



Report

Airlift Technologies

Retail Risk Analyst -- Case Study

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Specific Instructions for the Case Study:

Part (I)

Context -- Airlift is in the process of scaling its express delivery services, setting up dark stores / warehouses at hyper velocity. Within these dark stores, all our processes are geared towards achieving two main operational outcomes:

- 100% order accuracy -- delivering exactly what the customer has ordered
- Timely delivery -- time taken between order placement and delivery <45 minutes

Case Study -- As Airlift scales its business, one of the key challenges is growing instances of fraud. Our operations flow within the dark store is currently divided into three core ops flows --

- Picking -- retrieving items from shelves via scanning - for multiple units of the same item being ordered, the picker just needs to scan one piece and manually enter the total quantity.
- Packing -- cleaning, rescanning and packing items - for multiple units of the same item being ordered, the picker just needs to scan one piece and manually enter the total quantity
- Dispatching -- assigning orders to riders for delivery

We are experiencing a steep decline in order accuracy i.e. **customers are not receiving items that they have ordered or are receiving less quantities**. The picking and packing teams **claim** to be scanning all items --

- What are some of the key metrics that we can track internally to monitor order accuracy and diagnose the root cause for discrepant orders?
- What would your strategy be in terms of identifying potential fraud here? What data would you look at?
- What measures would you implement to improve order accuracy?

Note: Before we begin, I would like to emphasize that my answers revolve around the following 3 principles: **Accountability, Visibility, Traceability**.

Together with these, the workforce should be educated on their roles and rights to avoid manipulation of any sort. An effective reporting system should be made to hear everyone's side of the story.

There are 5 basic ways for Risk Assessment:

1. Identify the Hazards
2. Decide Who Could be Harmed and In What Way
3. Establish Control Measures
4. Record the Findings of Your Assessment and Inform Those at Risk of the Controls
5. Review the Risk Assessment on a Regular Basis

My answer will be using the above approach.

Answer:

Key Challenge: **Fraud**

Players: Delivery Team, Picking & Packing Team, Customer

Problem Statement: "customers are not receiving items that they have ordered or are receiving less quantities"

The '**Picking & Packing Team**'. They **claim** that "they scan all items". However, one cannot be too sure. A few ways to ensure that they are indeed scanning all the items that were ordered:

1. Have a team (perhaps a QA team) that '**runs checks**' based on all the orders and all the scans. For example, a customer places an order. The order is then scanned by the 'Picking & Packing Team' and the name and unique ID of the 'scanner' is also entered into the **database**. **The job of the QA team is to make sure that the entire order of the customer was scanned correctly.** Run these checks either daily, weekly or monthly or whenever there is a complaint. Hold the person scanning accountable for any wrong scans.
2. Complimenting the first point, appoint a **Manager** that keeps a check on the 'Picking & Packing Team'. Hold the manager Accountable for any wrong scans.
3. Leave space for '**mistakes**'. Maybe the person scanning the order has made a mistake and maybe the manager has left it unnoticed. Allow for a certain number of mistakes per year for the 'Picking & Packing Team'.
4. **Automate** as much as possible. (This might be a costly option and not so feasible if the funding isn't enough.) Many of the warehouses use 'robots' for picking, storing and sending orders. Although the initial investment is high, it can save a lot of money, can expedite the process and ensure quality. For example, there could be a machine that picks, packs and dispatches when an order is placed.
5. Seeing is believing. Take **pictures** of the package together with the 'Pick List' before dispatching it for 'Proof purposes' and store it in the database. (This policy was used by a Malaysian company 'Lazada').
6. **Seal** the package thoroughly after packing it such that it is known if the seal is broken.
7. **Log timestamps** of all the activities.
8. **CCTV cameras** within the dark stores should add on to the security feature.

Just like the 'Picking & Packing Team', the '**Delivery Team**' can have a few SOPs (Standard Operating Procedures) to follow as well:

1. Once they receive the order from the 'Picking & Packing Team', they must note down the name and unique ID of the person that gave it to them and vice versa.
2. The rider should also take a picture of the sealed package after receiving it from the 'Picking & Packing Team'. If there's no seal, the rider should not accept the package and report it in the software.
3. After delivering the package, the rider should take a picture of the package with the 'Pick List' and ask the Customer to sign the receipt. (This policy was used by a Malaysian company 'Lazada').
4. Keep a manager for the riders. A manager would ensure quality.

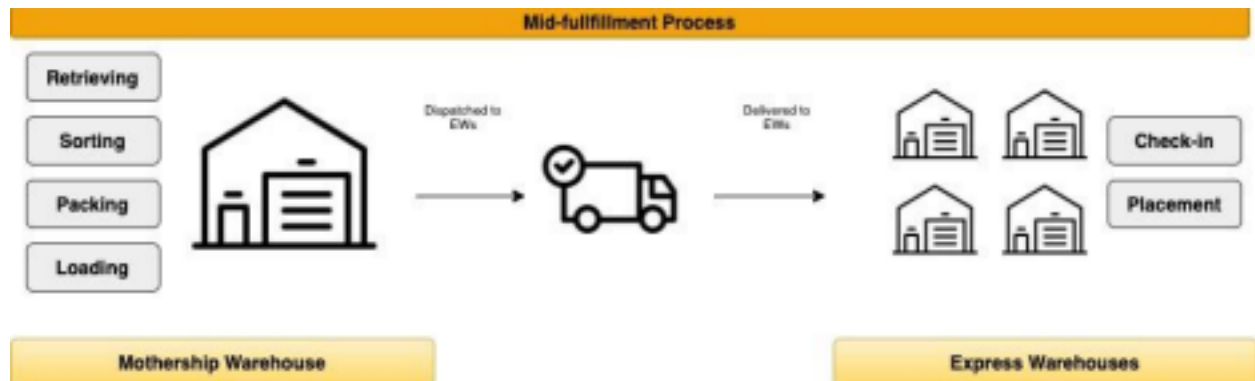
5. To ensure the rider does not 'run off' with the package, ask the riders to submit a refundable deposit before signing up with Airlift Express. They can collect the full deposit once their contract with the company has ended. Other than that, store their CNIC details and their contact details.
6. The customer should be given the option to return the package if the seal is broken and report against the rider. This should solve the problem for "less quantities".
7. A huge problem that could occur is theft. The rider's package can be stolen. The company will simply have to believe the riders.
8. Use a '**Smart Locker**' (look into PopBox). This technology allows for contactless delivery in an automated way to send, receive and return a parcel conveniently. This will allow for accountability and traceability as well.

Since the customer's claim that they are not receiving their desired orders, obviously this raises concern on which party to believe. Although there's no guarantee, it's in the best interest of Airlift Express to believe their customers. Chances are most customers won't lie about their orders but there are always exceptions.

However, to minimize the possibility of a customer 'lying', the 'Pick List' can be checked against the customer's orders together with the pictures taken by the 'Picking & Packing Team' and the 'Delivery Team', the timestamps and the signature of the customer by the 'Delivery Team'.

Part (II)

Airlift is looking to massively reduce operating costs at warehouses starting with the biggest cost head: inventory losses. The end to end inventory flow for Airlift is as follows:



Suppliers deliver inventory at the Mothership Warehouse where it is checked in and stored. It is then transported to Express Warehouses through a nightly mid-fulfillment process. Inventory is retrieved from the racks, sorted and packed in cartons to be loaded into trucks and transported to Express Warehouses. At the Express Warehouses, this inventory is unloaded, checked in and placed on racks. On average, we have been observing 87% fulfillment rate of the Mothership Shipment -- i.e. only 87% of the inventory checked out of the Mothership Warehouse is being Checked-in at the Express Warehouse.

- How would you go about conducting a risk analysis for this process?
- What metrics would you look at?
- What are the potential gaps that can lead to pilferages in this process? How will you address these?

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There are 5 basic ways for Risk Assessment:

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My answer will be using the above approach.

Answer:

Key Challenge: **Fraud**

Players: Delivery Team, Mothership Warehouse, Express Warehouse

Problem Statement: “only 87% of the inventory checked out of the Mothership Warehouse is being Checked-in at the Express Warehouse”

Starting from the **Mothership and Express Warehouses**. Although unlikely, the Warehouses can be possibly reporting invalid numbers or they might claim to have sent/received an item when in fact they have not. To tackle this problem, a few measures can be taken:

1. Appoint **managers** over each warehouse and hold him accountable.
2. Make sure everything is 'logged' in the database. **Blockchain technology** can be implemented to ensure better security and accountability.
3. **Automate** as much as possible. (This might be a costly option and not so feasible if the funding isn't enough.) Many of the warehouses use 'robots' for picking, storing and sending orders. Although the initial investment is high, it can save a lot of money, can expedite the process and ensure quality.
4. **Cross check** the amounts received from the suppliers and the amount being distributed to 'Express Warehouses'.
5. **Organization** plays a vital role. There's a possibility of the warehouse not being organized properly thus having a few "missing" products. Use '**cycle counting**' to track missing inventory.
6. Use a **Warehouse Management System**. Although the initial investment is high, it can save a lot of money, can expedite the process and ensure quality. The Warehouse Management Systems can generate barcode labels and provide devices that make it easy to locate the products. An **ERP system** can help too.
7. Make sure the inventory that has to be sent is **sealed** such that it is known if the seal is broken.
8. **CCTV cameras** within the warehouses should add on to the security feature.
9. Limit access to stock in the warehouses and conduct background checks on the staff.

Just like the Warehouses, the '**Delivery Team**' can have a few SOPs (Standard Operating Procedures) to follow as well:

1. Once they receive the inventory from the Warehouses, they must take down the signature of the manager for **authorisation** purposes.
2. The driver should **make sure the inventory is sealed** and should not accept the inventory otherwise and report it in the application.
3. After delivering the inventory to the Express Warehouses, the driver should take the signature of the person receiving it and should report the timestamp in the application.
4. Keep a **manager** for the Drivers. A manager would ensure quality.
5. To ensure the driver does not 'run off' with the package, ask the drivers to submit a **refundable deposit** before signing up with Airlift Express. They can collect the full deposit once their contract with the company has ended. Other than that, store their CNIC details and their contact details.

6. The Express Warehouses should report to the application if the seal is broken. This should solve the problem for "less quantities".
7. A huge problem that could occur is **theft**. The driver's inventory can be stolen. The company can provide extra security with the delivery trucks.
8. The company should note down **timestamps** of inventory leaving and entering and have approximate expected delivery times.
9. The company can **allocate routes and timings** for the drivers and track them.