**Device Stockout Diagnostics**

DSD Use case – Business Context:

**Purpose of the document:**

This document covers all the key pointers for the Device stockout diagnostics use case in terms of:

* Overall, Scope & Objective of the use case.
* Which data sources to utilize.
* Replenishment Types & Possible Stock Out Scenarios and Actions Taken.

**Objective:**

The primary goal of this initiative is to minimize service disruptions caused by device stockouts in retail chains. The overall objective of the use case is to diagnose the root causes of these retail stockouts. By analyzing stock movement and replenishment dynamics, the aim is to provide actionable insights for replenishment and supply planners. The outcome is expected to optimize inventory management and prevent future stockout events.

**Scope:**

* Devices replenished using the Min-Max method.
* Focus on product SKUs.
* All retail channels and distribution points.
* Direct Fulfillment (DF) orders from retail stores.

**Data Source:**

DSD – Sales\_Table\_Analysis

**Analysis Insights:**

* High-incidence (High Sales Velocity) SKUs and locations were identified where stockouts occur most frequently.
* Supply allocation holds (SAH) have a significant impact on inventory flow for priority SKUs.

**Replenishment Types:**

* **Send Plans:** Identifies whether auto-replenishment orders are triggered for specific items.
* **Send Plan Checking:** Evaluates eligibility of products for specific stores within channels.
* **Supply Allocation Holds (SAH):** Analyzes inventory rationing decisions at distribution centers (DCs).

**Possible Stockout Scenarios:**

* Shortfall at DC -> Send Plan for auto replenishment cancels -> Again verify store PO request-> Manual shipment can be done.
* Shortfall at DC -> Send Plan verified -> Shipment done with DC depleted at single last product.
* Shortfall at DC -> puts SAH at a DC -> Shipment based on scenarios (Based on device stockout demand patterns, or send one item to each store etc.)

**Proposed Actions:**

* Implement dynamic allocation adjustments to prioritize critical retail locations.
* Refinement of the send plan to ensure automated replenishments align closely with real-time demand.
* Enhance visibility to the shortage products, providing planners with proactive measures to mitigate risks.

**Overall Problem Statement:**

Device stockout diagnostic aims to address the possible issues of retail stockouts for devices, especially those replenished under the Min-Max inventory method. These stockouts disrupt customer service levels. It is important to diagnose the root causes of these occurrences and recommend corrective measures to mitigate their impact. Key factors include supply send plan, send plan rechecking, and supply allocation holds, which together influence stock availability across various retail channels.