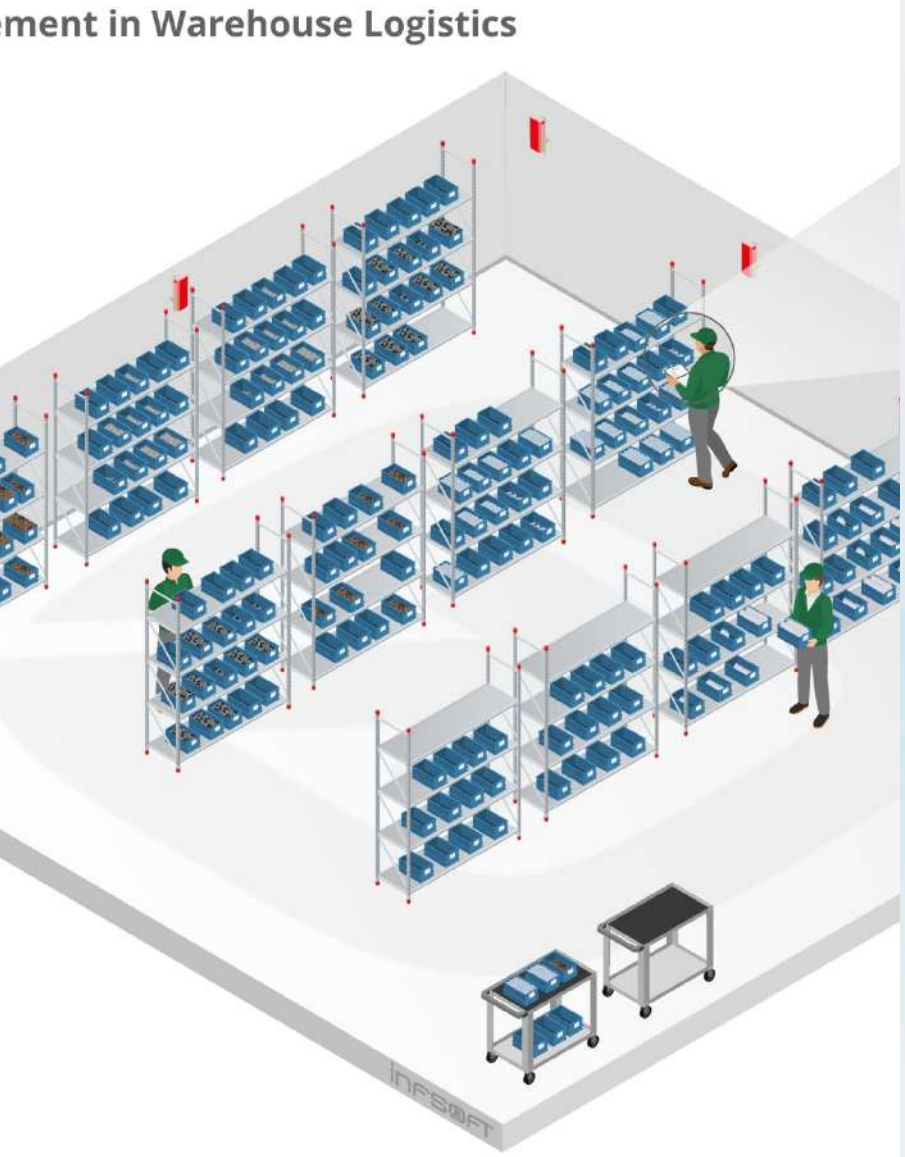


Data Analysis for Inventory Control with SQL and Power BI Tool

Welcome to the world of Data Analysis for Inventory Control, where we will explore how to use SQL and Power BI to manage and optimize inventory efficiently.

by THANET DECHABURAPHA

The Importance of Inventory Control and Data Analysis

1 Reduce Inventory Costs

Minimize holding costs and the risk of overstocking or stockouts with data analysis practices.

2 Better Planning and Decision Making

Use data analysis to make informed decisions, manage inventory in real-time, and monitor key performance indicators.

3 Increase Process Efficiency

Make inventory and stock management a more streamlined process by using data analysis.

Data collect from SAP B1

working with module inventory report

File Edit View Data Go To Modules Tools Window Help

Inventory Status

Item No.

Double-click row number to open following report

Normal

#	Item No.	Item Description	In Stock	Committ
1	0068	Safety Shoes Brown No.10Brand : PANGOLIN:9507U		
2	14336	Connector PVC 2"		
3	24/12/18			
4	dco500			
5	DCO50001	Dacon connector 10 pins production		
6	DCO50001-1	Dacon connector 10 pins production (New Version)		
7	DCO50001-2	Dacon connector 10 pins production		
8	DCO50002	Dacon connector 6 pins production		
9	DCO50002-2	Dacon connector 6 pins production		
10	DCO50003	Dacon power connector		
11	DCO50004	Dacon USB connector		
12	DCO50005-1	CCP Dacon connector 10 pins production		
13	DCO50005-2	BCR Dacon connector 10 pins production		
14	DCO50005-3	DUMMY COVER CONNECTOR 10 PINS	50	
15	DCO50005-5	Male Dacon connector 10 pins production		
16	DCO50006	CCP Dacon connector 6 pins production		
17	DCO50006-1	CCP Dacon connector 6 pins production		
18	DCO50006-2	BCR Dacon connector 6 pins production		
19	DCO50006-3	DUMMY COVER CONNECTOR 6 PINS		
20	DCO50006-8	Female Dacon connector 6 pins production		
21	DCO50007-1	CCP Dacon power connector 6 pins production		
22	DCO50007-2	BCR Dacon power connector 6 pins production		
23	DCO50007-3	Male Dacon connector 6 pins production project		
24	DCO50007-6	Female Dacon power connector 6 pins production		
25	DCO50008-1	CCP Dacon USB/COM connector 6 pins production		
26	DCO50008-2	BCR Dacon USB/COM connector 6 pins production	41	
27	DCO50009	Data Connector 10 pins production (BCR)	25	
28	DCO5001			
29	DCO50010	Data Connector 10 pins production (CCP)	31	
30	DCO50011	Address Connector 10 pins production (BCR)	7	
31	DCO50012	Address Connector 10 pins production (CCP)	13	
32	DCO50013	Dacon power connector 3 pins production (CCP)		
33	DCO50014	Dacon power connector 3 pins production (BCR)		
34	DCO50015	Dacon connector 6 pins (CCP) for ILI tools	29	
35	DCO50015-2	Dacon connector 6 pins (CCP) for ILI tools		
36	DCO50016	Dacon connector 6 pins (BCR) for ILI tools	32	
37	DCO50019	Dacon power connector 3 pins production (CCP)	2	
38	DDPS009	PIG 4" (TE000726)		
39	DESEE092	Adaptor 2.5"-2" (FBE50602)		
40	DPBD0401	4" Magnetic pig model PE/MB/2x4MAG Bidirectional		
41	DPBD0402	4" Cleaning pig model PE/MB/2x4C2B Bidirectional		
42	DPBD0403	4" Gauging pig model PE/MB/2x4-AL bidirectional		

OK

Data cleaning with SQL server

cleaning and filter only Engineering item group

Code | Blame | 47 lines (24 loc) · 844 Bytes

```sql
##check data##

Select *
from inv_data

##Delete not neccesary column##
##Clening process##

ALTER TABLE inv_data
DROP COLUMN Sales_UOM, Pricing_Unit, Revenue_Account

ALTER TABLE inv_data
DROP COLUMN [Bin Location Remark], [Fixed Assets],
[Part Group], [Part Type], [Date of Last Reval# Price]

ALTER TABLE inv_data
DROP COLUMN [Revenue Account - Foreign], [Asset Class], [Item Cost],
[Last Evaluated Price], [Currency of Fixed Commission],
[Inactive from], [Inactive]

ALTER TABLE inv_data
DROP COLUMN [no], [Bin Location Shelf]


##Recheck table##

SELECT *
FROM inv_data
WHERE In_stock IS NOT NULL AND In_stock <> 0;

SELECT t1.*
FROM inv_data t1
JOIN inv_data t2 ON t1.item_no = t2.item_no
WHERE t1.[Item Group] = 'ENG Inventory' AND t1.In_Stock <> 0 AND t2.item_no LIKE 'E%';
```

Data Visualization with Power BI

Interactive Dashboards

Create visually appealing dashboards with interactive features to provide real-time stock and inventory insights.

Powerful Data Analysis

Use Power BI's built-in machine learning capabilities to discover patterns and correlations that could potentially affect inventory management decisions.

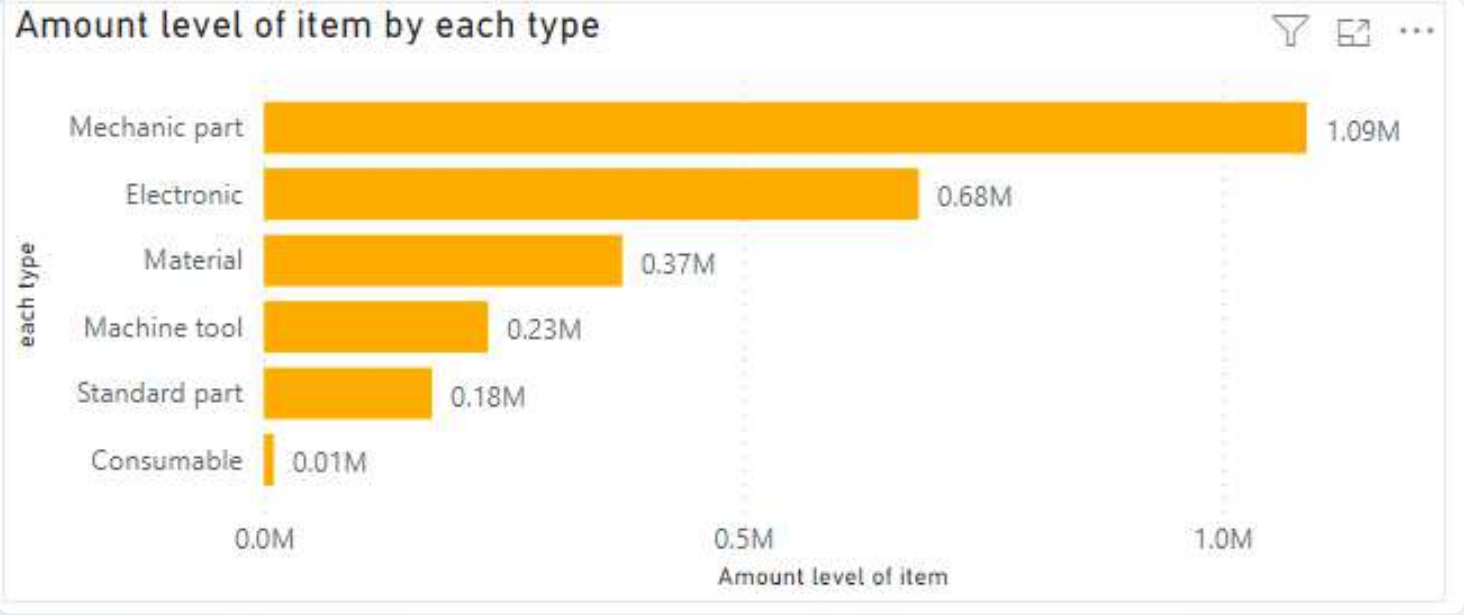
1.What is the most parts valuable in RDE store?

seperate type of item by create DAX

```
Type of item =
SWITCH (
    TRUE (),
    LEFT ( Sheet2[Item_No.], 2 ) = "EE", "Electronic",
    LEFT ( Sheet2[Item_No.], 2 ) = "ER", "Material",
    LEFT ( Sheet2[Item_No.], 2 ) = "ES", "Standard part",
    LEFT ( Sheet2[Item_No.], 2 ) = "ET", "Machine tool",
    LEFT ( Sheet2[Item_No.], 2 ) = "EZ", "Consumable",
    LEFT ( Sheet2[Item_No.], 2 ) = "EM", "Mechanic part",
    "Unknown"
)
```

1.1 What is the most parts valuable in RDE store?

The most valuable item are Mechanic part and 2nd is Electronic part



2.Which item type has the most aging in RDE store?

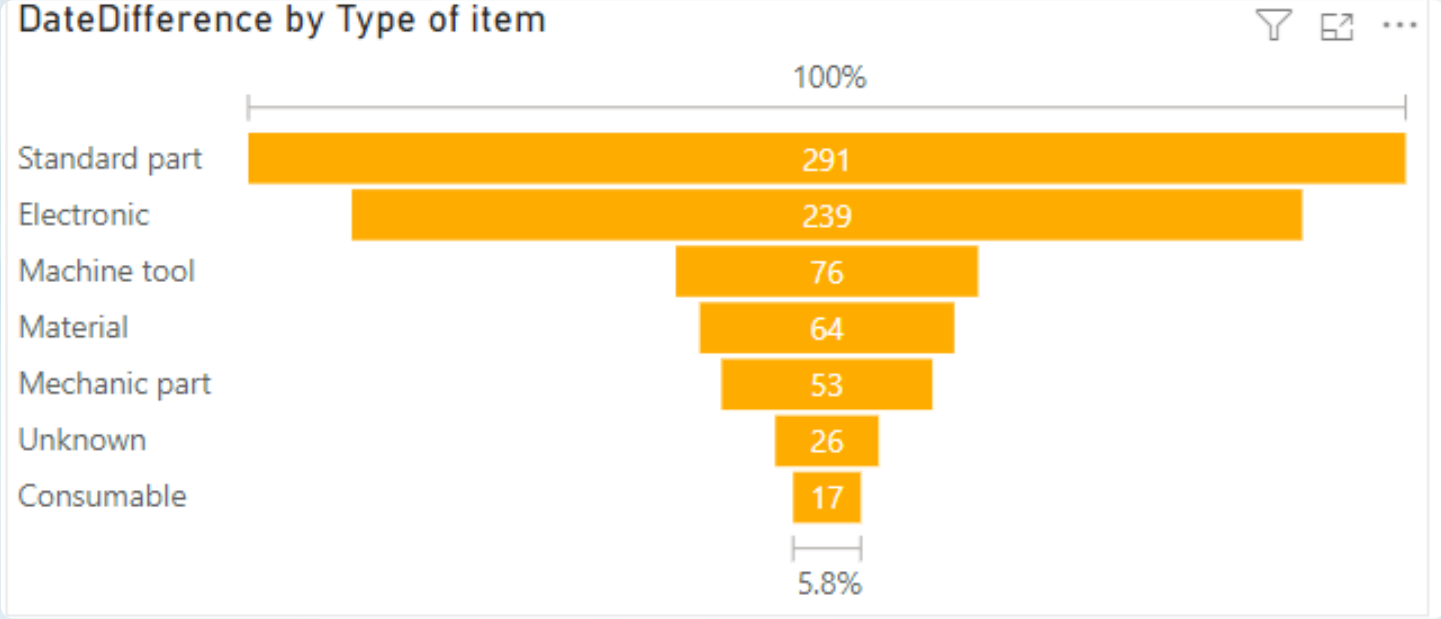
Inventory that has not been sold or used for the past 5 years is considered Dead stock according to the company's policy

Create Dax

```
1  DateDifference = DATEDIFF(Sheet2[Date of Update], DATE(2023, 07, 29), DAY)
```

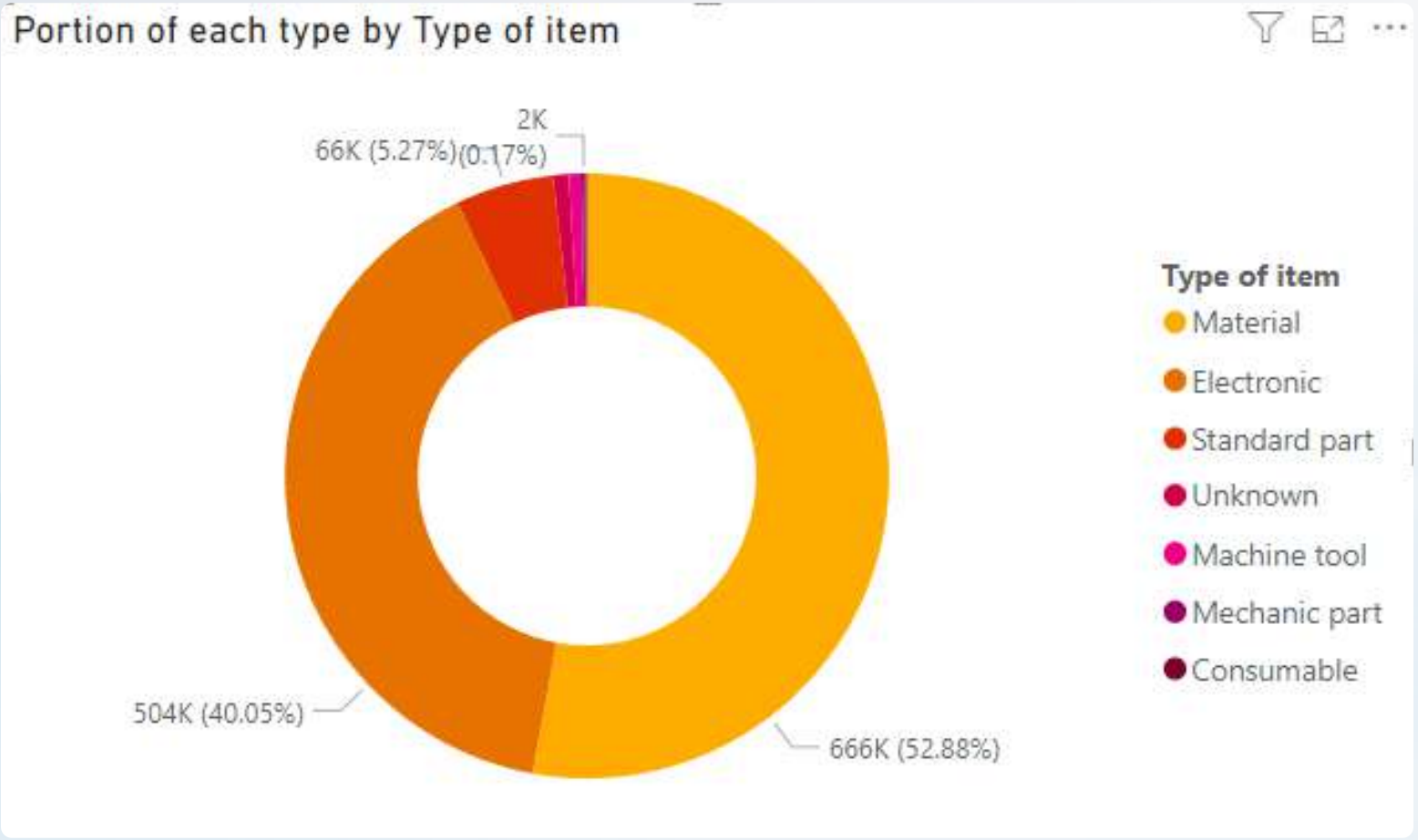
2.1 Which item type has the most aging in RDE store?

We will see the standard part is the most aging in stock

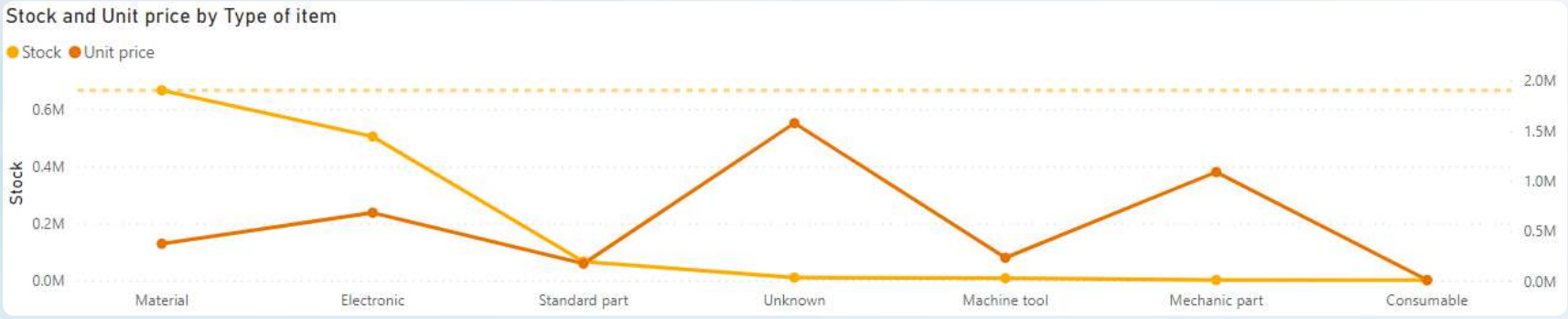


Portion of each type by type of item

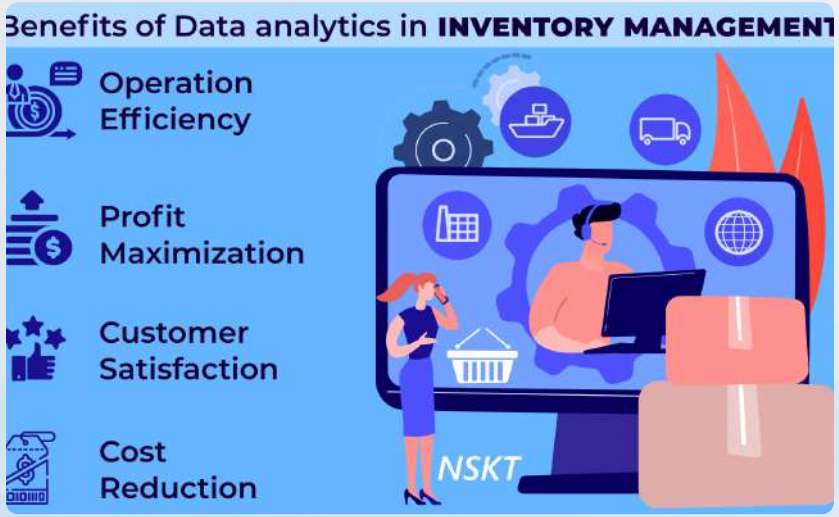
Material have the most



Compare relation between Qty stock and Unit price



Inventory Optimization Techniques



ABC Analysis

Classify products based on their importance and assign varying inventory management strategies to each group.

Collaborative Supply Chain Management

Work with vendors to improve efficiency and develop optimal inventory levels throughout the supply chain.

Benefits of Data Analysis for Inventory Control

Reduced Costs

By optimizing inventory levels and reducing excess stock, companies can save some serious cash.

Increased Efficiency

Data analysis streamlines the inventory management process, making it easier for employees to perform their jobs and use their time effectively.

Improved Decision Making

Data analysis provides insights into inventory trends, enabling businesses to make more informed decisions.

Conclusion and Next Steps

1. Effective inventory control goes hand in hand with data analysis. By implementing SQL and Power BI tools, inventory forecasting, and optimization techniques, companies can reduce costs, improve efficiency.

2. The next steps include implementing these processes within operations, continuously monitoring, and adjusting processes based on the outputs of data studies.