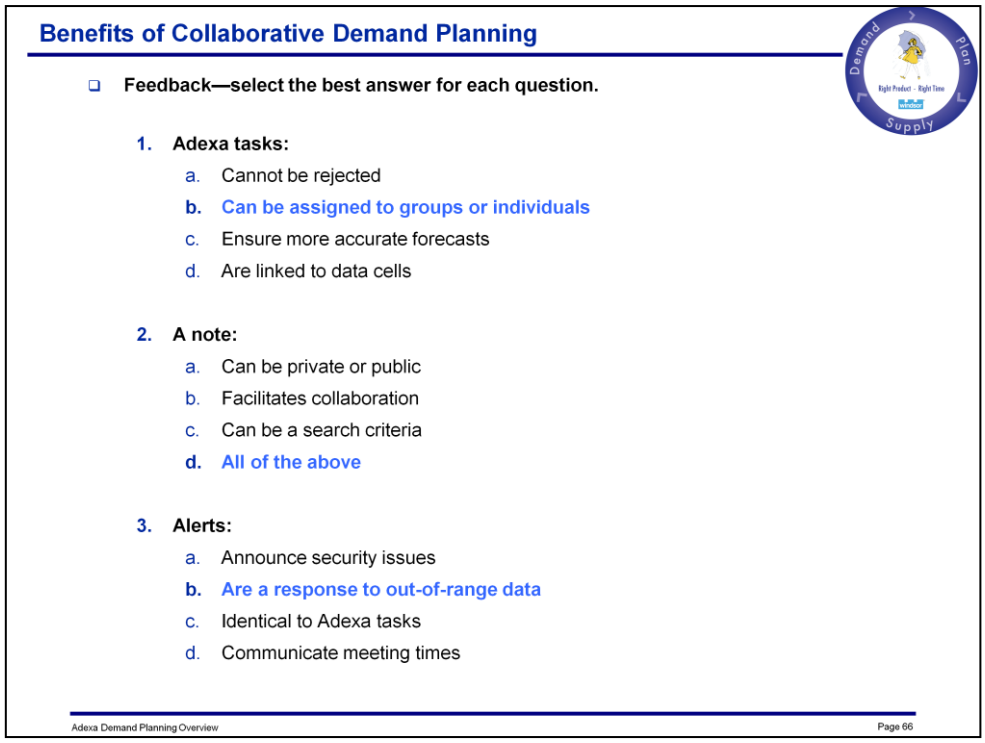
Alerts:

Announce security issues

Are a response to out-of-range data

Identical to Adexa tasks

Communicate meeting times



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Adexa Data Organization

- **Follow the instructions below, and perform the Knowledge Review for Section 4: Adexa Data Organization.**

If you… ▪feel that you understand the concepts and can meet the objectives	then… ▪write your initials in the Initials box on the Knowledge Review form
Otherwise, if you… ▪feel that you do NOT understand the concepts and can NOT meet the objectives being taught	then… ▪leave the initial box blank ▪draw a line though the concept or objective that is unclear ▪meet with the trainer during break or at the end of class ▪initial only after assistance from the trainer, which may occur within weeks after the class