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Excess Inventory Management

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***Abstract*: Excess inventory, is a massive problem for many businesses, and it has several causes, some of which are unavoidable. Overstocks may accumulate through production overruns or errors. Certain styles and colours prove unpopular. With some products, computers and software, toys, and books—last year's models are difficult to move even at huge discounts. Occasionally the competition introduces a better product. But in many cases the public's buying tastes simply change, leaving a manufacturer or distributor with thousands (or millions) of items that the fickle public no longer wants. Hence the inventory is considered to be as unhealthy and of no use; leaving it to be in excessive thus causing the manufactures and the sellers to take some measures and deal with such a situation. Why is this area of study? The reason for covering this are of study is because of the lack of options and possibilities for the brands and companies to cater to once and by mistake stuck in this situation. A lot of brands have a tendency to let their stock go waste, or burn it or discard it with absolutely no regard to its consequences, because it may cause them tremendous amount of loss, if the stock is to be sent back or say rebranded. Hence, the idea behind this study is to bridge the gap between the wastage, loss of money and at the same time to find a feasible solution to deal with excessive inventory when experienced.**

***Keywords*: Dead stock, loss of revenue, storage issues, depreciation, damage.**

1. Introduction

One of the company's most significant assets is its inventory. An organization's raw materials and finished goods are the heart of its operations in industries with high inventories including retail, manufacturing, food services, and others. When and where inventory is needed, a shortfall can be very harmful.

In addition, inventory can be seen as a liability (if not in an accounting sense). The danger of spoilage, theft, damage, or changes in demand is higher when there is a large inventory. Inventory must be insured, and if it is not sold in a timely manner, it may need to be destroyed or sold at a discount.

Since a business often plans to sell its finished goods within a short period of time, usually a year, inventory represents a current asset. Before inventory can be included on a balance sheet, it must first be physically counted or measured. Businesses frequently have up-to-date inventory management systems that can monitor inventory levels in real time.

A. What is excess inventory?

Given the disruption brought on by COVID-19, it's common for shops to worry about not having adequate goods on hand. But having an excessive amount of inventory can sometimes be detrimental. (Owens, 2021)

While having an abundance of stock can help you prepare for unanticipated demand spikes, having units build up in your warehouse can negatively impact your profitability.

However, businesses shouldn't consider having too much stock as a lost cause. If merchandise isn't moving off the shelves as quickly as you'd like, you can take efforts to increase inventory turnover and generate new marketing opportunities for your company.

When a merchant has more units of a certain product than there is demand for it, such situation is known as having excess inventory. Inventory as a result is cumbersome and takes up valuable storage space.

It actually depends on the situation whether extra inventory is advantageous or disadvantageous for a retailer. For instance, holding extra seasonal inventory before the holiday season is a wise strategic choice because holiday demand is substantially higher than usual.

However, you can have a problem if this seasonal stock is still on the shelves after the holiday season.

The following problems arise as a result of excess inventory:

- Expensive holding/storage fees
- higher chance of lost or damaged units
- lower margins of profit
- Inventory tracking is challenging in real time

B. Identification of excess inventory

You may stop excess inventory from harming your profitability by taking action as soon as you recognise it. Retailers can monitor the performance of their stock by using the inventory KPIs listed below:

1) Inventory Turnover

The number of times that stock is sold out and replaced over the course of a given time period is known as inventory turnover. When turnover is slow, it means that demand is outstripping supply and that your inventory is underperforming.

2) Days on Hand

Days of Hand are a measurement of how long inventory remains in storage before turning into sales. For a given product, a high number of days on hand suggests slow-moving inventory that runs a significant risk of building up and creating

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issues.

3) Average Inventory

The amount of inventory you have on hand at any given time is determined by your average inventory. You can monitor changes in inventory levels that, if sales don't keep up with demand, could lead to excess inventory by measuring average inventory. Excess inventory is less likely to happen if your inventory supply remains constant.

4) Inventory to Sales Ratio

Sales to Inventory A ratio is a measurement of the amount of inventory your company is holding in relation to the volume of sales. If your ratio is high, it means that inventory levels are growing more quickly than sales are, which creates an imbalance that results in too much stock and greater storage costs.

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C. THE Difference Between Excess Inventory and Dead Stock

Whenever the subject of inventory management is brought up, the terms "dead stock" and "excess inventory" are frequently used interchangeably. But they stand for various extremes of the spectrum.

Dead stock, to put it simply, is what happens when a retailer doesn't adequately manage surplus inventory. It describes merchandise with almost minimal resale value that hasn't been sold by the time it reaches the end of its existence.

Dead stock presents a serious challenge for merchants. Inventory that is out of date takes up valuable storage space that could be used for items that are more in demand. However, because they have so much capital invested in inventory, many merchants are hesitant to dispose dead stock.

As a result, dead stock that is probably not going to sell makes up as much as 20–30% of the average retailer's inventory. By contrast, excess inventory isn’t necessarily a lost cause. It all depends on what you do next to prevent it from becoming dead stock. (Intuendi, 2019)

2. Literature Review

There are three ways to account for inventory: first-in-first-out (FIFO), last-in-first-out (LIFO), or weighted-average costing. Four distinct categories typically make up an inventory account:

1) Raw materials are the many supplies that a business buys for its manufacturing process. These materials need to go through a lot of effort before a business can turn them into a finished product that is ready for sale.
2) The term "work in progress" (sometimes referred to as "goods-in-process") refers to materials that are being turned from raw materials into finished goods.
3) Finished goods are completed products that are easily accessible to customers of a business.
4) Merchandise denotes the finished goods that a business purchases from a source for potential future resale. (HAYES, 2022)

Inventory Management is vital because it helps to ensure that there is rarely too much or too little product on hand, inventory management is essential to a company's health because it lowers the danger of stock outs and inaccurate records.

In order to comply with Securities and Exchange Commission (SEC) standards and the Sarbanes-Oxley (SOX) Act, public corporations must keep track of their inventory. To demonstrate compliance, businesses must document their management procedures.

Inventory management aids businesses in determining which stock to order and in what quantities and when. Inventory is tracked as things are bought and sold. In order to guarantee that there is always adequate inventory to satisfy client orders and that a shortage is properly announced, the practise recognises patterns and adapts to them.

Inventory that is sold generates income. Even though it is listed as an asset on the balance sheet, inventory uses up cash before it is sold. Consequently, having too much stock costs money and decreases cash flow.

Inventory turnover is one indicator of effective inventory control. Inventory turnover, a metric used in accounting, shows how frequently stock is sold over a given time frame. An organisation does not desire more inventory than sales. Dead stock or unsold stock may result from a slow inventory turnover rate. (Jenkins, 2020)

A. Advantages of inventory management

The ability to fulfil incoming or open orders and increased earnings are the two key advantages of inventory management. Along with inventory management:

1) Saving Money

By understanding stock trends, you may better utilise the stock you already have by seeing how much and where you have it in stock. Because you can fill orders from anywhere, you may keep fewer inventories at each location (store, warehouse). This lowers the cost of holding inventory and reduces the amount of inventory that is unsold before it becomes obsolete.

2) Enhances Cash Flow

With effective inventory management, money is always flowing through the company because it is spent on inventory that customers buy.

3) Customer Satisfaction

Ensuring that clients receive the products they desire promptly is one way to cultivate devoted patrons.

Formulas and analysis are used in several inventory management strategies to plan stock. Others depend on protocols. Every technique aims to increase precision. A company's methods are determined by its requirements and inventory.

By reading the guide on inventory management techniques, you may choose which method is most effective for your company. Here is a list of them:

1. ABC Analysis

This technique determines the most and least preferred stock categories.

2. Batch tracking

This technique collects comparable items to keep track of expiration dates and locate faulty products.

3. Bulk Shipments

This approach takes into account items that suppliers load straight into trucks or ships, unpackaged. Bulk inventory is purchased, stored, and shipped.

4. Consignment

If you manage your inventory on consignment, your company won't pay a supplier until a product is sold. Up until your business sells the inventory, that supplier still owns it.

5. Cross-Docking

This technique entails unloading goods from a supply vehicle onto the delivery truck directly. Storage is essentially done away with.

6. Forecasting

client demand is one function of predictive analytics.

7. Drop shipping

When a provider uses this method, the consumer receives their order straight from the supplier's warehouse.

8. The Economic Order Quantity

(EOQ) formula outlines the precise quantity of inventory a business should order to save down on holding and other expenditures.

9. FIFO and LIFO

FIFO refers to the practise of moving the oldest stock first. According to the last in, first out (LIFO) theory, since prices are always rising, the inventory that was most recently purchased is the most expensive and therefore sells first.

10. JIT

Companies employ just-in-time inventory (JIT) in an effort to keep stock levels as low as possible before a refill.

11. Minimum Order Quantity

In order to keep prices down, a business that relies on minimum order quantities will only purchase the bare minimum of inventory from wholesalers with each order.

12. Reorder Point Method

Businesses use this formula to determine the bare minimum of stock they ought to possess prior to placing another order, and then manage their inventory as necessary.

13. Continuous inventory management

involves continuously tracking stock sales and consumption. To find out more about this method, see "The Definitive Guide to Perpetual Inventory."

14. Safety Stock

An inventory management philosophy that places a premium on safety stock will guarantee that there is always excess stock on hand in the event that the business is unable to refill those things.

15. Six Sigma

is a data-driven technique for reducing inventory-related waste in enterprises.

16. Lean Six Sigma

This approach, which aims to cut waste and boost efficiency, blends lean management with Six Sigma techniques.

B. The disadvantages of excess inventory

Excess inventory is a big no-no in the realm of inventory management since it has numerous negative effects on your company. Just a few of the ways it prevents your company from being the best it can be are listed below. (-)

1) Wasted storage space

The space in the storage area is taken up by excess inventory. Products that would sell could be placed in this area. Depending on how much extra inventory you have, it can even restrict you from ordering more things because you don't have room.

2) Increased storage cost

You incur overhead expenses for your storage. Anything you don't sell is money that you are not keeping in your wallet. Additionally, you must pay your staff for handling the goods and maybe performing manual inventory. Due to this, costs, especially prime costs, rise, decreasing your profit margin.

3) Loss of revenue

This has a number of effects. A loss of revenue from the excess inventory itself comes first. You aren't making money from the product because you aren't selling it, even if it is a wholesale item. The concept of opportunity cost is the second. The inability to sell other things is hampered by these unsold goods.

4) Depreciated and expired products

Products that are left sitting depreciate in value. Every day you lose potential profit since these goods' worth is decreasing from an accounting perspective. Even worse, things that have expired are a complete write-off and incur additional expenses

C. The Causes of Excess Inventory

1) Bad forecasting and predictions

The first and most obvious explanation is that the anticipated demand was improperly forecast. Businesses estimate customer demand using a variety of methods and tactics. However, many use unstable and antiquated techniques, which ultimately results in inaccurate predictions. The market is intricate, and there may be too much variation in demand.

All the variables that may have an impact on demand must be taken into account by the forecasting model. Without precise forecasting, adequate inventory levels are impossible.

2) Poor inventory management system

The inventory management team must be in charge of several duties. For instance, completing transactions, placing orders, making purchases, and all other sales-related operations.

Poor inventory tracking and incorrect orders will be the results of a disorganised management system. Inventory management will suffer from a lack of coordination between the divisions of sales, purchasing, and customer service. Therefore, if the business neglects the management of the processes, having too much inventory may result.

3) Failure to manage the obsolete inventory

Even with a good inventory management system, things can occasionally spiral out of hand. It is not a wise strategy to anticipate that your out-of-date merchandise will sell out at some point in the future. You shouldn't just overlook your sluggish inventory. Your profit will be impacted, and the obsolete inventory will add a lot of expenses. Therefore, be sure to assemble a team to concentrate on streamlining the inventory process and minimising overstock.

4) Long lead times

Everybody in your supply chain, from manufacturers to suppliers, makes sure to adjust their lead times to account for safety. They do this in order to have some extra time in case something unexpected happens. Long lead times and an ineffective supply chain are the results of this.

Everyone involved in the supply chain process needs to give you a reasonable lead time estimate. Lead times will be shortened as a result, the supply chain will be improved, and the amount of stock you maintain will be permanently reduced.

5) Unreliable suppliers

Successful inventory management depends on having trustworthy suppliers. Consider that you place your order on time. However, your supplier keeps the products in storage for an unforeseen length of time, so your order ultimately arrives late.

You will therefore order much more the following time to account for potential demand. Nevertheless, you run the risk of having too much stock. Working with dependable suppliers who fulfil orders on time is crucial because of this.

6) Product Life Cycle

The demand for a product will alter at each stage of its life cycle. For instance, when a product is first released onto the market, there is typically a strong demand. As the product reaches maturity, this demand stabilises, and as the product approaches decline, the supply chain demand begins to diminish. To avoid having too much inventory lying around, reordering parameters for projecting inventory need to take this into account.

7) Supply Chain Issues

Even brief interruptions of a week or more can result in sitting inventory and surplus stock levels in the supply chain and logistics sector. To keep up with the constantly shifting landscape of the supply chain, most businesses place excessive stock orders. This can occasionally turn out to be a negative choice, increasing inventories.

8) SKU Proliferation

SKU counts increase when retailers continuously expanding their product lines or offering different product options like size and colour. More SKUs don't necessarily translate into more sales, either.

If a store is creating new demand and obtaining an advantage over rivals, SKU multiplication might be beneficial. However, proliferation increases the likelihood of excess inventory happening if it is controlled or supported by strong data analysis.

For instance, stocking a T-shirt in a variety of colours may enhance conversions, but doing so also divides demand among various possibilities. If you don't respond by modifying your inventory levels, you can find yourself with more goods than you actually need.

3. Key Objectives and Approaches

Now when we look at the idea of excessive inventory management, there are already certain practices and techniques followed by the brands and companies that provide with a reasonable profit or lest say at that stop them from incurring an estimated loss.

Although these techniques might not be a sustainable option or for that matter may even contribute to a whole lot textile waste generated, because of the fast fashion analogy followed by most fashion brands in today's world. Hence the probability having an excessive inventory at times can be inevitable at because of the pace of the fashion industry, these brands and companies to have enough time and money to cater to the management of excessive inventory (vice, 2016)

A. Burberry

Burberry made an industry-leading commitment in 2018 to stop burning excess clothes following an outcry over the revelation that they destroyed clothing, perfume, and accessories worth £28.6 million in 2018; other brands like Louis Vuitton and Dior may now be legally forced to take the same tack thanks to the government.

B. Zara

Twice a week, at precise times, store managers order clothes, and twice a week, on schedule, new garments arrive, but when it comes excessive inventory, we do not have much clarity as they are not very transparent about their manufacturing and management process.

C. H&M

H&M said the clothing would be donated to charity or recycled if it can't be sold. H&M's problems extend beyond the huge pile of unsold clothes. Analysts argue the company was too slow to get into online sales and is now playing catch-up.

Some of existing techniques that are followed by these brands and other companies for example Forever 21, NIKE, Uniqlo, Rare Rabbit, and M&S are:

a) With In Hand Inventory
   - Divert the inventory to new products.
   - Do a price reset
   - Create sets of complementary products
b) Dependency on an external Party
   - Trade with industry partners.
   - Liquidate excess inventory
   - Prioritize and protect long term and bestseller SKUs
   - Optimize cross-merchandising.
c) Putting of the inventory
   - opt for bulk discounts over markdowns
   - Get creative with sustainability
   - Auction it yourself
   - Scrap it, Disposed Products

1) Divert the inventory to new products

Perhaps the raw materials or components can be used in other lines or at other plants. The inventory might need some rework, so the cost of that should be taken into account. Some companies have created entirely new products based on scrap and overage from others.

2) Trade with industry partners

Competitors might be your friends when it comes to sharinginventory and supplies. The items taking up space in your warehouse could be exactly what another company needs right now. In return, they might have something you can use. This type of interaction not only helps your inventory management, but it builds relationships, which are always valuable.

3) Liquidate excess inventory

A liquidator will buy up what you have for a negotiated price. That's all you will see from the deal. One common way to dispose of this merchandise is to sell it to a liquidator, who buys it as cheaply as possible and then resells the merchandise through catalogues, discount stores, and other outlets. However, liquidators may pay less for the merchandise than it cost to make it.

4) Do a price reset

As a result of the corona-economy, consumers are being untrained from cyclical promotional purchasing. Now is the time to review your portfolio's pricing and adjust the things that don't make sense. Assess your competitive market as well as internal metrics. You should preserve GMROI as much as possible, but remember you have a whole assortment of products. Some may sell better than others, thus increasing your margin and allowing you to take sacrifices elsewhere.

5) Prioritize and protect long term and bestseller SKUs

Preserve promotional strategies for things that are climate sensitive and broken in sizing. Treat these discounted products as gateways for full price purchases on non-seasonal items. Promotional strategies can go beyond markdowns into more creative outlets like gifts with purchase, re-activation of past customers, or samples to acquire new ones.

6) Create sets of complementary products

Bundling can be a form of moving through inventory without visibly reducing retail prices. If something is a slow seller, bundle it with a complementary product and offer a haircut on the combined price to show value. Not only will this allow you to move through the desired goods, you'll also see an increase in cart value and incentivize a purchase of a like product.

7) Optimize cross-merchandising

This can be done through product recommendations or visuals in marketing. Similar to sets, this helps the customer know what products go well together, and can incentivize higher cart value.

8) Opt for bulk discounts over markdowns

Buy more, save more" promotions will not only deliver higher cart values, they also preserve product integrity and optimize other costs such as logistics.

9) Get creative with sustainability

Donating excess inventory to reputable causes can not only build trust in your brand, but it is also a form of good will. With the rise in social responsibility awareness, economically friendly re-use and disposal of inventory comes with immeasurable value.

10) Auction it yourself

With the availability of online outlets such as eBay, you can sell inventory directly to whoever wants it. This requires staff time and can be a slow and tedious process. Not everything will sell, either.

11) Scrap it

Totally obsolete inventory can often be sold for the materials it contains, metal or cloth, for example. Scrap dealers will come and get it, and if it has any value, they'll pay a small fee. In the worst cases, you will have to pay to dispose of it.

12) Disposed Products

Another way to dispose of excess inventory is to dump it. The corporation takes a straight cost write-off on its taxes and hauls the merchandise to a landfill. (2020)

4. Methodologies to be Followed

To understand the management process in depth, I reached out to certain executive in their respective companies who have an experience in excessive inventory management and they gave an insight as to how it was tackled within their domain and what is the hierarchy of the process that is followed in order to achieve the selling of the inventory.

Now this is the process which is followed between seasons, for e.g., a gradual shift from spring to summer, hence there is a slow and steady relieving of the inventory whilst in between the season shift.

"In conversation with"

1) Mr Shubham Vijay, Creative Director at Dicey, 2022
2) Mr. Subhash Chandra, Director at Saboo Coatings, 2019
3) Mr. Nanda, Supply Chain Statistics Head at (UTC) United Technology Corporation, 2022
4) Mr. Sreeraj Ravindran, Planning executive at Landmark Group, 2021)

5. Research Findings

A. Regional allocation

Depending on the product, something that may be in season in India would have been an out fashioned statement in Dubai, or for that matter it can also be considered between Delhi and Bihar. Shuffling of the products based on the region and changing the target audience in terms of monetary aspects. This away the inventory moves store to store but at the same time it has its focus on a different segment of customers who may be completely unexposed to it. Of course, the climatic situations and needs are kept in mind.

B. Reinventing with as minimal as possible

Making an inventory a part of an upcoming collection can be tedious task, but if achieved it can be considered as a whole new area for profit. A white T-shirt being sold paired with denim can be sold as a pairing with a formal trouser depending upon the ongoing trends. Hence the idea is to manipulate the product and market it in such a way that it caters to the needs of the customers as well as at the same time becomes a part of the upcoming inventory, but here one thing which is need to be kept in mind is the cost price which should not be an excess that the selling price.

C. Resizing and in store shipment

Healthy and broken set consolidation of a particular collection, inter store transfer that allows the proper distribution of the collection once it has been retrieved by the major customer. Hence the technical idea is to try and make the collection healthy again by consolidation and catering to the selling frequency of a garment, depending on the particular needs of the customer in that particular area.

D. Top Grade store performance and Online store Litigation

Healthy and the broken options are only placed in the Top-Grade Offline stores that have a history of a 100% profit. Most of these stores then put an offer with as minimal and mild discounts and offers that keep on increasing as we move deeper into the season. The same concept is achieved on the online platform and social media where a particular inventory that needs to be gotten rid of is hyper prioritised and sold off at discounted and offered rates.

E. Salesmen Incentives

If the inventory is still doing what it was expected to do, the salesmen are then given targets ad incentives so as to achieve this much amount of sale on this particular inventory which will later provide them with reasonable incentives and bonuses.

F. Open to Buy and LOT Sale

Since there is an already existing exiting amount of inventory in the house, doesn't matter new or old, the brand is not able to cater to its OTB-Open to Buy policy when it comes to new vendors and inventory, in terms of the monetary aspects. That's when the comes the idea of LOT Sale. It is based on the selling of the garment back to the vendor in terms of Kilos, as the brand is going below the cost price and giving off the inventory. The highest of loss incurred to a particular organization is at the time of going through a Vendor LOT Sale.

G. Assess your marketing

Beyond product strategies, consider your innovative marketing efforts both on a product and business level. Off season goods can be prime merchandise in different hemispheres. There can even be alternative, more in demand, uses for your products. Considering re-marketing as a way to sell goods for a different purpose.

H. Plan ahead

Ensure you are taking pre-emptive measures before finding yourself in a position of overstock. In an effort to protect cash, try working with your suppliers on staggered delivered, shared risk solutions, or extended payment terms. If production has not yet begun for upcoming seasons, re-evaluate your needs and assortment. If your brand and supply chain allow, make assortment changes to products that are in high demand. Finally, prioritize investments in top sellers over a full breadth of assortment.

I. Sell to customers

The route for this depends on whether your customers are businesses or consumers. If you sell directly to distributors or businesses, then approaching them with a different or special deal on finished goods might work. You might try packaging your product for a discounted price. Regarding end-users, there are many who don't care about having the latest make or model and will gladly buy your out-of-date inventory.

J. Consign your product.

Independent distributors will allow you to maintain ownership while taking a cut of sales, often a 75/25 split. Consignment may be virtual, which means you keep the goods and are responsible for shipping them once a sale is made. You will need to be prepared to respond quickly to sales. Physical consignment means the distributor stores the goods and handles delivery.

K. Case Study

INCREFF
Incredible Efficiency

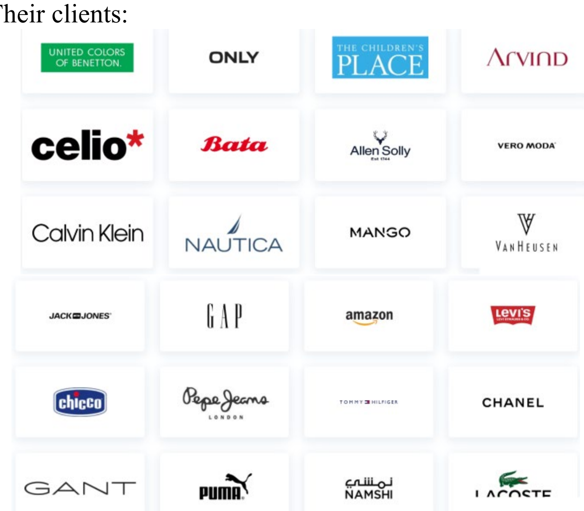
- Increff: incredible efficiency
- https://www.increff.com/

An initiative start-up that particularly focuses on inventory ad supply chain management. They were established 5 years and are growing constantly with a 110+ clients under them.

They have 2 major directions which are followed and are mentioned below

1) Inventory Optimization
    - Buying and Planning
    - Allocation Replenishment
    - Regional Utilization
    - Markdown Optimization
    - Business Intelligence
2) Supply Chain Management:
    - Ware House Management System
    - B2B Commerce
    - Offline to Online(O2O)
    - Cloud Warehousing

Their clients:



In conversation with, Ms. Shipra Pandey, Business Analyst, Increff 2022.

To understand the flow and practices at Increff, the interview was conducted with Ms. Shipra who deals with such situations and has probable insights to understand and deal with excessive inventory.

She refers to the Increff - Software solution provider for apparel industry specializing in merchandising and inventory management.

Questionnaire:

Q1) There are multiple brands to which Increff caters to, for inventory management, has anyone of them ever experienced Excess inventory?

- Increff has a cliental that encompasses most of the well-known Indian retail brands like Bestseller (Jack & Jones, Only, Vero Moda), Fab alley, Campus Sutra, Puma, Adidas, Arvind, Pepe Jeans, etc and some popular international brands as well.
- All of these companies are currently using our software to manage their inventory. Due to company's non-disclosure policy towards client's data and specific details, we cannot highlight the name of any one brand.
- However, it is to be noted that Excess inventory is something any business will always suffer from until and until it is a case of inventory shortage. In this very case, it is safe to say that each one of our clients has suffered from excessive inventory.
- Another thing to be considered that inventory has to represent exact demand but that is the utopian scenario. There are always certain styles which get stocked out (shortage of inventory due to under buying caused due to low planning) and certain styles which were assumed to perform well but do not (causing excessive inventory)

Q2) What type of inventory was managed and for what season?

Fast- Fashion Women's wear brand (Brand X - no name disclosure) for continuously about 4-5 seasons in the past one year. But as a thumb rule, we have managed excessive inventory for each one of our clients and we do it for every season. Only the above-mentioned stage is different. The goal is to prevent excess inventory as early as possible.

Q3) Can you list down certain practices that were followed by your company to deal with excessive inventory for your clients?

1) Avoiding excess inventory for upcoming season

In this case, our software uses intelligent algorithms to plan for upcoming season in the most accurate level at a very granular level (forecasted sales, quantity etc at different style attributes, i.e., which categories, subcategories, colours, prints, silhouette, price ranges are expected to perform well and in which exact ratios).

This solved the problem of excessive inventory at root cause which is improper merchandise planning. So, if planning is done accurately (which is close to impossible to plan in exact numbers as style preference of customers is very dynamic and can never be predicted 100%) excess inventory is avoided.

Our software does it with very high accuracy, drastically reducing the margin of human error.

2) Handling Excessive Inventory post-production

If season planning is improper and does not represent true customer demand, we would have warehouses filled with unwanted inventory. In this case, accurate Distribution can help increase the chances of getting the merchandise sold. Each style performs differently in each store based on the target audience and location of the store.

Once excess inventory is in the warehouse, it can be cleared/sold off by sending them to the right stores, i.e., in stores where demand of these product lines. Increff's software uses a concept of store-style ranking where it creates a detailed matrix of every style against each style. The challenge here without a software is the fact that these numbers can be huge in reality.

For example, a good performing fast-fashion brand can have around 5000 styles and 500 stores, this means a total of 2500000 ratings are generated. The software does it simply and then each style is prioritised as per the ideal store and distribution is done according to that.

3) Excess Inventory in the stores

This is the final and the worst stage to have excess inventory in because especially in case of offline stores, unsold inventory eats up space in a rented building with staff and overheads to be paid towards.

In this situation there are two options: a) Inter-store transfers - In this concept, all the non-performing styles of a store (due to poor planning/wrong distribution) are collected and another store where that inventory has a potential to sell is identified. Among all stores lying in a common region, this is done for all styles and styles are moved to different stores.

If style A is present in Store1 but is unsold due to no demand, however, there is Store2 where style A is selling/stock out/ has potential to sell more, then inventory for style A is shifted from Store1 to Store2. The software has an Inter-store transfer module that analyses performance of all existing styles and various stores and suggests the best store to transfer unsold inventory from one to another

4) Discounting

This is the last resort but early identification can help. As the end of a season approaches, brands go on EOSS (End of season sale). This is done to liquidate unsold inventory and make way for new season merchandise. Often brands identify slow moving styles (potential unsold inventory) mid-season and give out mid-season discounts. This way, they are able to sell of this stock at a relatively lesser discount.

Discount can be done before or after Inter-store transfers. Our software suggests intelligent discounting based on product's Rate of Sale and Inventory. If a product sells 1pc/day and we have 100 pcs of inventory then the ROS (rate of sale) is 1, this is low so we know that we have enough inventory to last 100 days, however this is potentially a very long period of time, especially for a fast fashion brand and it is highly likely that by 100th day the style would be old and in even less in trend/demand by then.

So based on factors like Rate of Sale, Warehouse Stock Quantity, Sell-through Rate, Age of the product, our software suggests discounts so we do not have to wait till end of season to sell off inventory on very high discounts.

Q4) How have these practices affected the future and current inventory of the brand?

- All are clients which started using our software have seen better allocation and distribution. When already produced, inventory gets allocated to the right stores based on true demand then overall profit margins are improved.
- For future improvement, it is suggested that upcoming season planning is done through our software so that production of any exceeding inventory is avoided.

Q5) Is there a hierarchy of techniques and methods followed while implementation to ensure effective results?

- Proper Planning (assortment, price point, trend)
- Proper Distribution (right product at right place at right time)
- Mid-season discounting for slow moving styles
- Inter store transfers
- End of season sales

Q6) Are there any other methods that you are aware about or may have heard but never practiced for excessive inventory management?

- The method remains constant - planning, distribution, discounting, opening factory outlets (for bigger brands). Only the approaches to the following changes - most times these things are done manually on Excel sheets causing a high margin of human error, often by software similar to what increff is using.
- Another possible option is JIT - Just in time production. In this case, there is no excess inventory as it is produced as per demand. Another possibility is custom made clothes that are designed only after the demand for them is received.
- Finally, there are new technologies coming up that allow printing instantly so a customer can choose the design they want on a garment and have it immediately printed on after they place the order.

Q7) Can you list certain brands, companies, Fashion or Export houses that you think may have experienced and managed excessive inventory and you wish to implement them in the future.

Each and every brand faces excessive inventory. Another way to look at excessive inventory is that it is excessive because it is lying in the wrong place, in the right place/right price, it would definitely sell.

If a brand does not have enough pieces lying in the store (often looked as excessive inventory) then it indicates a case of underbuying meaning styles having potential to sell more were not bought in correct quantities.

L. Key Takeaways

- Improved planning
- Identifying correct size ratios. All sizes do not have equal demand and need not be produced in equal quantities. For example, M and L have much higher demands than XL or XS so this demand has to be considered while producing.
- Correct distribution and store allocation based on the purchasing pattern of each store.
- Producing merchandise on the right price points. Identifying the price your audience is willing to pay and pricing your products correctly.
- Better assortment mix.
- Identifying the categories that sell well and increasing their quantities. If possible, removing categories that are not working. If a brand offers 7 types of bottoms and constantly observes that joggers do not perform but denims do but still want to give buyers the option to shop 7 kinds of bottoms, then minimal quantity of joggers should be planned
- Better distribution

6. Conclusion

Hence, disposing of excess inventory is a balancing act between maximizing what you can get versus any further investment of staff time or other resources. To prevent the issue from becoming a huge headache, monitor and dispose of excess inventory all year-round. Once a year after your physical inventory could mean that much of it has already declined in value.

By investing in a proper inventory management system, retailers can be confident in their demand forecasting and only order what it is they need, lowering the likelihood of excess inventory piling up.

Beyond the impact on profitability, volatility in inventory has an undeniable effect on forecasting. Ensuring one is utilizing the critical metrics to track the health of the inventory and streamlining the processes can make way for deeper analysis of the business.

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