

# Global Shipment Performance Analysis – FedEx Dashboard Report



## Business Problem Statement :-

FedEx, one of the world's leading logistics and supply chain companies, manages thousands of international shipments daily across multiple regions, transportation modes, and product categories. As global trade expands, maintaining delivery efficiency, controlling freight costs, and ensuring customer satisfaction have become more challenging.

To address these challenges, FedEx developed the Global Shipment Dashboard, which provides a comprehensive overview of key performance metrics including total shipment volume, shipment value, delivery performance, freight costs, and regional distribution.

However, despite having large volumes of data, the company faces several operational questions:

- Which regions or countries contribute the most to shipment value and cost?

- What factors cause shipment delays and how can they be minimized?
- Are current freight costs proportionate to shipment value?
- Which shipment modes (Air, Truck, Ocean, etc.) are the most cost-efficient?
- How effective are fulfillment sources such as Regional Distribution Centers (RDCs) versus Direct Drops?

The main objective is to perform an in-depth analysis of global shipment performance to identify trends, inefficiencies, and opportunities for optimization.

This analysis will help FedEx:

- Improve on-time delivery performance
- Reduce freight and operational costs
- Enhance fulfillment strategies
- Strengthen decision-making through data-driven insights



## KPI Cards Overview :-

Total Shipments	Total Value (USD)	On-Time Deliveries %	Avg Delay (Days)	Freight Cost (USD)
8549	\$1,520M	86.9%	2.7 Days	\$68.8M

The dashboard summarizes five key performance indicators (KPIs) that represent the overall efficiency of FedEx's global shipment operations. These KPIs help monitor shipment volume, value, delivery performance, and cost management across countries and modes of transport.

KPI Name	Value	Description / Insight
<b>Total Shipments</b>	<b>8,549</b>	Represents the total number of shipments processed globally within the selected period.
<b>Total Shipment Value (USD)</b>	<b>\$1,520M</b>	Indicates the total monetary value of all shipments handled by FedEx. Reflects overall business scale.
<b>On-Time Deliveries (%)</b>	<b>86.9%</b>	Shows the percentage of shipments delivered within the promised time frame. A strong indicator of service efficiency, though improvement is possible.
<b>Average Delay (Days)</b>	<b>2.7 Days</b>	Represents the mean number of days shipments are delayed beyond their expected delivery date. Highlights areas where process optimization is needed.
<b>Freight Cost (USD)</b>	<b>\$68.8M</b>	Total transportation and logistics cost incurred. Accounts for roughly <b>4.5%</b> of total shipment value, showing potential for cost optimization.



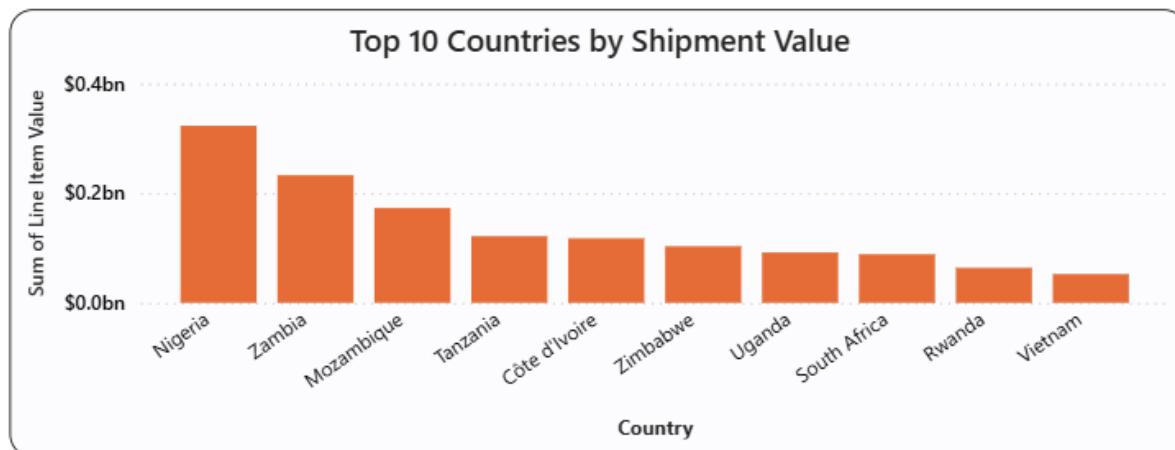
### Quick Insights

- The **on-time delivery rate (86.9%)** is good but short of the ideal 95% target.
- **Average delay of 2.7 days** suggests certain countries or modes are facing logistical challenges.

- **Freight cost (4.5% of total shipment value)** highlights an opportunity to reduce air shipment dependency.
- **High shipment value (\$1,520M)** confirms the scale and global reach of FedEx operations.



## Chart 1: Top 10 Countries by Shipment Value :-



### ✳️ Description

This chart displays the **top 10 countries** based on their total shipment value in USD.

It highlights which markets contribute most to FedEx's global business and revenue generation.

### 📊 Observations

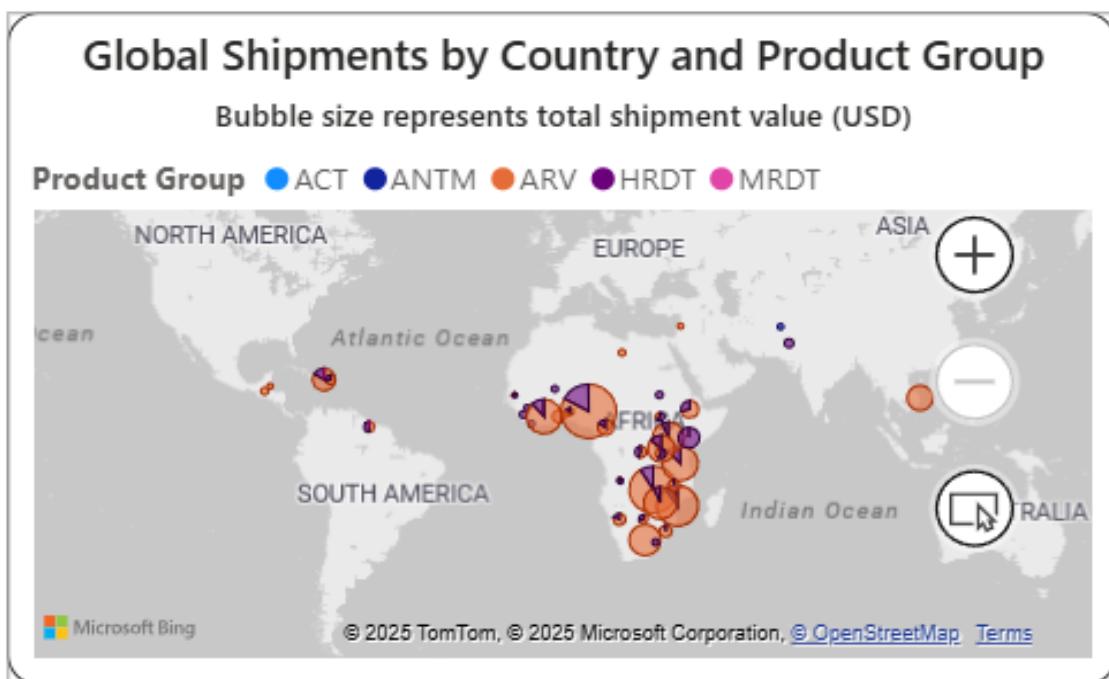
- **Nigeria** and **Zambia** contribute the highest shipment values among all countries.
- **Mozambique**, **Tanzania**, and **Côte d'Ivoire** follow as key contributors.
- African countries collectively hold a **major share of total shipment value**.
- Some regions show **lower shipment values**, indicating either lower trade activity or potential for market expansion.

### 💡 Insights

- FedEx's business is **heavily concentrated in African regions**, suggesting high demand in those markets.
- These high-value countries should be **prioritized for efficient delivery planning and cost optimization**, as even small improvements can yield significant financial impact.
- **Low-value regions** could be analyzed further for growth opportunities through marketing or logistics network expansion



## Chart 2: Global Shipments by Country and Product Group :-



### Description

This visualization shows the **global distribution of shipments** categorized by **country and product group**.

Each bubble represents the **total shipment value (USD)** for a particular country, and color represents the **product category** (e.g., ACT, ANTM, ARV, HRDT, MRDT).

An **interactive slicer** has been added that allows users to **select a specific country**. Upon selection, the map **automatically zooms in** on that country, displaying its shipment data in detail.

Country

All

This interactivity enhances user experience and helps stakeholders **analyze regional-level shipment performance** efficiently.



## Observations

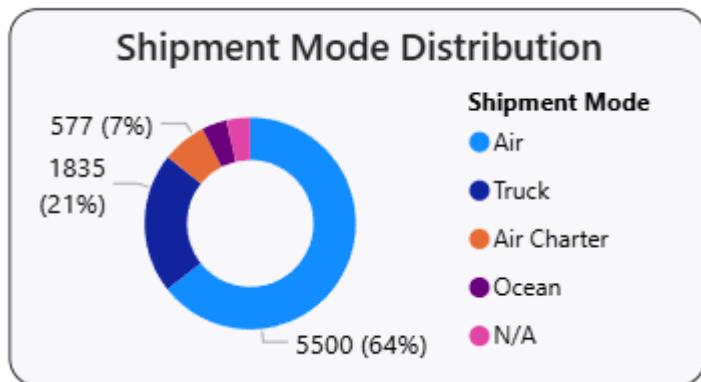
- African countries like **Nigeria, Zambia, and Tanzania** show the largest shipment bubbles, indicating higher business volume.
  - **ACT, ANTM, and HRDT** are the most frequently shipped product categories.
  - The slicer enables detailed **country-level analysis**, making it easy to compare shipment values and product dominance within each nation.
  - Smaller bubbles across other continents suggest **lower shipment activity** or **emerging markets** for FedEx expansion.
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## Insights

- The **interactive slicer** allows focused analysis, enabling users to drill down into individual countries and understand their shipment mix.
- The data reveals that **a few African countries dominate** the global shipment landscape — optimization in these regions could greatly impact overall performance.
- Product-wise insights can be used to **forecast demand** and **plan regional inventory** more effectively.
- **Emerging or low-value countries** can be targeted for expansion by improving logistics routes and promotional strategies.

## Chart 4: Shipment Mode Distribution :-



### Description

This chart illustrates the distribution of global shipments across different transportation modes — **Air, Truck, Air Charter, Ocean, and N/A**. It helps FedEx understand which shipment modes dominate its global logistics network and how resources are allocated.

### Observations

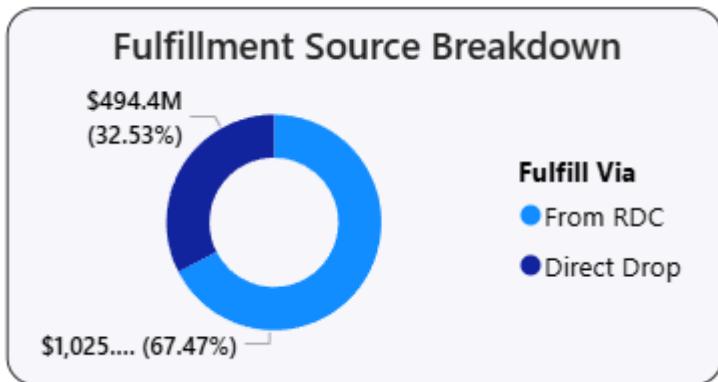
- **Air shipments (64%)** form the majority of FedEx's logistics operations.
- **Truck shipments (21%)** represent the secondary mode, mainly used for regional or land-based deliveries.
- **Air Charter (7%)** and **Ocean (small share)** indicate limited but strategic use for specialized or large-volume shipments.

### Insights

- Heavy dependency on **Air transport** ensures fast delivery but also contributes to **higher freight costs**.
- **Truck shipments** offer a good cost-balance and could be expanded for short-distance deliveries to optimize expenses.
- Increasing **Ocean freight** for non-urgent shipments could significantly **reduce cost per unit shipped**.
- The current distribution highlights a strong air-dominant network suitable for express logistics, but diversification can enhance profitability.



## Chart 5: Fulfillment Source Breakdown :-



### >Description

This visualization compares FedEx's two major fulfillment sources — **From Regional Distribution Centers (RDCs)** and **Direct Drop Shipments**.

It demonstrates how shipments are fulfilled within the supply chain and the proportion handled via centralized vs. direct routes.

### Observations

- **67.47% (\$1,025M)** of total shipment value originates **from RDCs**, showing strong reliance on centralized distribution.
- **32.53% (\$494M)** are **Direct Drop** shipments, delivered directly from suppliers to customers without RDC involvement.
- RDCs handle the majority of global shipments, ensuring better inventory control and tracking.

### Insights

- High RDC utilization ensures **efficient inventory management** and **quality control**, but may add **intermediate handling costs**.
- **Direct Drop shipments** reduce handling time and warehouse costs — an area for potential expansion in fast-moving markets.
- Balancing both sources could enhance **delivery flexibility** and **cost-efficiency** across regions.
- FedEx can further analyze product type and region to identify where **Direct Drops** can replace RDC dependency for cost optimization.

## Dashboard Interactivity & Slicers :-

### Description

To make the dashboard more dynamic and user-friendly, **three interactive slicers** have been added:

1. **Product Group Slicer** – Allows users to filter data based on product categories (ACT, ANTM, ARV, HRDT, MRDT).
2. **Country Slicer** – Enables detailed country-level analysis, helping users view performance metrics for specific nations.
3. **Year Slicer** – Helps in tracking shipment performance and value trends over different years (2006–2012).

### Observations

- The slicers make it easier to **compare shipment values, delivery performance, and freight costs** across time periods and regions.
- **Country slicer** automatically adjusts the map (Chart 2) to zoom in and highlight shipments for the selected region.
- **Product slicer** updates all visuals simultaneously, showing how different product groups perform across various shipment modes and fulfillment sources.
- **Year slicer** allows quick trend analysis — identifying the best and worst performing years in terms of total value or on-time delivery.

### Insights

- Interactive slicers enhance **decision-making efficiency** by allowing stakeholders to analyze data from multiple perspectives without rebuilding visuals.
- The feature supports **scenario-based analysis**, such as comparing different years or product segments to spot performance variations.
- Slicers significantly **improve dashboard usability**, making it suitable for executives and analysts to explore key metrics independently.
- These filters convert the static dashboard into a **fully dynamic analytical tool**, enabling deep data exploration and insight generation.

# Final Business Solution & Conclusion

## Summary

The FedEx Global Shipment Dashboard provides a comprehensive view of global logistics performance, combining key indicators such as total shipment value, delivery efficiency, freight costs, and mode of transportation. Through the use of interactive slicers (Country, Product Group, and Year), users can drill down into specific regions and time periods to uncover actionable insights.

This analysis highlights that while FedEx maintains a strong global presence and operational scale, there are key areas where optimization can lead to significant business improvements — particularly in freight cost reduction, delivery speed, and network efficiency.

## Key Findings

- **High shipment value concentration in Africa** (notably Nigeria and Zambia) indicates strong trade potential but also dependency on limited markets.
- **Air shipments dominate (64%)**, ensuring quick delivery but increasing freight costs substantially.
- **Freight costs (4.5% of total shipment value)** suggest optimization opportunities through alternate modes like ocean or truck transport.
- **On-time delivery (86.9%)** is strong but can be improved by analyzing delay causes and optimizing routes.
- **Fulfillment from RDCs (67%)** ensures control and consistency, but expanding **Direct Drops** can save handling time and warehouse costs.

## Business Solutions & Recommendations

### 1. Optimize Shipment Mode Mix:

- Reduce over-dependence on air freight by shifting non-urgent shipments to ocean or truck modes.
- This can lower freight cost per unit and improve profit margins.

### 2. Improve On-Time Delivery Rate:

- Identify countries or routes with frequent delays using historical data trends.
- Implement predictive analytics to forecast potential disruptions and plan alternate routes.

### **3. Enhance Fulfillment Strategy:**

- Increase **Direct Drop** shipments where feasible to reduce RDC workload and handling time.
- Use data from product groups to identify items best suited for direct delivery.

### **4. Regional Diversification:**

- Expand operations in underrepresented regions (Asia-Pacific, South America) to reduce dependency on African markets.
- Target emerging markets with promotional offers and optimized logistics support.

### **5. Data-Driven Decision Framework:**

- Use insights from dashboard KPIs and slicers for quarterly reviews.
- Continuously track mode efficiency, cost per shipment, and country-wise profitability.

## **Conclusion**

The dashboard successfully transforms complex shipment data into actionable insights, helping FedEx leadership make informed, data-driven decisions. By balancing cost efficiency, delivery speed, and fulfillment strategy, FedEx can further strengthen its global logistics network, enhance customer satisfaction, and achieve sustainable business growth.