

# Data Analysis of Global Apparel and Textiles imports to the US in Power BI

## Introduction to OTEXA Dataset

The **OTEXA (Office of Textiles and Apparel)** website serves as a vital source for comprehensive data on global textile and apparel imports and exports to and from the United States. This dataset offers a wealth of information spanning various categories and regions, providing insights into the intricate dynamics of international trade in the textile and apparel industry.

## Dataset Overview

The dataset extracted from OTEXA encompasses imports from diverse regions worldwide, focusing on key categories such as textiles, apparel, travel goods, and miscellaneous items. To streamline analysis, the dataset was segmented into regions, with a particular emphasis on Asia, Europe, and South Africa. This segmentation enables a nuanced understanding of import trends across distinct geographical areas.

The dataset comprises essential columns including year (ranging from 2019 to 2024 YTD), category, category group, region, country, import value (in dollars), square meter equivalent (SME), and quantity (measured in various units, including kilograms).

To enhance usability, several data preparation steps were undertaken. This involved unpivoting the year columns to consolidate them into a single column and standardizing the format for efficient analysis. Furthermore, categorical segmentation was achieved through the creation of category groups, facilitating focused insights into specific product segments.

Data type conversions and formatting adjustments were implemented to ensure data integrity and compatibility with analytical tools. Additionally, derived columns such as the diversification index and year-over-year percentage change were computed to provide deeper insights into import dynamics and trends over time.

## Audience

I would like to consider these dashboards not aimed towards a single audience as it is pretty universal and can be used by representatives from both the parties, that is exporters and importers or maybe even just someone looking to gain insights into the global trade of textiles and apparel.

## **Dashboard 1: Regional Sales Analysis**

- **How does the total import\_value(\$) vary across different regions over the years?**
- **Why include Asia and Europe to conduct the analysis of imports to the US?**

This dashboard provides insights into the variations in total import values across different regions over the years, focusing on Asia, Europe, and South America. By examining import trends, decision-makers can understand the significance of each region in the textile and apparel import landscape to the US market. Key questions addressed include the dominance of Asia in apparel sourcing and the unique strengths of Europe and South America as alternative sourcing options.

## **Dashboard 2: Supply Chain Management / Procurement & Purchasing**

- **Are there opportunities to optimize sourcing strategies by leveraging trends in import values, quantities, or year-over-year percentage changes?**

This dashboard evaluates opportunities to optimize sourcing strategies by analyzing trends in import values, quantities, and year-over-year percentage changes. It provides a comparative analysis of import performance, enabling stakeholders to assess market positioning, manage risks, and identify growth opportunities. Insights from specific cases, such as Argentina, illuminate factors influencing import dynamics, including market saturation and exchange rate fluctuations.

## **Dashboard 3: COVID-19 Risk Assessment\**

- **How did Covid affect the imports from different countries to the US?**
- **What products were in High demand during a worldwide lockdown and how can this help to assess risk and source backup stock?**

Amid the pandemic, this dashboard assesses the impact on textile and apparel imports from different countries to the US, highlighting changes in demand and supply dynamics. It identifies products in high demand during lockdowns i.e Miscellaneous category group products, aiding risk assessment and backup stock sourcing. By understanding COVID-19's effects on import activities, companies can proactively manage risks, develop contingency plans, and enhance supply chain resilience.

## **Dashboard 4: Diversification Analysis**

- **What is the current level of diversification in the import portfolio across different category groups and countries?**
- **How has the diversification of our import portfolio evolved over time? Are we becoming more diversified or more concentrated in certain categories or countries?**
- **What are the potential risks associated with concentration in specific category groups or countries? How can we mitigate these risks to enhance supply chain resilience?**

This dashboard evaluates the level and evolution of import portfolio diversification across category groups and countries. It assesses potential risks associated with concentration in specific categories or countries and suggests strategies to mitigate these risks. By visualizing the diversification index against import value, decision-makers gain insights into countries successfully diversifying their import portfolios, guiding diversification strategies for enhanced supply chain resilience