Driving the Dairy Supply Chain

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LOGILITY   Halo   NGC   Demand Solutions

Agenda

► Who is Tillamook

► Growth Footprint

► Supply Chain Evolution

► Business Drivers – Goals and/or Challenges

► ROI

► Demand Planning

► Inventory Planning

► Replenishment Planning

► Manufacturing Planning

► What's Next

► Q&A

Tillamook Overview

Elaine Videau

Sr. Planning Manager
Tillamook

Who is Tillamook

► Tillamook County Creamery Association ("TCCA") was founded in 1909 as a farmer-owned cooperative that manufactures and sells dairy products under the Tillamook brand name.

► TCCA is currently made up of nearly 90 farming families, primarily based in Tillamook County, Oregon.

► Key customers:

► We are represented in all channels; Retail, club, food service and are launching a deli program this year

Growth Footprint

► **Primarily west of the Rockies through 2016 with all categories**
  - <$800M in Sales

► **2017-Limited national distribution in Club**
  - $800 M in Sales

► **2018-Cheese launched nationally with major retail chains**
  - $1 Billion in Sales
  - 3 new distribution points for cheese

► **2019-Ice Cream launched nationally with major retail chains and Cheese continues to grow with expanded and new distribution**
  - $1.4 Billion expected in Total Sales
  - 1 new distribution point for Ice Cream on East Coast
  - Increase in Ice Cream sales by 25% year over year
  - 2-4 Million gallon incremental increase
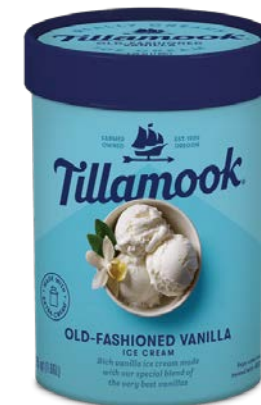
Supply Chain System Evolution

▶ Before Logility, Planning and Purchasing took place in Excel

▶ Planning and Purchasing functions were isolated to Supply Chain
- No external conversation with sales or finance
- No involvement in budgeting process

▶ DP, IP and RP launched in 2015

▶ MP went live January of 2016
- Currently using DP through MP with all internal manufacturing
- Currently using DP through RP with all external manufacturing and distribution points

Business Drivers – Goals

► In the past, each team would provide its own numbers/data which could conflict with another department's data.

► Today, everyone pulls their information from Logility– delivering consistent, fact-based data to drive decision making.

  ▪ When Brad's up he will discuss One Forecast

► We are better able to utilize the data in front of us, focus on the big issues, and satisfy the corporate goals to deliver exceptional product quality and service.

► We credit a portion of this success to Logility Certification Programs and on-site training from the Logility team

  ▪ The Planning team has developed internal cross training programs for DP, IP, RP and MP to support bench building and enhance deliverables and reduce coverage exposure risk long term

Business Drivers – Challenges

► Manufacturing in multiple locations with many distribution points, visibility into demand, supply and inventory are critical to the successful execution of Tillamook's goals

- 65% of total cheese sales are Sharp or Extra Sharp requiring 9-24 months of aging from production to customer shipments

- Requiring long range plans that support an aggressively expanding business

► When new or expanded distribution opportunities materialize, for example, Tillamook must have the inventory available to meet customer expectations

- Company wide fill rate objective of 99%

► As we continue to grow and expand as a brand, the ability to consistently meet or exceed expectations is a requirement to continue to achieve the company's growth aspirations

- On time expectation of 95% or above

► Expanded and increased distribution with short lead time

- Lead time off-set from order to shipment from West Coast of 3 days to allow for transit time to east coast

ROI

▶ Forecast Accuracy

- Forecast accuracy increased from 70% to demonstrated 80-85%

▶ Fill Rate

- Fill rate increased from 95-96% to demonstrated 98-99%

▶ Reduced Inventory finished goods and block

- Decreased finished goods inventory for cheese from 8+weeks target to 2-4 weeks target

- Increased visibility and transparency of demand and inventory needs

- Decreased swing in short term and long-term cheese to age needs

- Met all inventory target expectations in 2018

▶ Reduced Spoilage and Obsolescence

- Annual savings of $2.6M in reduced spoils vs prior years over 2017-2018-time frame

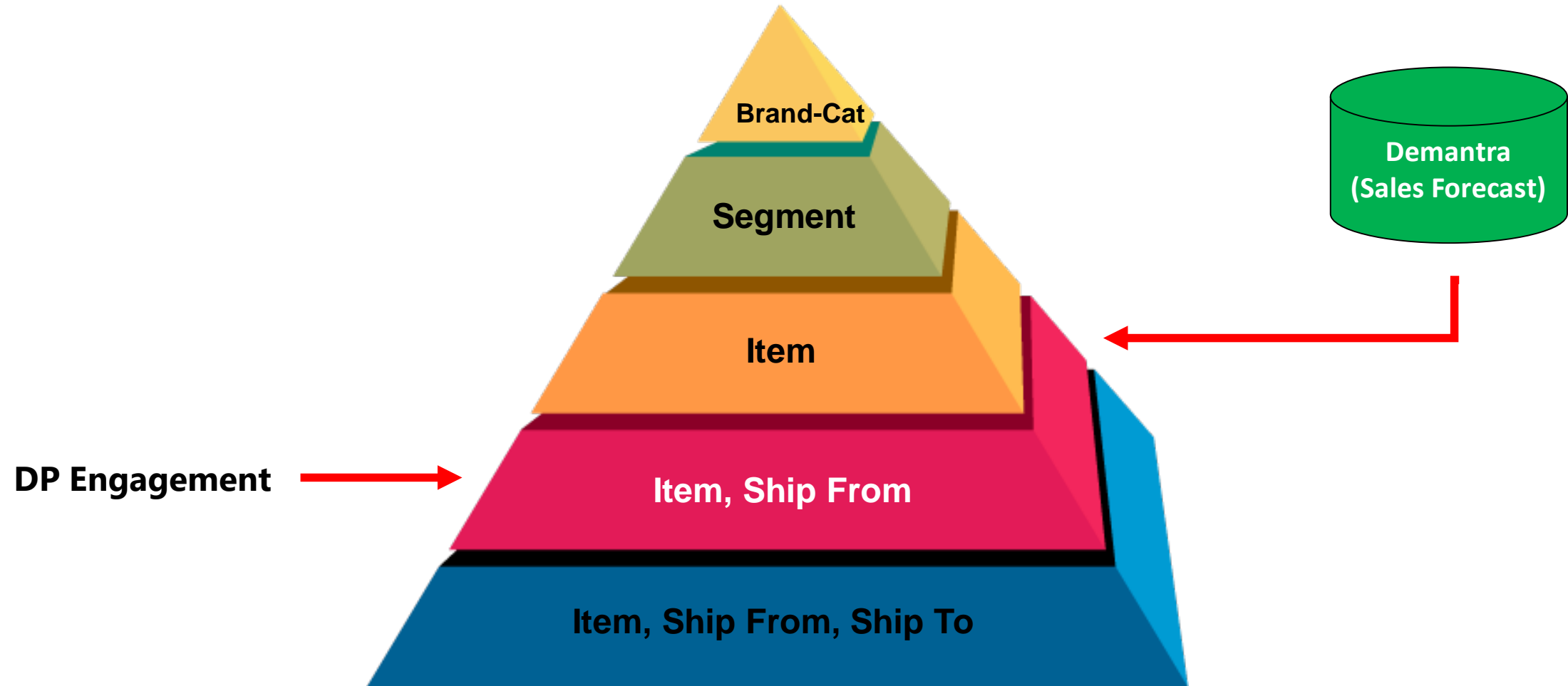- Decreased obsolescence of finished goods and ingredients and packaging
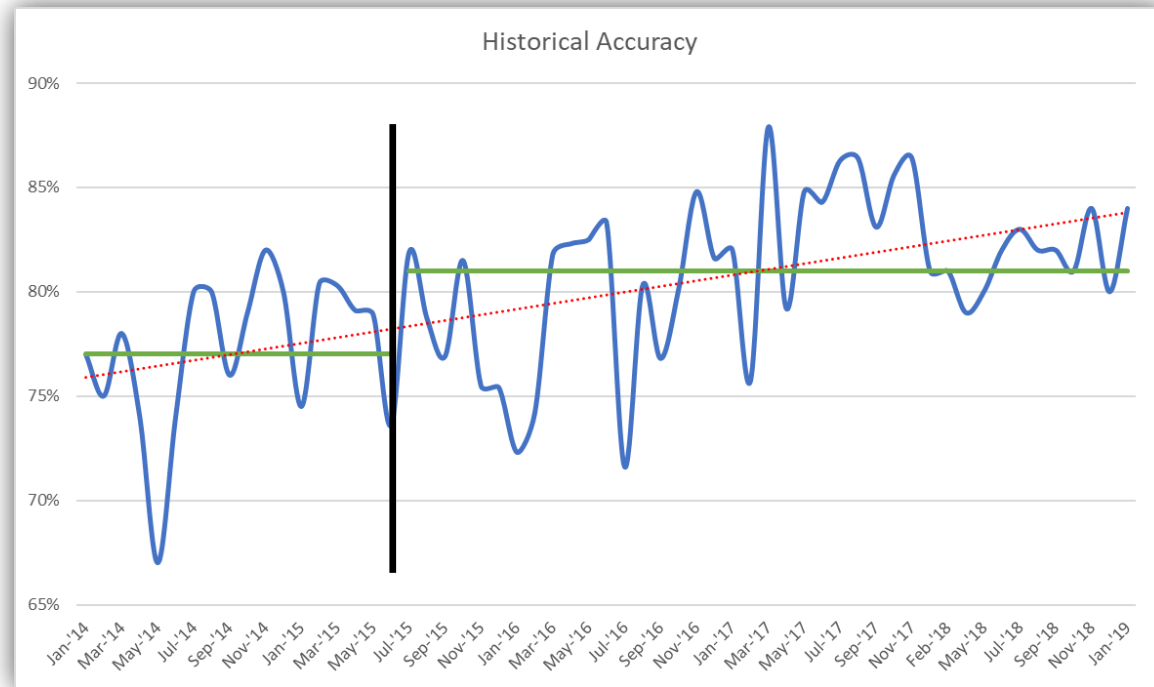
Tillamook

Demand Planning

Brad Blasi

Demand Planning Manager
Tillamook

Tillamook's Pyramid

Velocity

Brand-Cat

Segment

Item

Item, Ship From

Item, Ship From, Ship To

DP Engagement

Demantra
(Sales Forecast)

Tillamook

Evolution

► Planning in Excel

► Forecast Error

Historical Accuracy

► Lack of Collaboration

What's Next?

► Set for rapid growth east of the Rockies

► New customers and new distribution points

Inventory Planning

Tom Moullet

Planning Manager
Tillamook

Inventory Planning – Inventory Targets

► Finished Good inventory targets based on # Days of Supply using Logility IP

  ▪ Replenishment Planning plans production, purchase, and transfer orders to cover standard lead time

► Block inventory for aging is where it gets interesting

  ▪ Example 1 – Yellow Medium Cheddar – Age: 60 days

Month	1	2	3	4	5	6	7	8	9	10	11	12
Forecast	50	50	50	50	50	50	50	50	50	50	50	50
Inventory - Aging	50	100	100	100	100	100	100	100	100	100	100	100
Inventory - FG	50											

  ▪ Example 2 – Vintage Extra Sharp White – Age: 730 days

Month	1	2	3	4	5	6	7	8	9	10	11	12
Forecast	50	50	50	50	50	50	50	50	50	50	50	50
Inventory - Aging	1150	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Inventory - FG	50											

Inventory Planning – 2 Year vs 18 Month Cheese

► What happens when you don't put away enough cheese to age?

- Tillamook experienced a shortage of 2 year cheese due to gap in available aged cheese due to lack of communication between sales and planning regarding potential upcoming opportunities

- As a result, Tillamook added a new "limited edition" SKU for 18 month cheese
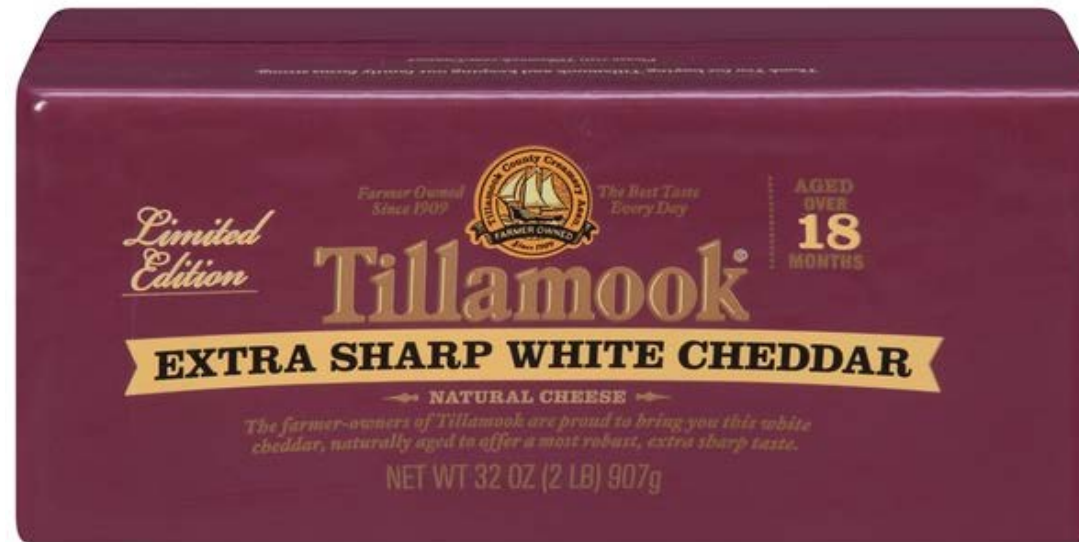
Inventory Planning – Inventory Set Aside Business Improvement

► New Cheeses and New Initiatives/Sales Programs require cheese to be planned outside of Logility Demand Planning due to:

- Unknown Customers

- Unknown Ship-From Location

- Unknown Finished Good

- Unknown Packaging/Conversion location

► Supply Planning maintains a list of all future, un-forecasted (in Logility Demand Planning) opportunities to manually add to our production schedule

► Set Aside List is review with leaders from Sales and Category Management on a monthly cadence

Inventory Planning – Seasonality Builds 1

► Ice Cream

  ▪ Seasonal product

  ▪ Constraints require utilizing Logility Inventory Planning Seasonal Build:

    ► Machinery Capacity

    ► Cream Supply

    ► Freezer effectiveness during the summer months
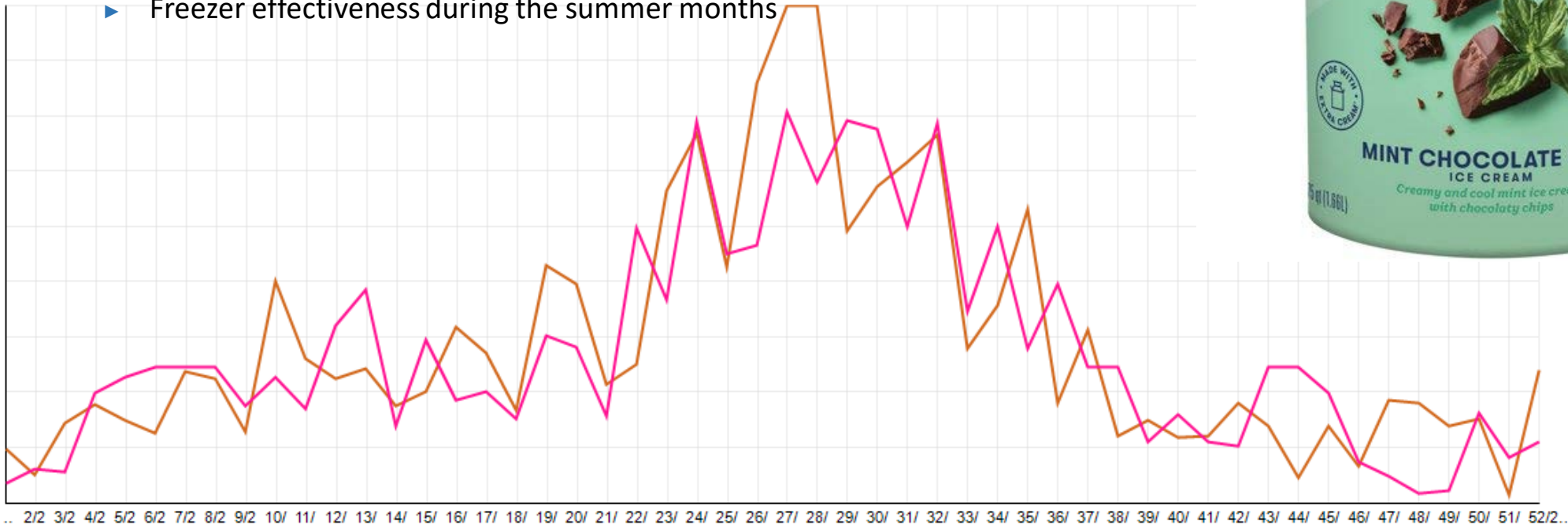
Inventory Planning – Seasonality Builds 2

► Strategy:

- Need to level load production and maintain service levels throughout summer

- Ramp up to holding 2x forecast in Late Winter, Early Spring, hold through summer

- After inventory is accumulated, the build factor is "flattened" to hold the build quantity through summer months

Chart | Detail Data

Descriptive	Inventory Build	Replenishment Controls	Inventory Status	Inventory Movement	Order Quantity	Safety Stock	Reorder Pt/ Inv Std	Stochastic

Entire Key: 67003 WHSE050 - AMC   Description: 6-1.75 QT CARAMEL BUTTER PECAN

Build Method: Factor Forecasts ∨ D

Build Min Max Type: No Calculation ∨ 2   Build Minimum : 0

Build Min Max Inhibit : Not Inhibited ∨ 2   Build Maximum : 0

Seasonals

Period 1	2	3	4	5	6	7	8	9	10	11	12	13
Factor 0.0	0.2	0.4	0.6	0.8	1.0	1.2	1.4	1.6	1.8	2.0	2.0	2.0

Period 14	15	16	17	18	19	20	21	22	23	24	25	26
Factor 2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0

Period 27	28	29	30	31	32	33	34	35	36	37	38	39
Factor 2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0

| Period 40	41	42	43	44	45	46	47	48	49	50	51	52
Factor 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Total :59.0 3

Inventory Planning – Moving Production Between Multiple Plants

► Two manufacturing points which have similar capabilities; however each finished good is produced only at a single location

► Very easy to move volume from one plant to another to balance volume in Inventory Planning vendor settings: Mass Maintenance or SSI

► Challenge: unable to "time phase" the vendor to change planned orders in the future with IP/RP. Future planned order changes are "simulated" in spreadsheets when sending forecasts to production team/partners

Inventory Planning - Short Shelf Life Challenges

► Many items with Shelf Life over 6 months, however some items are more time sensitive

► Tillamook offers a "Guaranteed Shelf Life" to our customers

- Sour Cream   26 days to sell

- Colby Jack   90 days to sell

► Challenge:

- When the forecast is lowered or sales are soft; we now have too much FG

- What to do with anticipated Expiration product?

- How to react in time to produce again before expiration to ensure continuity of supply?
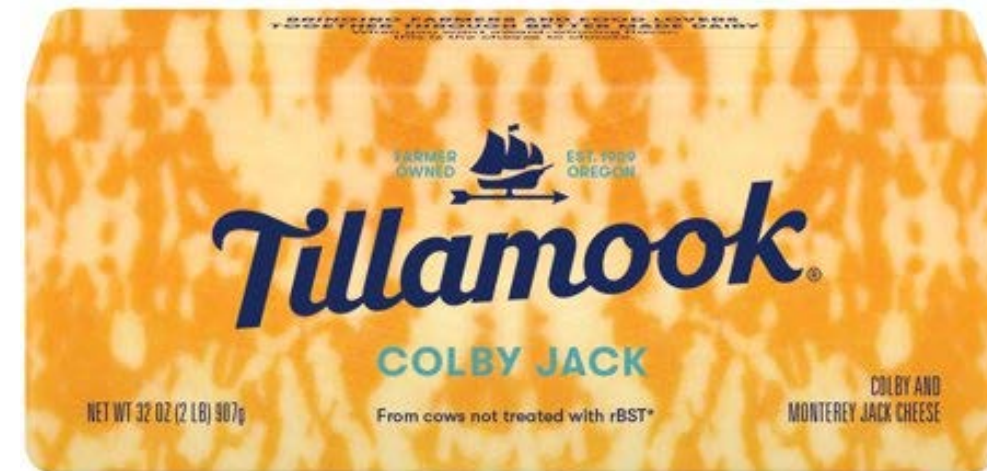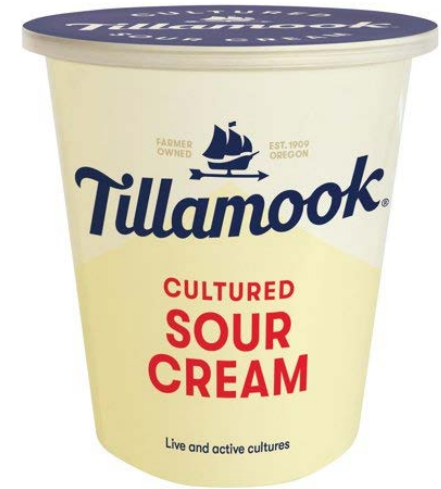
Manufacturing Planning

Elaine Videau

Sr. Planning Manager
Tillamook

Manufacturing Planning

► **Manufacturing Planning Finite Scheduling**

- Planning all Tillamook Ice Cream and Cheese finished goods production

    ► Our constraint based tools include allergen sequencing and change overs that utilize run rate rules with standard OEE

- Capacity Planning

- "What if" scenarios

- Budget Planning

- Capex improvement strategies

► **What's going on NOW with MP in 2019?**

- Adding costing to COGS to make CAPEX and what if scenarios more efficient

- MP Block Planning (Cheese Make finite scheduling)

    ► Currently doing cheese make planning in excel

    ► 65% of this inventory is cheese that will age 9 months to 2-8 years before conversion to finished goods

► **Business needs:**

- Planning **95 million pounds** of cheese inventory in excel has business risks

- Planning rules and tribal knowledge needs to be system driven

- Mass updates and reduced risk of error
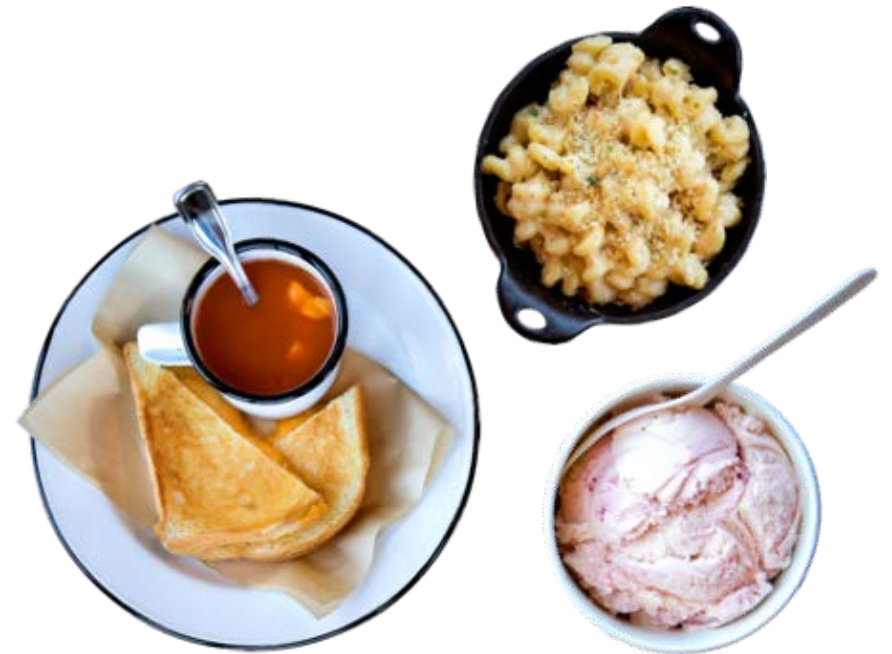
Replenishment Planning

Bryan Arneson

Sr. Purchasing Manager
Tillamook

How New Processes and Logility Addressed Business Drivers

► **How were we replenishment planning before Logility?**
  ▪ Tillamook planned all replenishment orders in Excel
  ▪ Manually created and executed in our ERP
    ► Prone to errors!
  ▪ All Procurement done in spreadsheets and reports from ERP
    ► Planning Availability reports, item-by-item review
    ► Safety Stock levels "maintained" in the head of our procurement specialist

► **Replenishment Planning allows us to**

  ▪ Focus on exceptions with Replenishment Alerts

  ▪ Reduce manual entry errors by releasing orders from RP and transact in ERP

All our problems were solved… RIGHT?

How New Processes and Logility Addressed Business Drivers

► **Challenges duplicating Tillamook's supply network in Replenishment Planning**

  ▪ Our cheese is warehoused throughout the Pacific Northwest to naturally age

    ► From two months to ten years

  ▪ Ideally, we would place the block nearest to our conversion locations based on long-range planning and forecast, however the single-source limitation in RP prevents working entirely within the RP module

    ► Aggregate Warehouse combines all these locations into one big cheese warehouse so…

    ► More spreadsheets(!) to "manage age"

    ► Conversion dating and proper rotation of blocks to ensure we convert the cheese within the optimal "cut days" and manage age of the subsequent finished goods

  ▪ Our ice cream is produced and immediately shipped to our outside distribution point because of space constraints

    ► Replenishment Planning does not handle the demand signal for components and as a result overstates demand which can lead to overstocked and expired ingredients

How New Processes and Logility Addressed Business Drivers

► **Challenges implementing a new ERP**
  ▪ In requirement gathering and solution verification we learned that SAP and Dynamics 365 could not fulfill our planning requirements (DP, IP, RP and MP)

► **Challenges duplicating Tillamook's supply network in Replenishment Planning**
  ▪ Bridge solution with new ERP

      ► We made a concerted effort to consider what the company needed but wasn't getting from RP
      ► We learned that we could make gains in some areas around product date codes
          • With this option we would lose forecast reduction and dynamic safety stock calculations

  ▪ Designed a model that combines features of RP and ERP master planning which carries us to the next step in our Logility path to Supply Planning

Future – What's Next

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Future – What's Next

- ▶ Interesting plans for future supply chain initiatives?

    - ▪ Roadmap to Logility Supply Planning

        - ▶ Business needs and increased execution was proven with removing RP and replacing with SP in the next phase of our technology roadmap (2020)

        - ▶ What's next based on software enhancement capabilities?

        - ▶ Supply Planning business improvements

            - Reduced touches
            - Reduced spoilage
            - Warehouse budget planning (currently done in excel)
            - Cheese make budget planning (currently done in excel)
            - Block movement (currently done in excel)

QUESTIONS?

THANK YOU

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