# A SMARTER WAY TO FORECAST

Intermittent SKUs

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PLANNING FOR A FLEXIBLE FUTURE

# WHAT IS INTERMITTENT DEMAND?

- When demand is not consistent in frequency
  - One or more periods with demand
  - Followed by one or more periods with no demand

# THEY LOOK LIKE THESE

## Intermittent



## Lumpy

# WHAT MAKES INTERMITTENT DEMAND DIFFICULT TO FORECAST?

- As the forecast gets smaller, accuracy suffers.
  - Regular smoothing algorithms are designed for continuous demand and faster movement.
  - You can't sell a partial unit of most items. (refers to forecast < 1)
  - Standard deviation (and thus, safety stock) overreacts.
- The variation in the demand pattern means that AES will respond too slowly to be effective.
  - For consistently-moving SKUs this slowness is a feature.

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# THERE ARE TWO THINGS GOING ON WITH THESE PATTERNS

- Inconsistent, but low, demand
- Varying spaces between the demand hits

Let's examine these patterns with this in mind.

# INTERMITTENT

- Inconsistent demand
- Varying spaces between the demand hits

# LUMPY

- (Wildly) Inconsistent demand
- Varying spaces between the demand hits

# SO WHAT IF WE TREATED THEM AS TWO DIFFERENT THINGS

- Demand hits with different values
- Varying spaces between the demand hits

## AND SMOOTHED EACH ONE SEPARATELY?

# WITH A SMOOTHED DEMAND VALUE AND A SMOOTHED SPACING

- The forecast could be calculated using the smoothed demand value TOGETHER WITH the smoothed spacing value.

- And that's what we do!

- We call this Intermittent Demand Forecasting (IDF)

# WHAT SHOULD YOU EXPECT?

- You should *NOT* expect a seismic shift in the forecast.
- You should expect more consistent safety stock.
  - Less overreaction to demand
  - So, generally speaking, lower standard deviation
- You should expect this to be easier to see for weekly SKUs.

# SO, WHAT DOES IT TAKE?

- Intermittent Demand Forecasting (IDF) must be turned on – back-end config switch

- Auto-select must be enabled

- DCSI classification must be run
  - If a SKU is classified as intermittent AND
  - If a SKU is classified as a slow-mover it will be a candidate for IDF

# SKU-LEVEL CHANGES

- No seasonality is allowed
  - "Create Seasonal Profile" is disabled.
  - "Day of week" profiles are disabled.
- Any existing profiles (either type) are removed automatically.

# HOW CAN YOU TELL?

- On the Item Forecast page it will show "Intermittent Demand Forecasting" as the forecasting method.
- In the Item List filter, a new dropdown for "Forecasting Method" is in effect.

# HOW CAN YOU TELL?
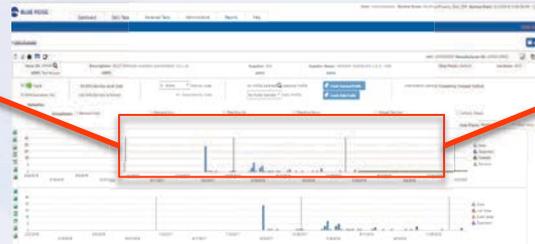
# LET'S COMPARE

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| | IDF ITEM | AES ITEM | SAFETY STOCK |
|---|---|---|---|
| **DEVIATION (%)** | 70.95% | 400.00% | IDF = 24 days 1.77 units |
| **WEEKLY** | 0.51 | 0.02 | |
| **4 WEEKLY** | 2.02 | 0.09 | AES = 170 days 0.58 units |
| **QUARTERLY** | 6.58 | 0.31 | |
| **YEARLY** | 26.32 | 1.23 | |

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# ALERTS

- The only alerts raised for IDF are:
    - Demand High
    - Trending up
    - Trending down

# AND NOW FOR SOMETHING COMPLETELY DIFFERENT...

- Coming soon to an SCP near you…

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# INTELLIGENT MINIMUM/MAXIMUM

- A different way to set order parameters for slow-moving SKUs
- Analyze demand history in context of:
  - Low stock point time frame
  - Order Up To Level time frame
  - Service goal

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# THE GOAL OF IMM

- Make it easier to manage slow-moving SKUs by doing most of the work for you.
- The system ensures that it orders exactly how much is needed to ensure service – no more, no less.
- Free your time to focus on more valuable items.

# KEY ENABLER FOR THE FUTURE OF SCP

- Coming later this year.

# THANK YOU!

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