

The background features a dark blue gradient with faint, light blue circular patterns and a scale. The scale is a large circular arc on the left side, with numerical markings from 140 to 260 in increments of 10. Several smaller circular arcs and dashed lines are scattered across the background, some with arrowheads indicating a clockwise direction.

PHARMACY INVENTORY PROFITABILITY AND STOCK OPTIMIZATION

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PROBLEM STATEMENT

Orchard pharmacy frequently ties up capital in slow-moving or low-profit inventory, leading to reduced cash flow and inefficient space utilization. Conversely, high-demand, high-profit items might not be optimally stocked, leading to missed sales opportunities.

GOAL

To analyze the Orchard pharmacy inventory to identify underperforming assets (slow-moving, low-profit items) and key profit drivers (fast-moving, high-profit items), and then propose data-driven recommendations for optimizing purchasing decisions to improve overall profitability and inventory efficiency.

DATASET DESCRIPTION

Data Source: Proprietary Pharmacy Inventory Data

Dataset Columns

- **Department**
- **On-Hand Qty**
- **On-Order Qty**
- **Ext Cost**
- **Ext Price**
- **Profit**
- **Item No**
- **Vendor**
- **Item Name**
- **Quantity**
- **Unit of Measure**

Data Source: Proprietary Pharmacy Inventory Data

Dataset Columns

- **Margin%**
- **Order cost**
- **Margin**
- **Regular Price**
- **Unit Price**
- **Profit Margin%**
- **DGL Qty**
- **AMK Qty**
- **NWB Qty**
- **WBK Qty**
- **NAZ Qty**
- **IHL Qty**

TOOLS USED

- **Microsoft Excel – For Cleaning**
- **Power Query – For Transformation**
- **PowerBI – For Data Modelling, Advanced Calculations Using DAX and Interactive Dashboard Creation.**

APPROACH

- **The analysis involved the following steps:**
- **Step 1 : Before Importing into PowerBI**
- **Data Source Identification**
- **Data cleaning (Checked for missing values, duplicates, and outliers)**
- **Data Transformation (Converted data types as necessary (e.g., dates, numerical values)).**
- **Removed Columns that are not needed for my analysis.**
- **Creation Of Calculated Columns**

APPROACH

- **Step 2: After Importing into PowerBI**
- **Data Modelling**
- **KPI Calculation Using DAX**
- **Interactive Dashboard Creation**
- **Interpretation: Drawing meaningful insights from the data analysis.**

KEY FINDINGS

- **The Pharmacy generates strong revenue with over 29% profit Margin.**
- **Grams Pharma dominates On-Order Qty and Profit contribution which poses an over dependence risk.**
- **Augmentin 625mg & 1g, Vit-C white 100mg, and Rocephin are among the most costly and profitable items. They are top revenue drivers.**
- **Zinc have huge stocks compared to sales which indicates overstocking, tying up cash flow.**
- **The Drug Department dominates profit contribution which shows radiance on a single category leaving other Departments underperforming.**

ACTIONABLE RECOMMENDATION

- **Reduce purchase volumes for slow-moving products like Zinc and invest more in fast moving drugs like Augmentin and Rocephin.**
- **Negotiate better terms with Grams Pharma while actively onboard secondary vendors to avoid supply chain dependency.**
- **Reassess high-cost but low-margin products to see if price adjustments can improve profitability. Consider promotions or slight markups on fast movers that are less price sensitive.**
- **Prioritize fast-moving ,high-margin drugs while trimming down orders for slow-moving stock.**
- **Implement a stock level threshold alert system for Augmentin, Rocephin and Ampiclox B/C.**
- **The Drug Department drives most profit but System and Other Departments are underperforming. Explore if this is due to low demand or stocking inefficiencies and either boost marketing or reduce orders in underperforming Departments.**

DATA EXAMINATION

CSV containing the data was examined in Microsoft Excel to understand the structure of the data and data points.

DATA TRANSFORMATION

Inventory Summary - Power Query Editor

File Home Transform Add Column View

Close & Load Refresh Preview Manage Query

Properties Advanced Editor

Choose Columns Remove Columns Keep Rows Remove Rows Sort Split Column Group By Transform

Data Type: Any Use First Row as Headers Replace Values

Merge Queries Append Queries Combine Files Manage Parameters Data source settings New Source Recent Sources New Query

Queries [1] Inventory Sum...

fx = Table.SelectRows("#Changed Type", each ([Column1] <> null and [Column1] <> #date(2024, 2, 2) and [Column1] <>)

ABC 123	Column1	ABC 123	Column2	ABC 123	Column3	ABC 123	Column4	ABC 123	Column5	ABC 123	Column6	ABC 123	Column7	ABC 123	Column8
1	Department		On-hand Qty		On Order		Ext Cost		Ext Price		Profit		Item #		Vendor Narr
2	ACECLOFENAC		0		0		-8730		-19400		-10670		8847		System
3	ACECLOFENAC CAP		-190		444		-395366.66		-572600		-177233.34		2954		GRAMS PHA
4	ACECLOFENAC CAP		-819		1080		-1038920		-1503700		-464780		944		GRAMS PHA
5	ACECLOFENAC PARA+CHLOZOAZ...		-162		10		-400360.41		-548550		-148189.59		4806		GRAMS PHA
6	ACECLOFFENAC+PARACETAMOL		22		455		100214		137950		37736		9209		IPCA PHARM
7	ACETAMINOPHEN		-480		1760		-101800.37		-164850		-63049.63		1601		GRAMS PHA
8	ACETAMINOPHEN		20		0		2461.46		6960		4498.54		4446		GRAMS PHA
9	ALBENDAZOLE		-952		0		-25538.26		-68000		-42461.74		395		GRAMS PHA
10	ALBENDAZOLE		-20		10		-3875		-6200		-2325		4796		GRAMS PHA
11	ALBENDAZOLE		-970		1090		-346200		-692400		-346200		4797		GRAMS PHA
12	ALBENDAZOLE		-429		120		-134100		-335250		-201150		4265		GRAMS PHA
13	ALBENDAZOLE		508		430		111000		155400		44400		4085		GRAMS PHA
14	ALBENDAZOLE		0		0		800		1200		400		9183		GBGL PHARI
15	ALBENDAZOLE		166		0		11055.3		18600		7544.7		9166		MAYDON PH
16	AMBROXOL,SALBUTAMOL+GUAIF...		177		110		346500		472500		126000		645		GRAMS PHA
17	AMLODIPINE		-199		0		-169320		-244800		-75480		158		GRAMS PHA
18	AMLODIPINE		-139		39		-75303.14		-101500		-26196.86		3053		GRAMS PHA
19	AMLODIPINE		-18		10		-31820		-51600		-19780		2452		GRAMS PHA
20	AMLODIPINE		-621		0		-348130		-449200		-101070		2715		GRAMS PHA
21	AMLODIPNE + LOZARTAN		120		204		246400		323400		77000		172		GRAMS PHA
22	AMOXICILLIN & CLAVULANATE PO...		61		4		231000		305250		74250		1684		GRAMS PHA
23	AMOXICILLIN & CLAVULANATE PO...		-4		1		162150		239700		77550		351		GRAMS PHA
24															

34 COLUMNS, 999+ ROWS

PREVIEW DOWNLOADED AT 1:20

Query Settings

PROPERTIES

Name

Inventory Summary

All Properties

APPLIED STEPS

Source

Navigation

Changed Type

Filtered Rows

Promoted Headers

Changed Type1

Filtered Rows1

Changed Type2

Replaced Value

Changed Type3

Replaced Value1

Changed Type4

Replaced Value2

Changed Type5

Replaced Value3

Changed Type6

Replaced Value4

Changed Type7

- CSV imported into power query for transformation.
- Data Preprocessing.

CLEANED DATA

Book - Excel									
Table Tools									
File Home Insert Draw Page Layout Formulas Data Review View Developer Help Design Tell me what you want to do Share									
E12									
	A	B	C	D	E	F	G	H	
1	Department	On-hand Qty	On-Order Qty	Ext Cost	Ext Price	Profit	Item #	Vendor Name	Item
2	ACECLOFENAC	0	0	8730	19400	10670	8847	System	COD
3	ACECLOFENAC CAP	190	444	395366.66	572600	177233	2954	GRAMS PHARMACEUTICALS	MIC
4	ACECLOFENAC CAP	819	1080	1038920	1503700	464780	944	GRAMS PHARMACEUTICALS	CHI
5	ACECLOFENAC PARA+CHLOZOXAZONE	162	10	400360.41	548550	148190	4806	GRAMS PHARMACEUTICALS	ZER
6	ACECLOFFENAC+PARACETAMOL	22	455	100214	137950	37736	9209	IPCA PHARMA LTD	ZER
7	ACETAMINOPHEN	480	1760	101800.37	164850	63050	1601	GRAMS PHARMACEUTICALS	EAS
8	ACETAMINOPHEN	20	0	2461.46	6960	4499	4446	GRAMS PHARMACEUTICALS	TYLE
9	ALBENDAZOLE	952	0	25538.26	68000	42462	395	GRAMS PHARMACEUTICALS	AXE
10	ALBENDAZOLE	20	10	3875	6200	2325	4796	GRAMS PHARMACEUTICALS	ZEB
11	ALBENDAZOLE	970	1090	346200	692400	346200	4797	GRAMS PHARMACEUTICALS	ZEB
12	ALBENDAZOLE	429	120	134100	335250	201150	4265	GRAMS PHARMACEUTICALS	TAN
13	ALBENDAZOLE	508	430	111000	155400	44400	4085	GRAMS PHARMACEUTICALS	SLIZ
14	ALBENDAZOLE	0	0	800	1200	400	9183	GBGL PHARMA LTD	TAC
15	ALBENDAZOLE	166	0	11055.3	18600	7545	9166	MAYDON PHARMACEUTICALS LTD.	WO
16	AMBROXOL,SALBUTAMOL+GUAIFENESI	177	110	346500	472500	126000	645	GRAMS PHARMACEUTICALS	BRO
17	AMLODIPINE	199	0	169320	244800	75480	158	GRAMS PHARMACEUTICALS	AMI
18	AMLODIPINE	139	39	75303.14	101500	26197	3053	GRAMS PHARMACEUTICALS	MYL
19	AMLODIPINE	18	10	31820	51600	19780	2452	GRAMS PHARMACEUTICALS	JUV
20	AMLODIPINE	621	0	348130	449200	101070	2715	GRAMS PHARMACEUTICALS	LOP
21	AMLODIPNE + LOZARTAN	120	204	246400	323400	77000	172	GRAMS PHARMACEUTICALS	AMI
22	AMOXICILLIN & CLAVULANATE POTA	61	4	231000	305250	74250	1684	GRAMS PHARMACEUTICALS	ENH
23	AMOXICILLIN & CLAVULANATE POTA	4	1	162150	239700	77550	351	GRAMS PHARMACEUTICALS	AUG
24	AMOXICILLIN & CLAVULANATE POTA	16	0	56700	78750	22050	9698	HEALTHLINE LTD	SKY
25	AMOXICILLIN & CLAVULANATE POTA	40	0	29700	43200	13500	9431	HEALTHLINE LTD	SKY
26	AMOXICILLIN & CLAVULANATE POTA	1	32	5600	7500	1900	3687	GRAMS PHARMACEUTICALS	PRO
27	AMOXICILLIN & CLAVULANATE POTA	13	5	152550	209050	56500	1458	GRAMS PHARMACEUTICALS	DIG
28	AMOXICILLIN & CLAVULANATE POTA	22	0	24750	47250	15750	4250	GRAMS PHARMACEUTICALS	DIG

- Duplicate values were removed.
- Negative figures corrected.
- Columns not needed for the analysis were removed.
- Calculated columns created.
- Data types changed.

INTERACTIVE DASHBOARD

Orchad Pharmacy Inventory Analysis

3bn

Total Sales

26M

Total Quantity

872M

Total Profit

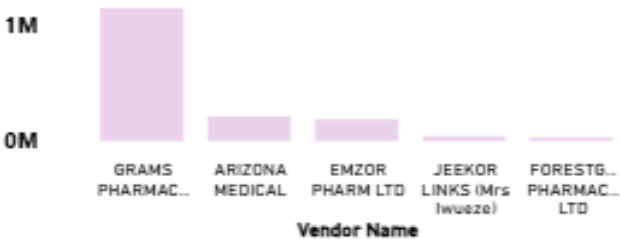
9.82

Average Profit Margin

34.18K

Total Profit Margin

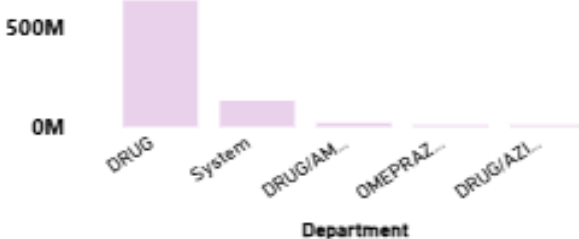
On-Order Qty by Vendor Name



10 Most Costly Items

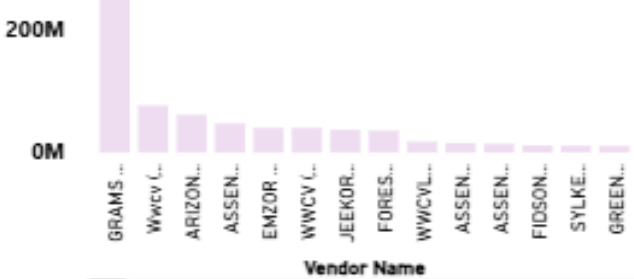


Top 5 Department



Item Name	Sum of On-hand Qty	Sum of Unit Profit	Sum of Profit
AUGMENTIN 625 TAB xPkt	2691	8,000.00	41280000
AUGMENTIN 1g TAB xPkt	2059	7,454.00	33356650
VIT-C White 100mg TAB xTab	10667907	2.60	32535510
ROCEPHIN INJ. xPkt	1822	4,700.00	17422900
AMPICLOX B/C CAP xCd	3694	2,800.00	16486400
ZINC 100mg MASON TAB xTab	287281	25.00	14809925
AMOKSIKLAV 625 TAB xPkt	3426	2,050.00	13496983
GALVUS MET 50/1000mg UK TABxCd	2639	3,066.67	11668667
LABZOLE CAP xPkt	12181	354.00	9177096

Sum of Profit by Vendor Name



THANK YOU