

Five Whys Analysis

Document Control

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Introduction

This document presents the results of the Five Whys analysis conducted during the root-cause workshops held from February 8th to 12th, 2025. The Five Whys technique is used to explore the cause-and-effect relationships underlying particular problems. By repeatedly asking "Why?", we can identify the root cause of a problem. This analysis focuses on the top three identified issues contributing to order fulfillment delays.

Issue 1: High Rate of Shipping Delays (Carrier Mishaps)

Level	Question & Answer
Problem	Orders are frequently delayed due to carrier mishaps after leaving the fulfillment center.
Why? (1)	Carriers are often provided with incorrect or incomplete shipping addresses.
Why? (2)	Address validation checks during order entry are insufficient or bypassed.
Why? (3)	The address validation API integration is outdated and doesn't catch common errors (e.g., missing apartment numbers, incorrect zip codes).
Why? (4)	The API hasn't been updated due to budget constraints and lack of perceived priority compared to other IT projects.
Why? (5)	

Root Cause: The business impact of poor address validation (leading to shipping delays and costs) was not adequately quantified and communicated to justify the necessary IT investment for API updates.

Issue 2: Frequent Inventory Shortages (Stock-Out Events)

Level	Question & Answer
Problem	Orders are delayed because items shown as available online are actually out of stock in the warehouse.
Why? (1)	Inventory levels between the e-commerce platform and the WMS are not synchronized in real-time.
Why? (2)	The synchronization process runs as an overnight batch job, leading to discrepancies during the day.
Why? (3)	The current system architecture does not support real-time inventory updates between the two platforms due to performance limitations.
Why? (4)	The WMS is an older version with limited API capabilities for real-time integration.
Why? (5)	Root Cause: A planned WMS upgrade, which would enable real-time inventory synchronization, was postponed due to competing projects and perceived complexity.

Issue 3: Delays in Picking Process (Inefficient Routes)

Level	Question & Answer
Problem	The time taken to pick items for an order is longer than expected, delaying subsequent processes.
Why? (1)	Pickers often follow inefficient routes through the warehouse, covering unnecessary distances.
Why? (2)	The WMS generates pick lists based on order receipt time, not optimized location sequencing.

Why? (3)	The WMS lacks a sophisticated pick path optimization module; it uses a basic FIFO approach for pick list generation.
Why? (4)	Implementing or integrating a pick path optimization feature was considered too complex and costly during the last WMS review cycle.
Why? (5)	Root Cause: The potential time savings and efficiency gains from pick path optimization were underestimated, leading to the feature not being prioritized for development or acquisition.

Summary of Root Causes

- **Shipping Delays:** Inadequate business case for IT investment in address validation API updates.
- **Inventory Shortages:** Postponement of WMS upgrade needed for real-time inventory synchronization.
- **Picking Delays:** Underestimation of ROI for pick path optimization features, leading to non-prioritization.

These root causes highlight systemic issues related to IT investment prioritization, system upgrades, and accurate ROI assessment for operational improvements. Addressing these requires not only technical solutions but also improved business case development and strategic alignment between operations and IT.