

Exploratory Data Analysis Project

FedEx Logistics Performance Analysis

Sections:

- 1) Supplier Performance and Reliability
- 2) Logistics and Cost Efficiency
- 3) Trend Analysis
- 4) Profitability and Business Impact
- 5) Product Characteristics and Pricing

Supplier Performance and Reliability

Purpose:

Who are our reliable vendors, and how much do delays affect supply chain?

Which destination countries have consistent records of shipment delays? Which Vendors are responsible?

Do Regional Distribution Centers and External Vendors have different shipment periods?

Year

2006

2007

2008

2009

2010

2011

2012

2013

2014

On Time Shipment Percentage

OnTime %

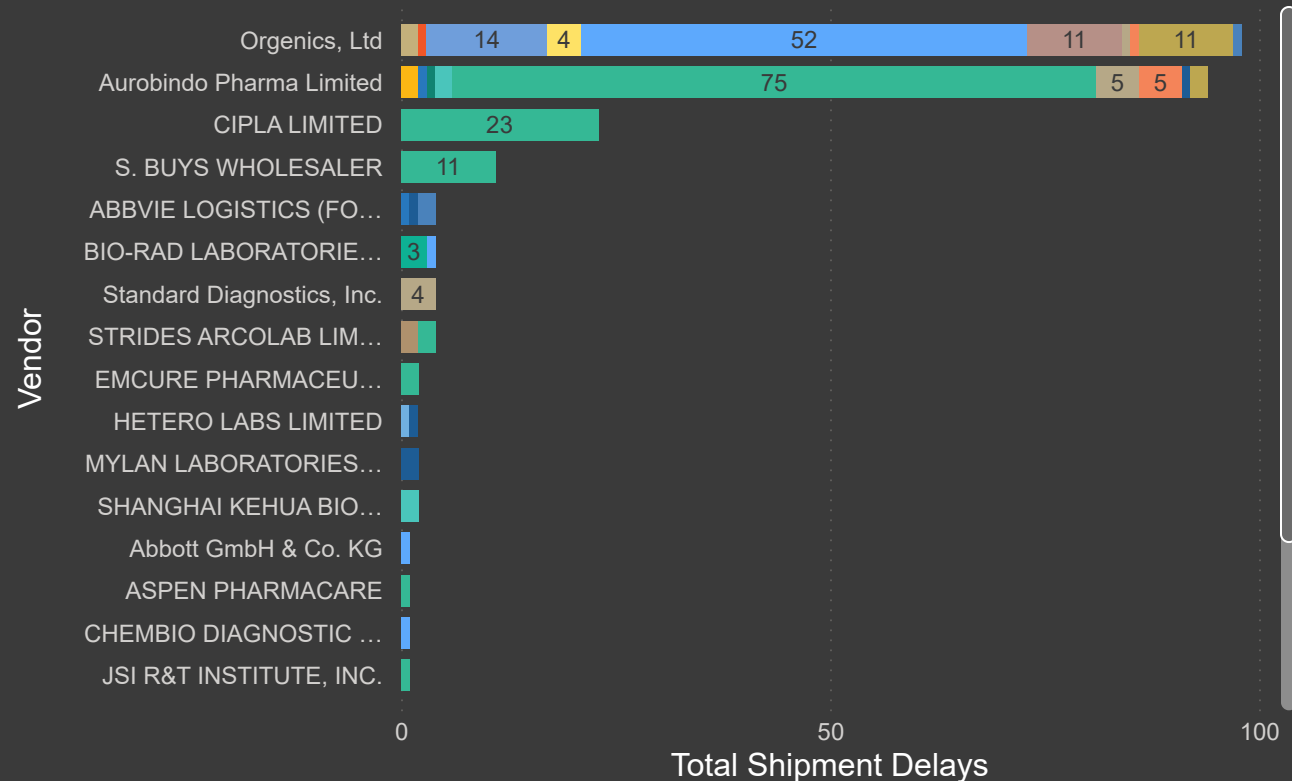
88.51

Country with Most Shipment Delays

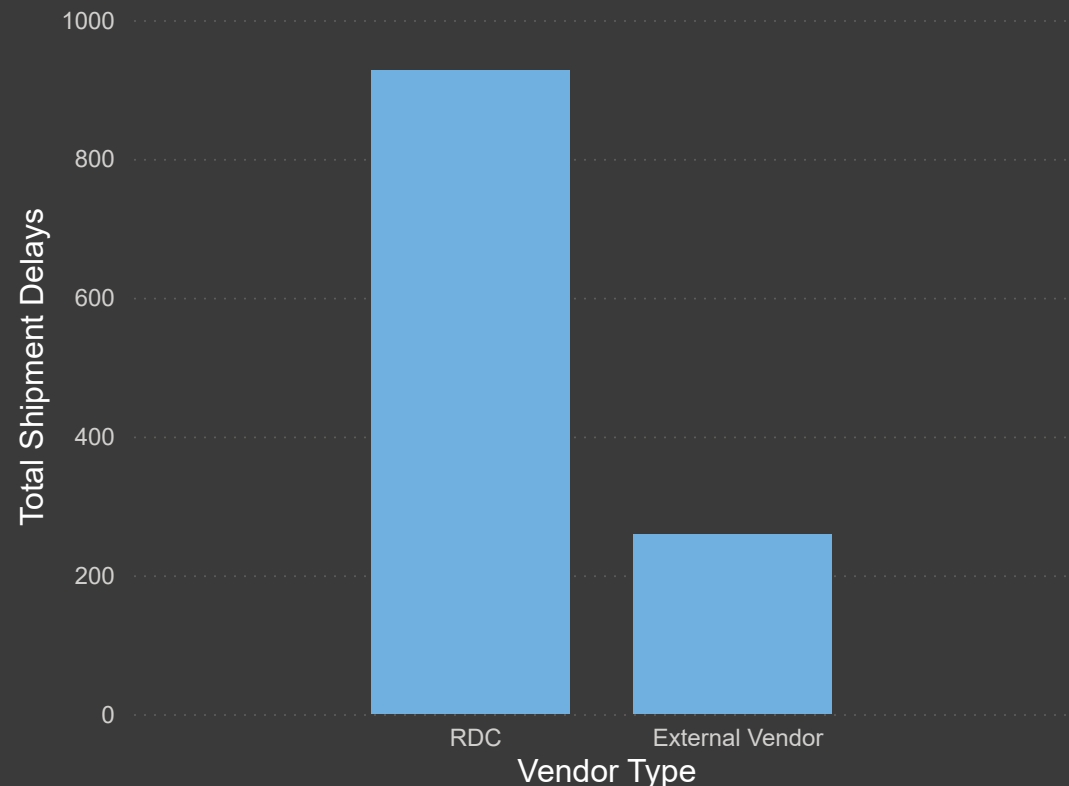
Nigeria

Total Shipment Delays by Vendor and Country

Country ● Botswana ● Cameroon ● Congo, ... ● Côte d'I... ● Ethiopia ● Ghana ● Guyana ● Haiti



Total Shipment Delays by Vendor Type



Logistics and Cost Efficiency

Purpose:

Are we shipping efficiently, and are freight costs aligned with product type & Incoterms?

Which Product Groups and sub product categories have maximum freight charges?

Which shipping modes cost high?

Year

2006

2007

2008

2009

2010

2011

2012

2013

2014

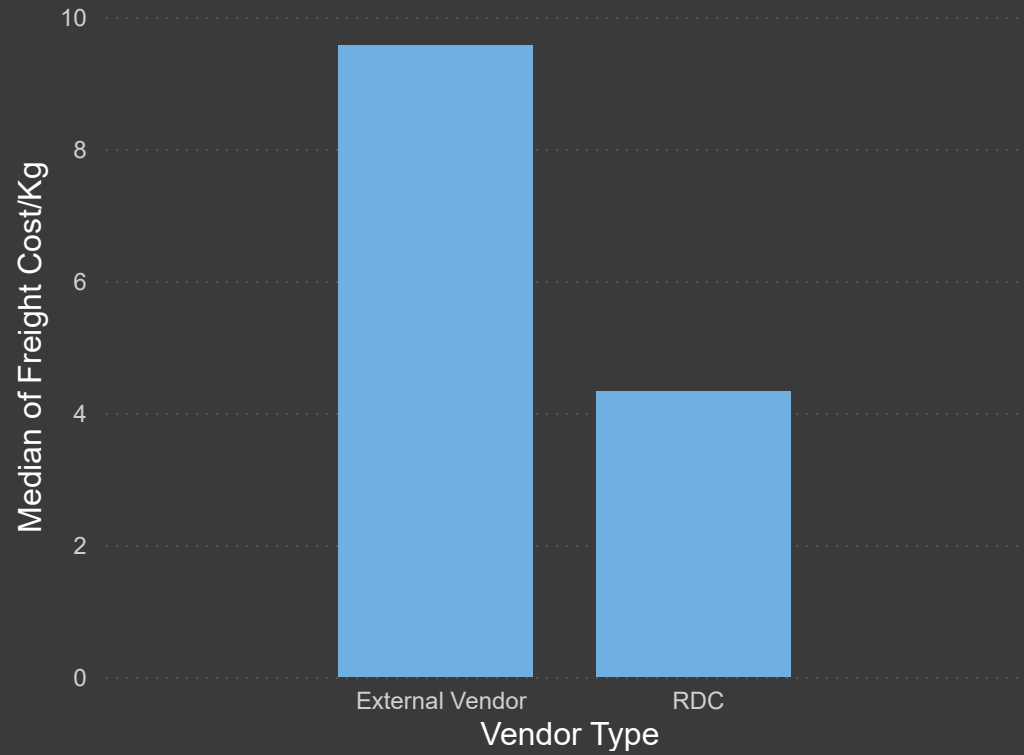
Product Group with Max Freight Cost/Kg (Median Value)

MRDT: 185.14

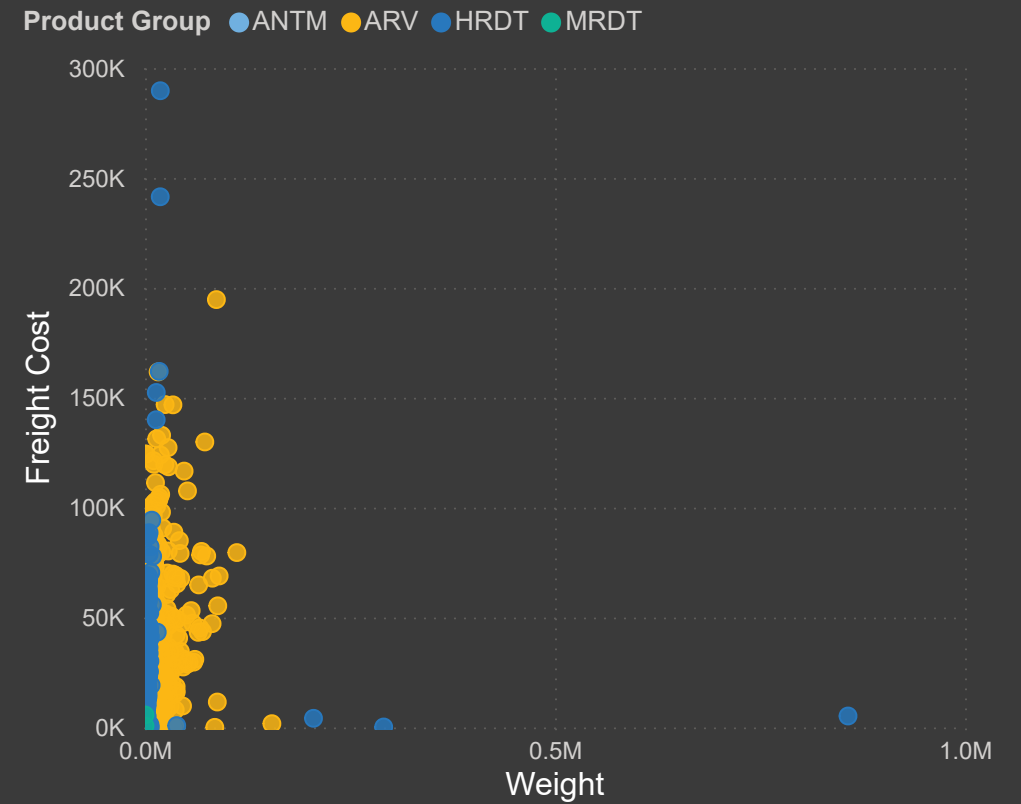
ARV

Product Group with Highest Weight Median

Median of Freight Cost/Kg by Vendor Type



Product Group, Weight and Freight Cost



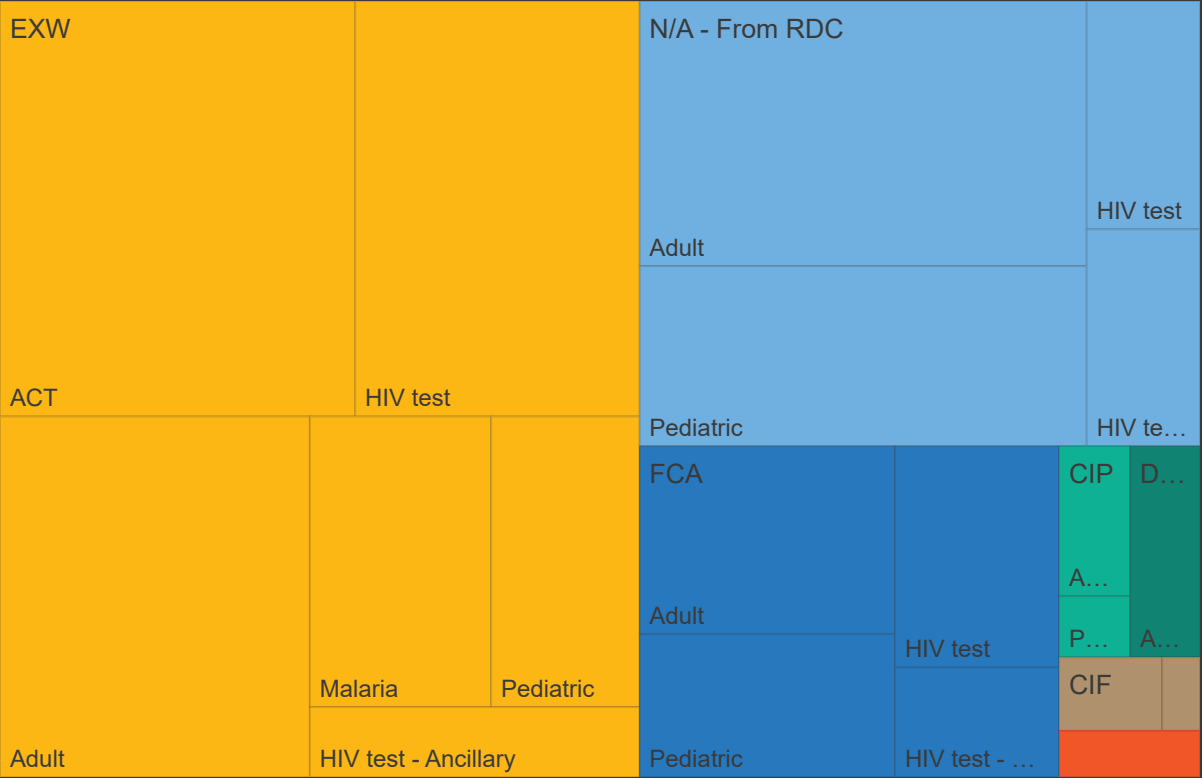
Year

2006	2007	2008
2009	2010	2011
2012	2013	2014

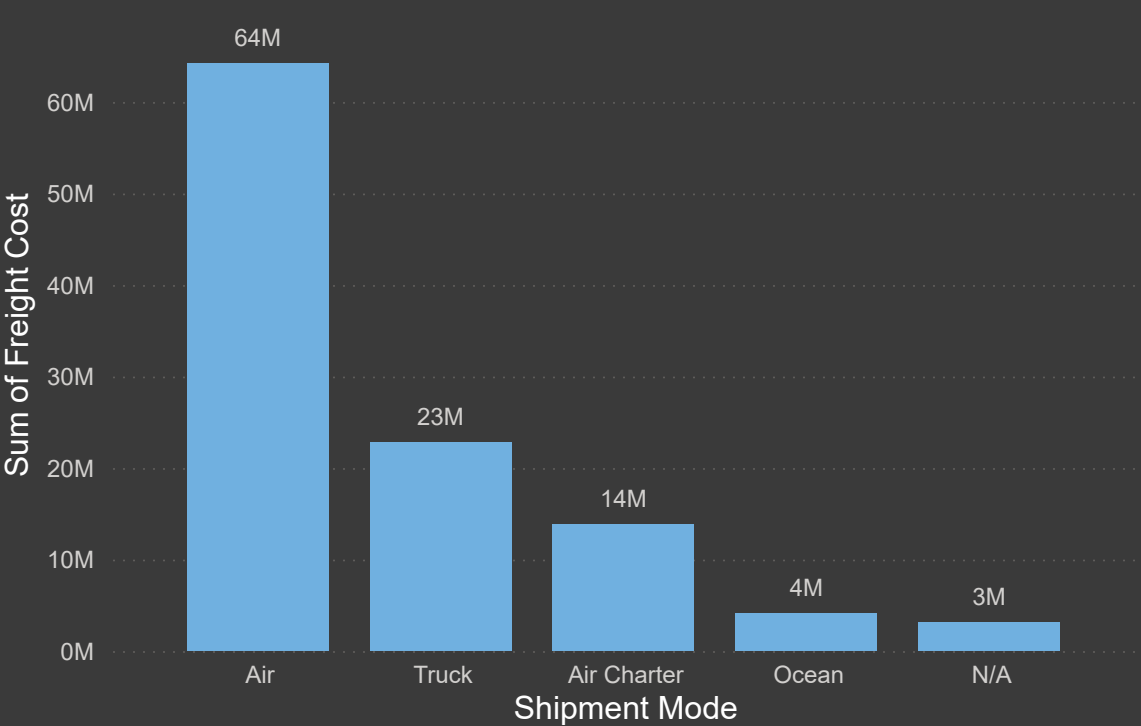
Product Category with Max Freight Cost/Kg

HIV test - Ancillary: 22.78

Median of Freight Cost by Vendor INCO Term and Sub Classification



Sum of Freight Cost by Shipment Mode

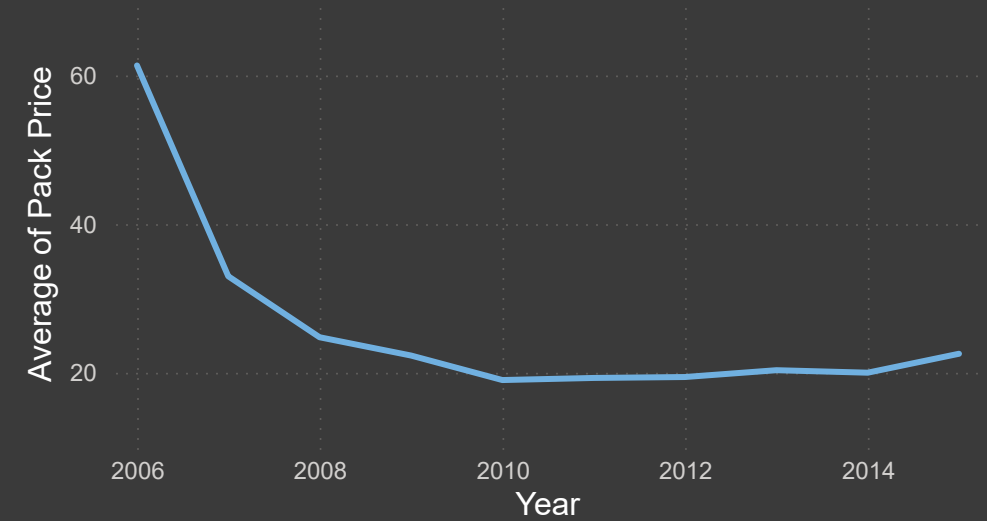


Trend Analysis

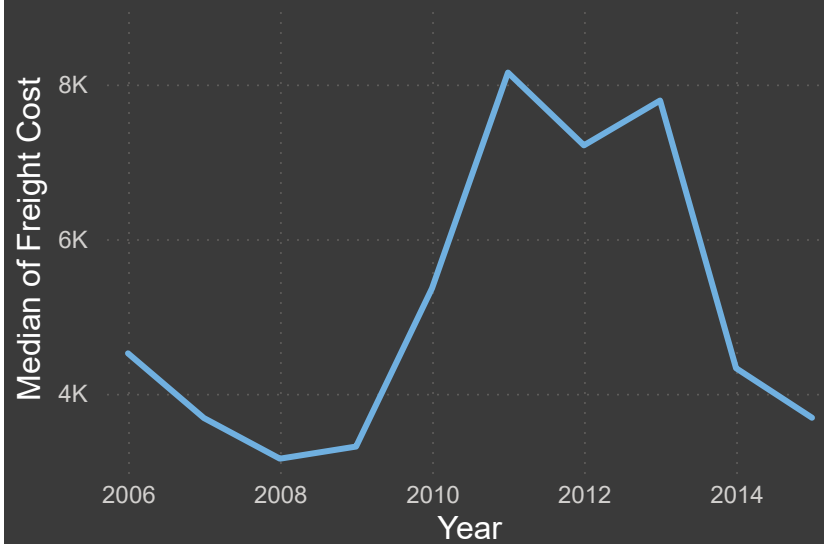
Purpose:

How profitability, cost and product price (revenue) have been impacted over time?

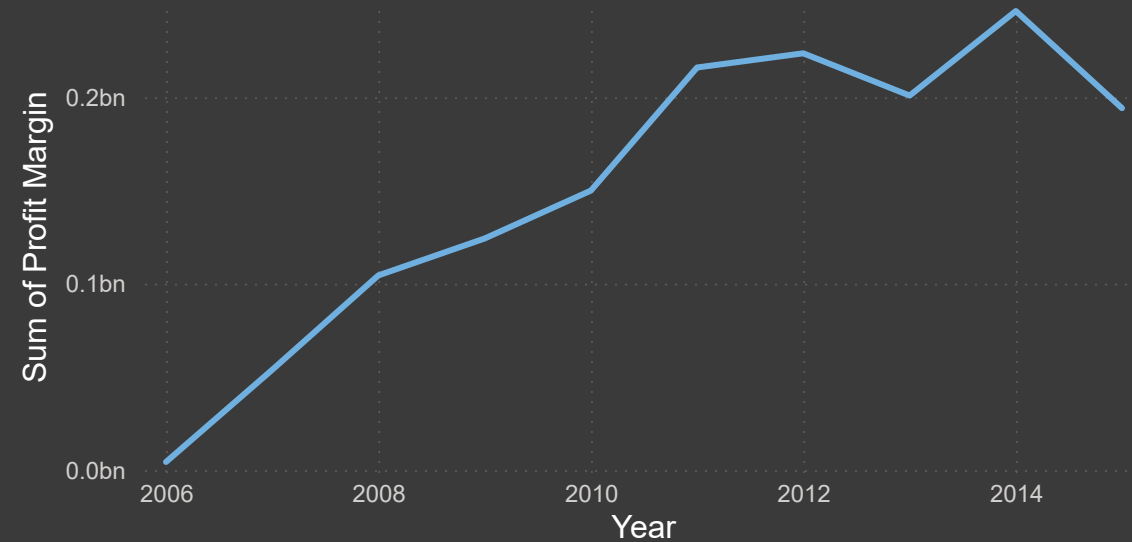
Average of Pack Price by Year



Median of Freight Cost by Year



Sum of Profit Margin by Year



Profitability and Business Impact



Purpose:

Which brands of pharmaceuticals and other products have high shipment values?

Which Manufacturing Units have highest profitability and shipping quantities?

Which Product groups generate high profits?

Which Product categories have highest and lowest shipped item values?



Year

2006

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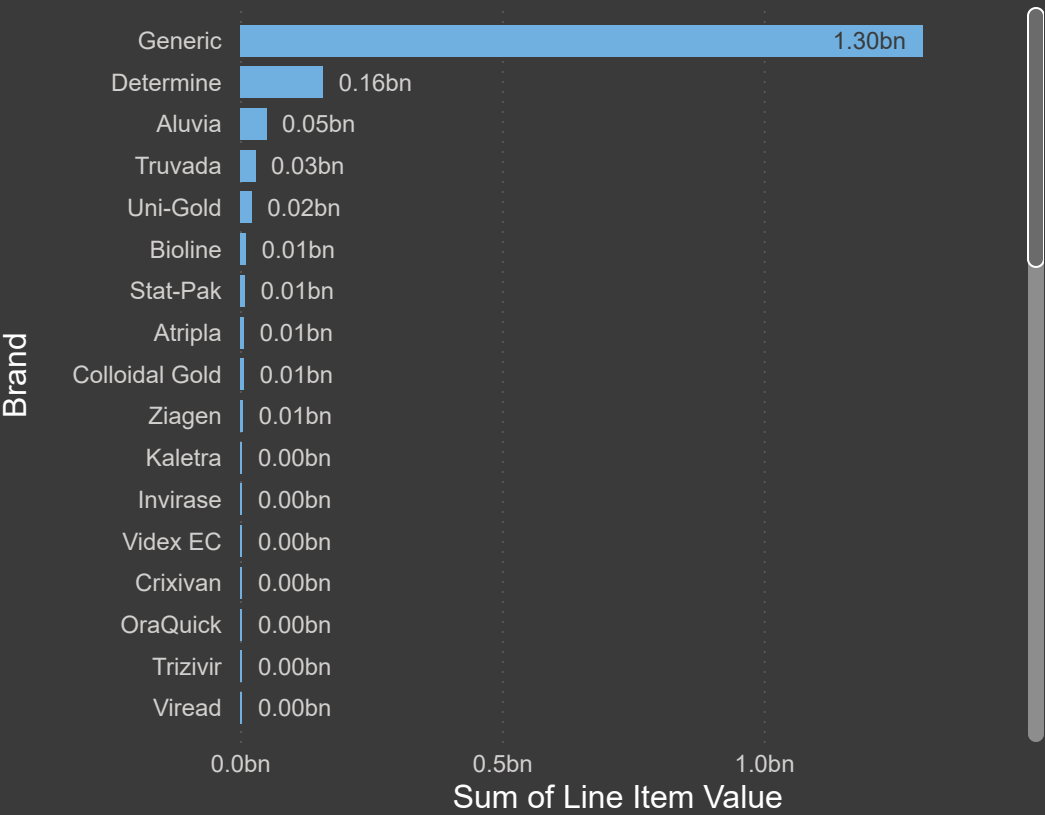
Product Category with Maximum Total Item Value Shipped

Adult: 1360122113.46

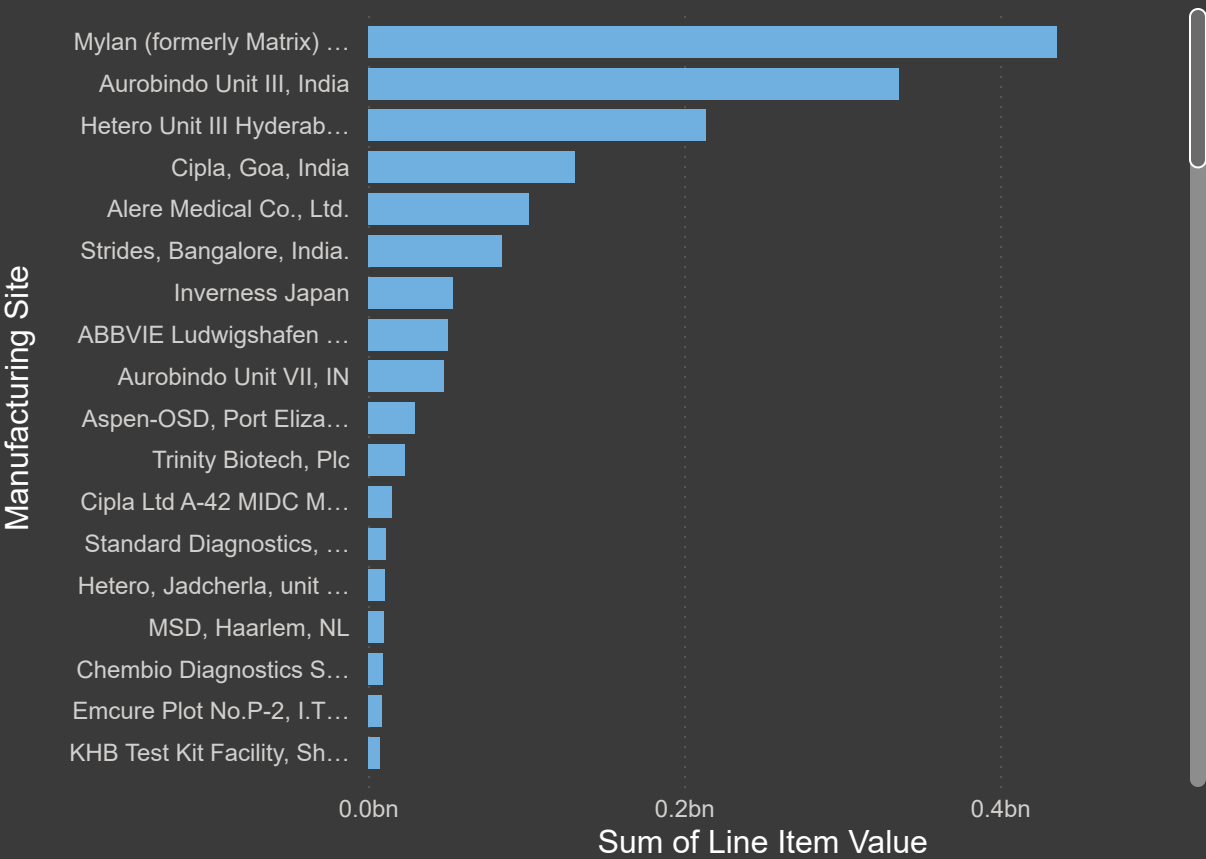
Product Category with Minimum Total Item Value Shipped

Malaria: 355241.66

Sum of Line Item Value by Brand



Sum of Line Item Value by Manufacturing Site



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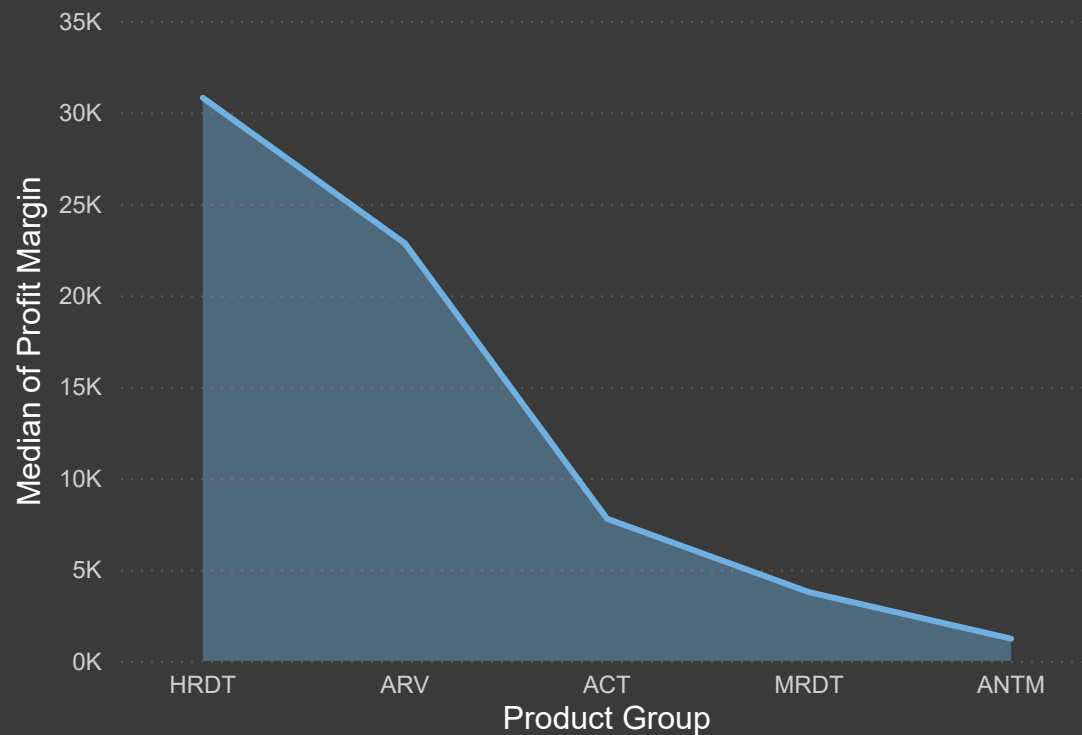
Manufacturing Unit with Highest Profit Margin

Mylan (formerly Matrix) Nashik: 415968239.82

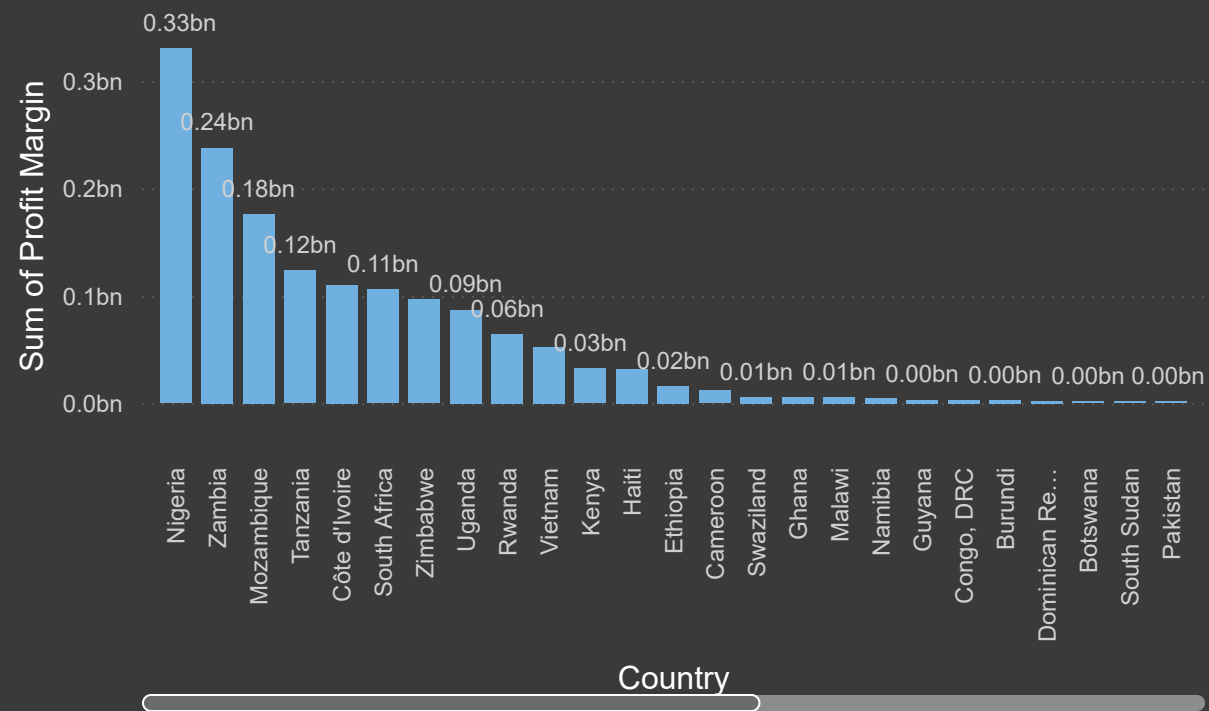
Manufacturing Unit shipping Highest Quantity of Product

Aurobindo Unit III, India: 47848393.00

Median of Profit Margin by Product Group



Sum of Profit Margin by Country



Product Characteristics and Pricing

Purpose:

Which Dosage Forms are shipped in high numbers and the highest freight cost?

How Unit Price of Product effect the Profit Margin ?

Which Molecule/Test Type are shipped the most?

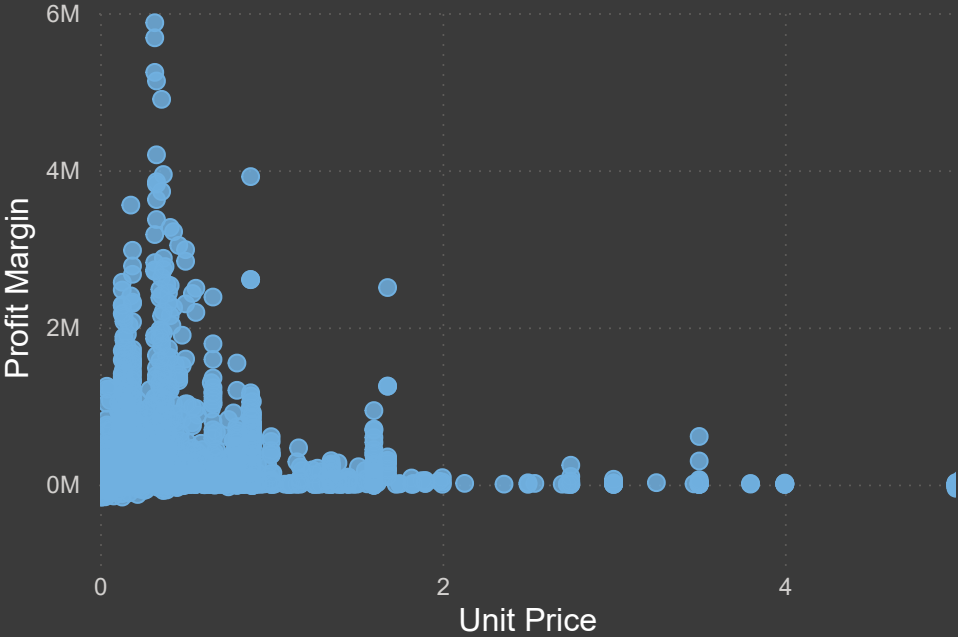
Year

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Dosage Forms with Highest Total Freight Cost
Tablet - FDC: 42483543.00

Molecule/Test Type with Highest Total Shipped Line Quantity
Lamivudine/Nevirapine/Zidovudine: 34498798.00

Unit Price and Profit Margin



Count of ID by Dosage Form and Sub Classification

Sub Classification ● ACT ● Adult ● HIV test ● HIV test - Ancillary ● Malaria ● Pediatric

