Scrap Analysis and Mitigation Strategies

This presentation provides a comprehensive analysis of scrapping activities, highlighting key metrics, classifications, and financial impact to facilitate informed decision-making and implement mitigation strategies.

by kirollos simon

Scrap Analysis: Overview

- Scrap Analysis: Key Metrics
- Scrap Classification and Plant Distribution
- Risk & Financial Insights
- Additional Insights
- SWOT Analysis
- ML EDA Overview
- Correlation & Risk View
- Streamlit ML Estimator

Scrap Analysis: Key Metrics

Total Scrapped Quantity

27,636 PC

Analyze the total volume of scrapped materials, providing insights into the overall magnitude of waste

Total Scrapping Value

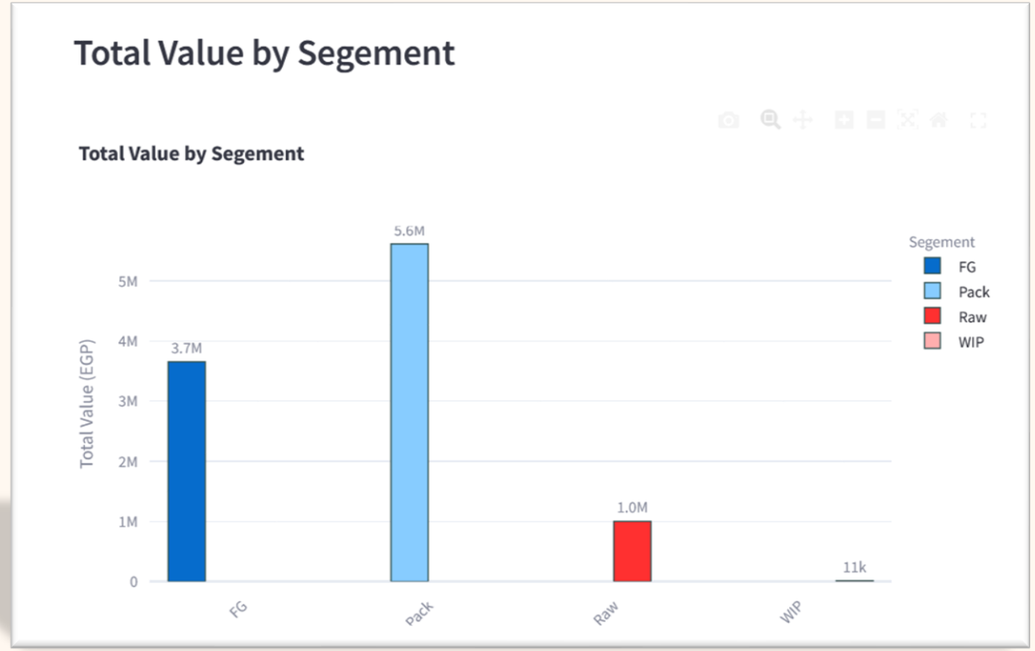
10,283,374 EGP

Assess the financial impact of scrapping, highlighting the monetary loss associated with unusable materials.

Count of Unique Products

197

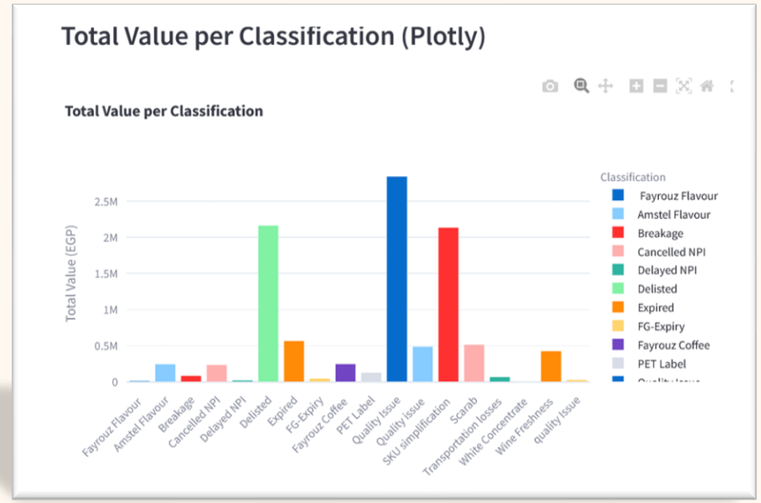
Understand the diversity of products affected by scrapping, identifying potential areas for process optimization.



Scrap Classification and Plant Distribution

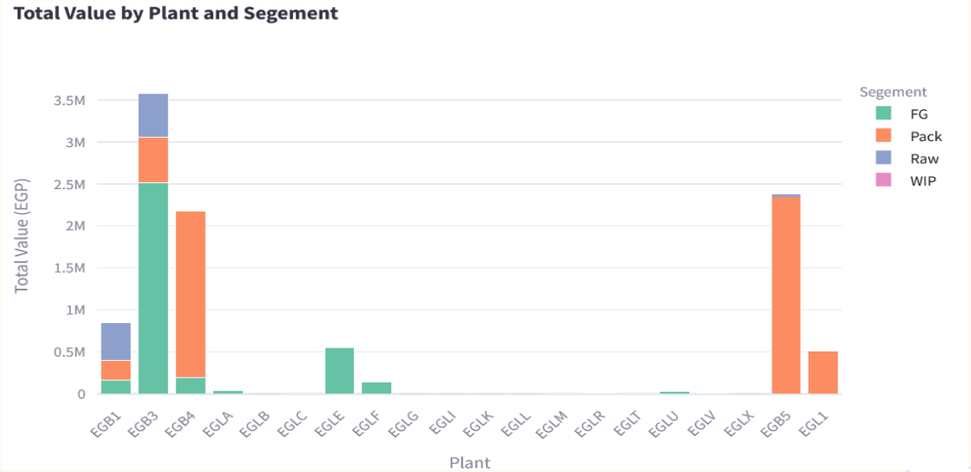
Total Value by Classification

Categorize scrapping reasons to identify high-cost classifications, focusing on areas for targeted improvement.



Plant-wise Contribution to Scrapping

Analyze plant-level scrapping contributions, pinpointing plants with high scrapping rates, and potentially revealing underlying issues.



Risk Assessment and Financial Impact

Financial Impact & Risk Level Distribution:

- Total losses in **10.3 Milon** EGP due to scrapping
- This insight helps identify the most prevalent risk levels contributing to scrapping.

❑ 30% Low

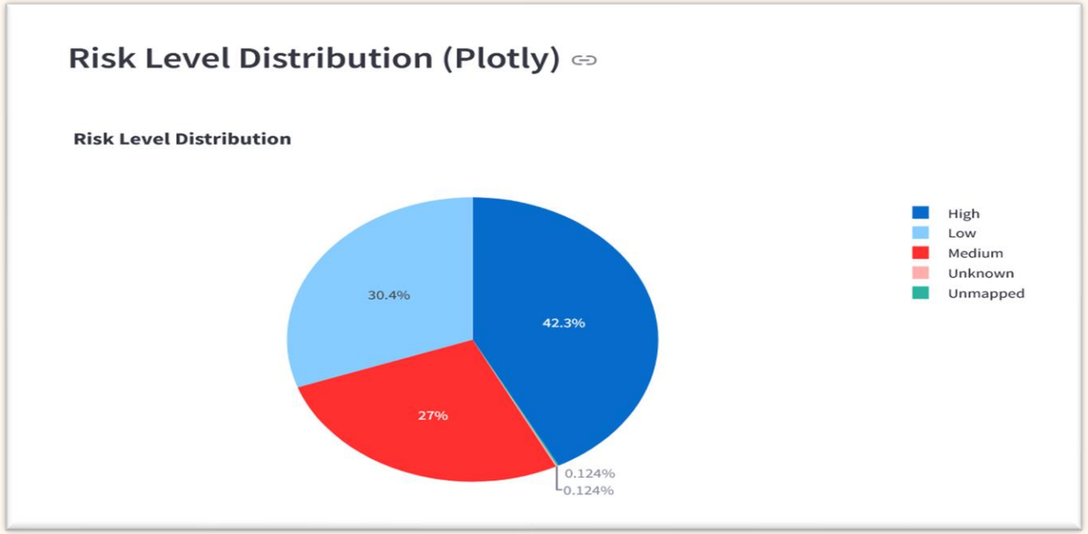
❑ 27% Medium

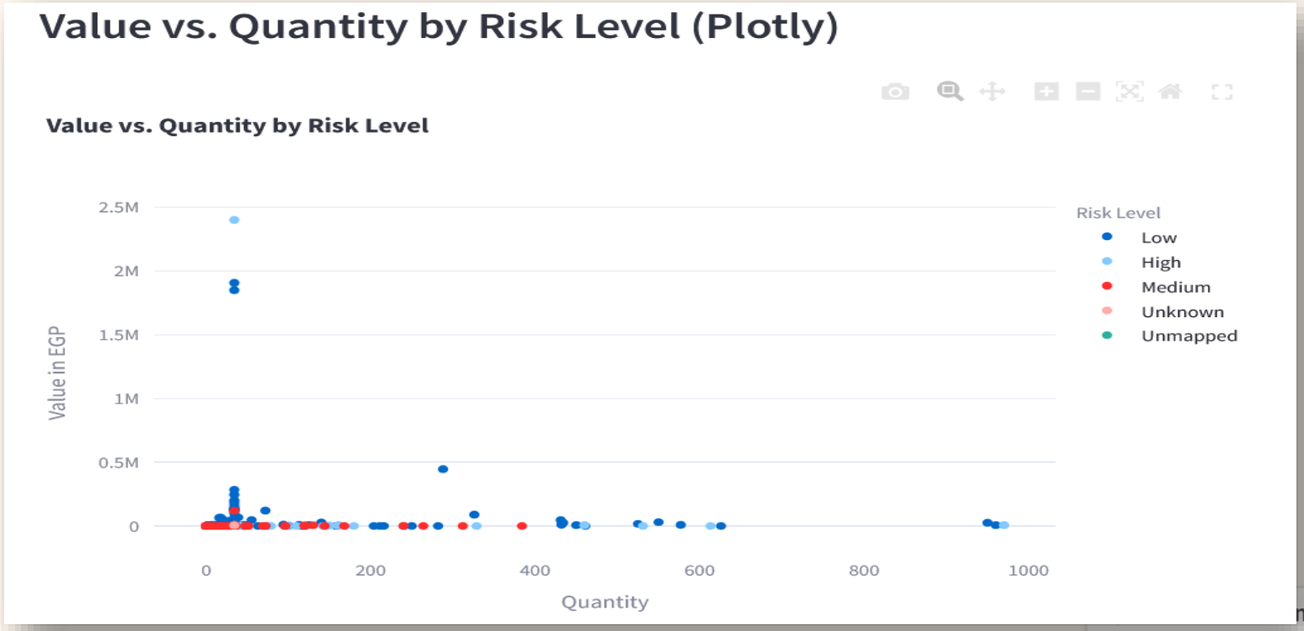
❑ **42 % High**

Correlation Between Quantity and Value:

❑ Analysis shows a strong correlation between scrapped quantity and value for high-risk items.

❑ The majority of quantities and risks fall within the range of **0 to 0.5 million**.

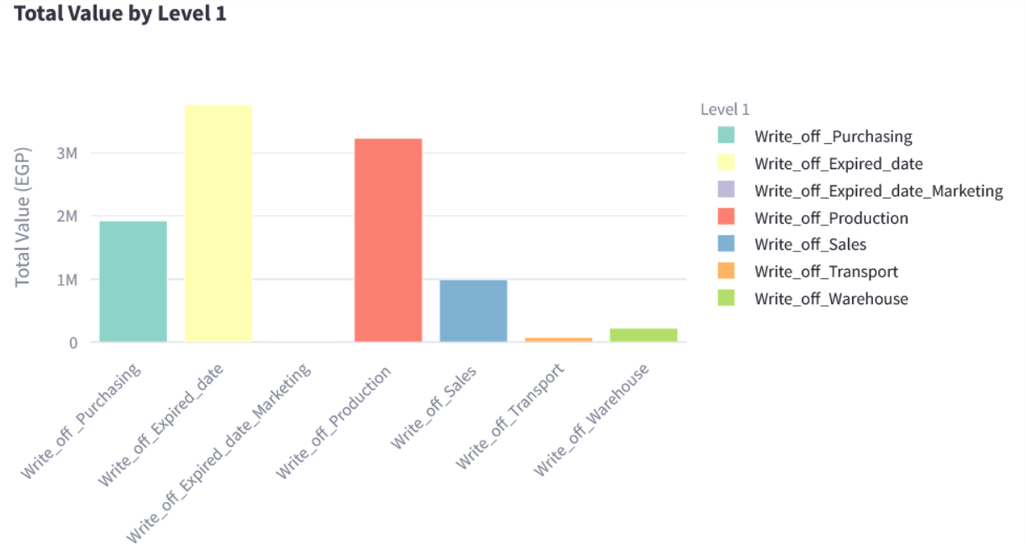




Additional Insights

Root Causes:

- ❑ Write_off_purchasing **30.7%**
- ❑ Write_off_Expired_data_Marketing **32%**
- ❑ Write_off_Expired_date **19%**



Opportunities:

- ❑ Implementing automation to minimize scrapping incidents.
- ❑ Using predictive models to identify and address root causes effectively.

	Classification	Level 1	Level 2	Level 3	Quantity	↓ Value in EGI
20	Quality Issue	Write_off_Production	Production_own_products	PRODUCTION.Microbiology (quality of Teer) incl returns from customer	344.2034	2,406,855.12
6	Delisted	Write_off _Purchasing	Expired_date_Sales_Marketing_Supply_C	MARKETING/SALES/SCH.Minimal batch size (agreed decision)	559.2034	1,923,670
28	SKU simplification	Write_off_Expired_date	Expired_date_Sales_Marketing_Supply_C	MARKETING/SALES/SCH.Minimal batch size (agreed decision)	34.2034	1,849,100.91
30	Scarab	Write_off_Sales	Sales	Material no longer used	243.0169	516,046
13	Expired	Write_off_Expired_date	Expired_date_Sales_Marketing_Supply_C	MARKETING/SALES/SCH.Expired date NPI	288	445,350
33	Wine Freshness	Write_off_Expired_date	Expired_date_Sales_Marketing_Supply_C	MARKETING/SALES/SCH.InCo: Corporate brands freshness requirement	3,671.5522	425,502.39
19	Quality Issue	Write_off_Production	Production_Suppliers	PRODUCTION.Rejected suppliers' materials, incl. test materials	103.6101	306,687.02
22	Quality issue	Write_off_Production	Production_Suppliers	PRODUCTION.Rejected suppliers' materials, incl. test materials	1,805.4236	257,877.74

ML EDA Overview

- Over 90% of scrap cases are classified as High Risk:
- While most quantities are under 100 units, a few items exceed 1,000, causing losses above 100,000 EGP

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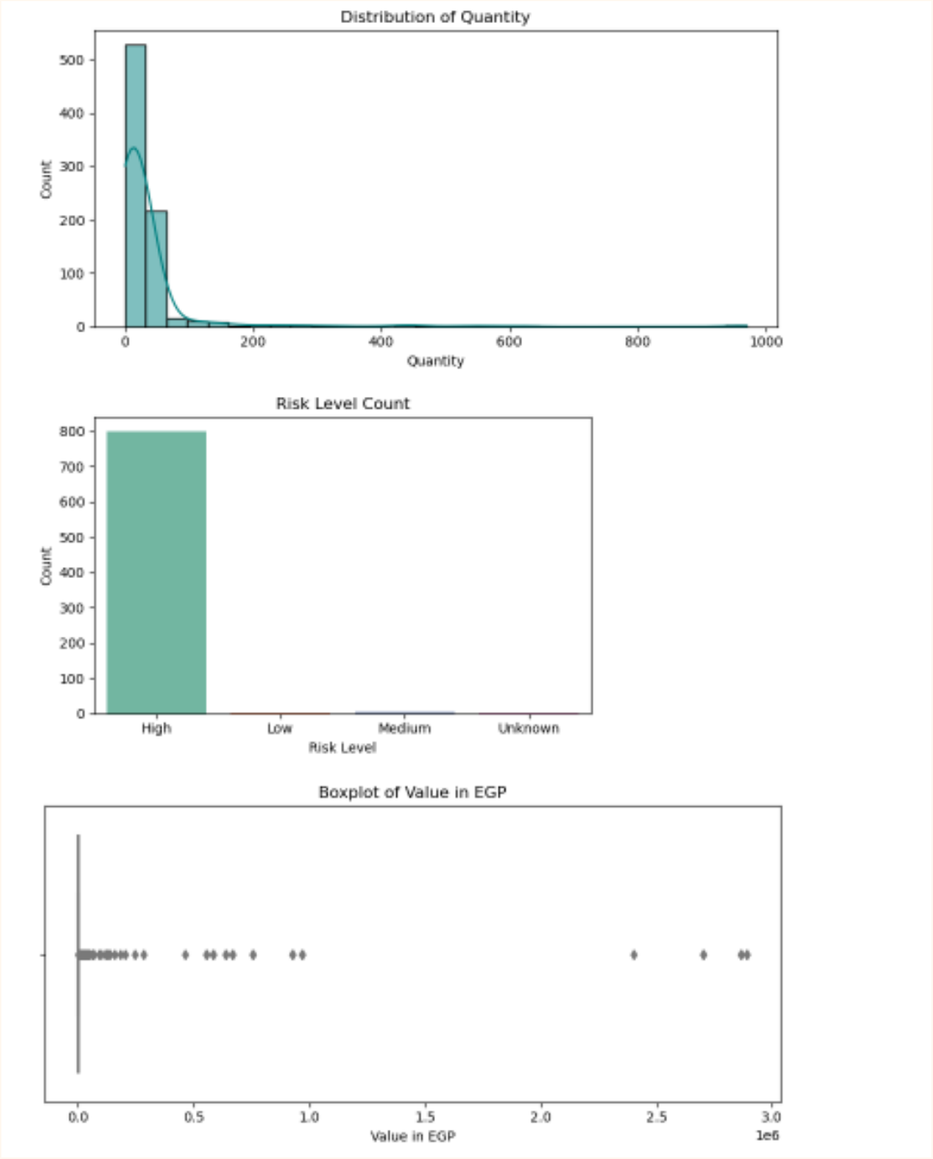
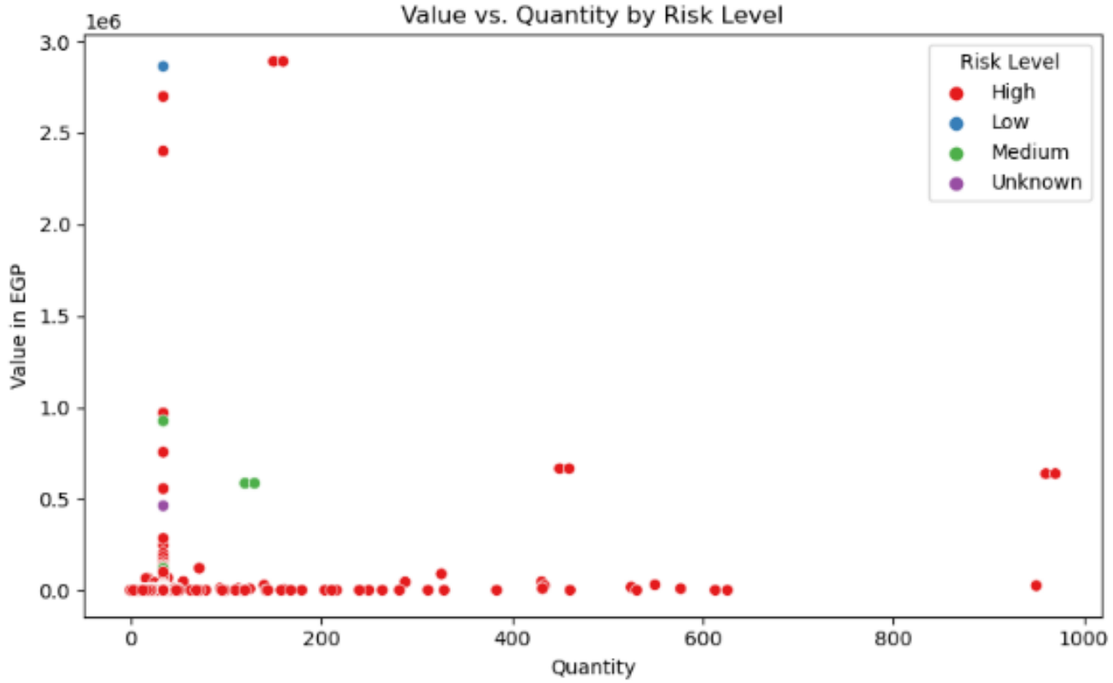
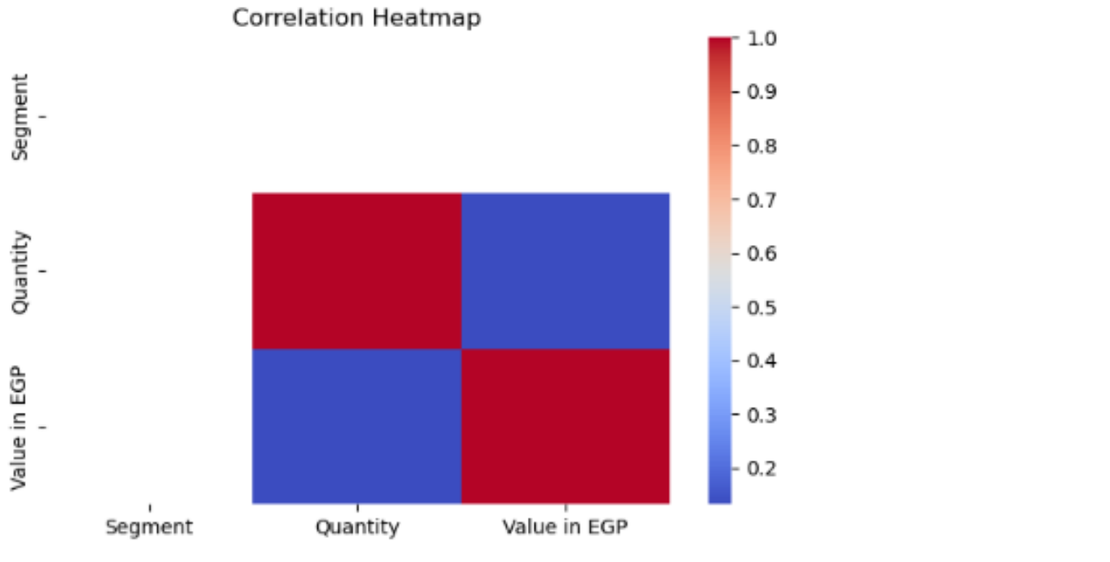


Correlation & Risk View

- A positive correlation (**r ≈ 0.75**) exists between quantity and scrap value in high-risk products

- Most risky losses are in the range of 10–200 units, with scrap values exceeding 50,000 EGP.





Streamlit ML Estimator

❑This tool predicts scrap risk instantly based on inputs like Segment , Plant, Product, Date, and Quantity

❑It estimates the total value and shows the risk as Low, Medium, or High to support better decisions

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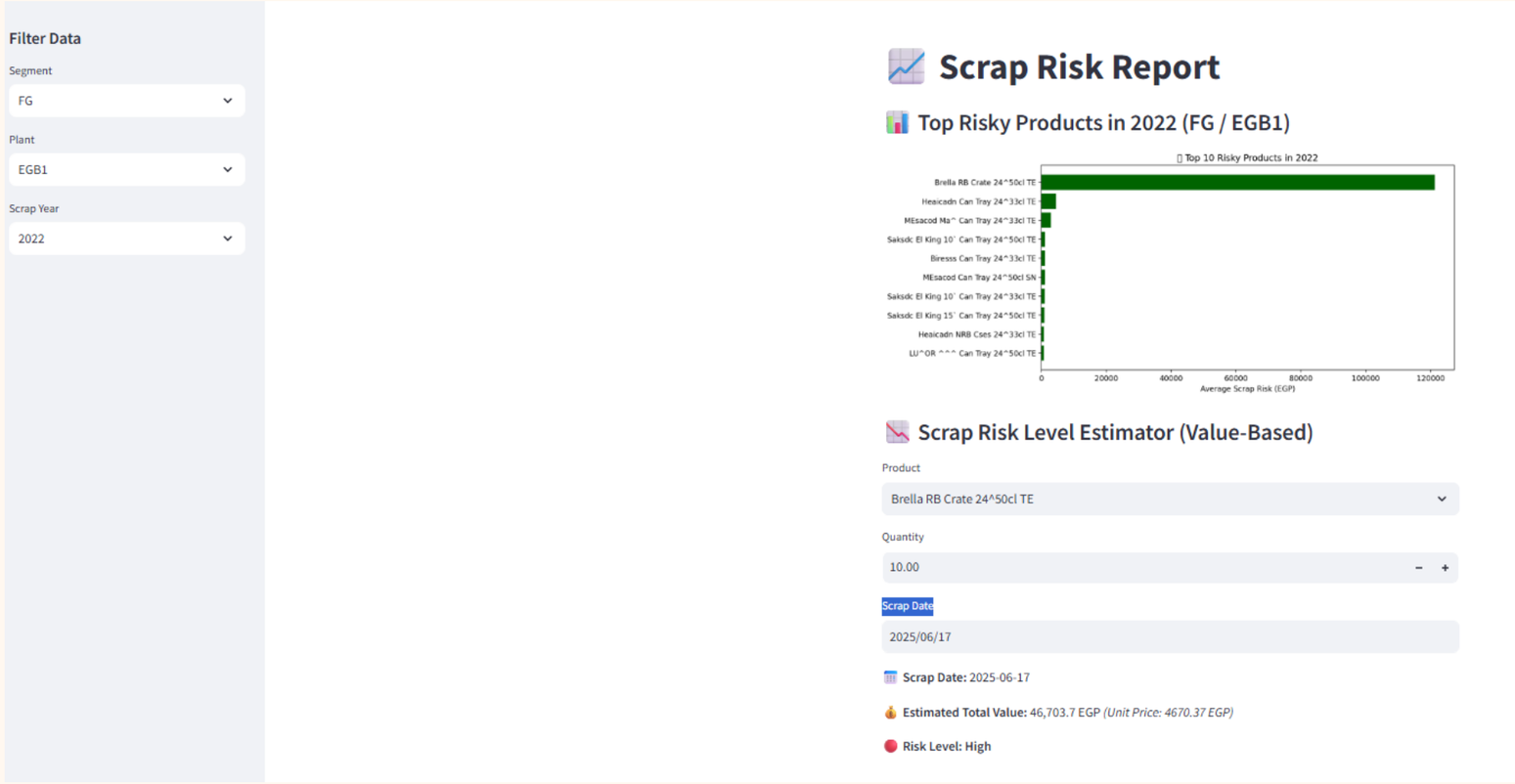

Thank You

EMPOWERING DATA-DRIVEN DECISIONS FOR A PROFITABLE FUTURE

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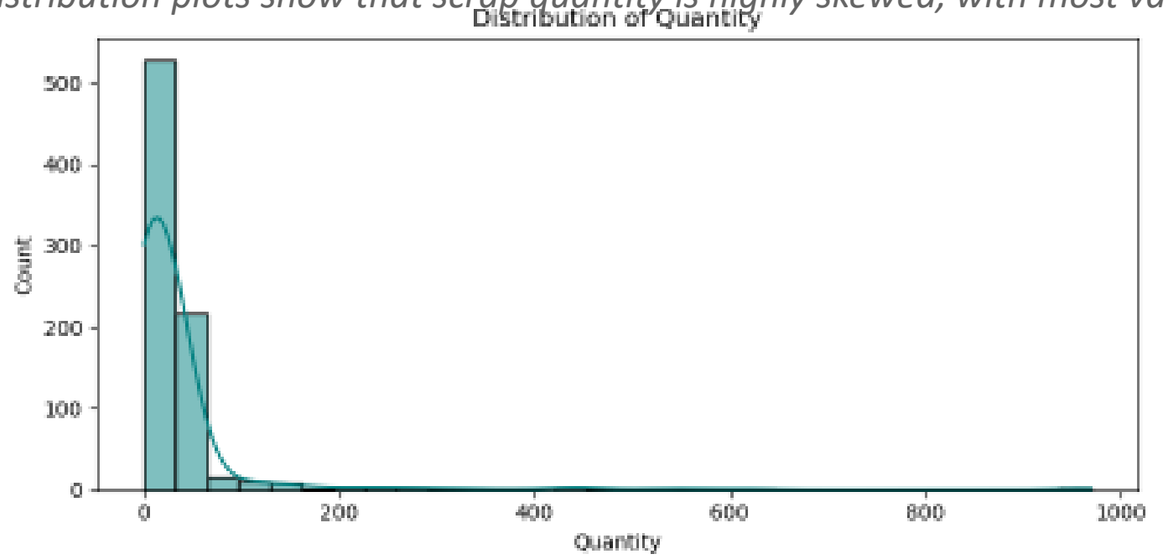
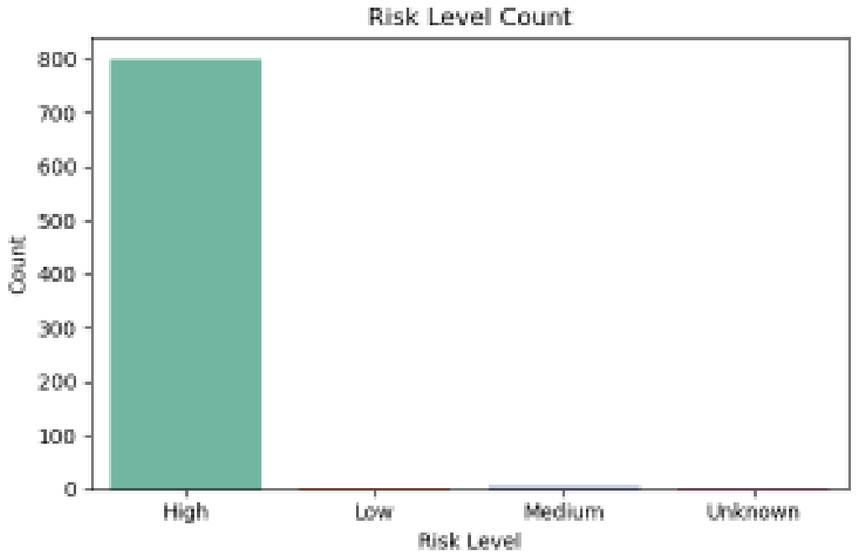
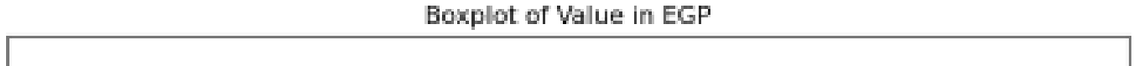
ML EDA Overview

Distribution plots show that scrap quantity is highly skewed, with most values low. Over 90% of items are labeled as High Risk, and scrap values have a w

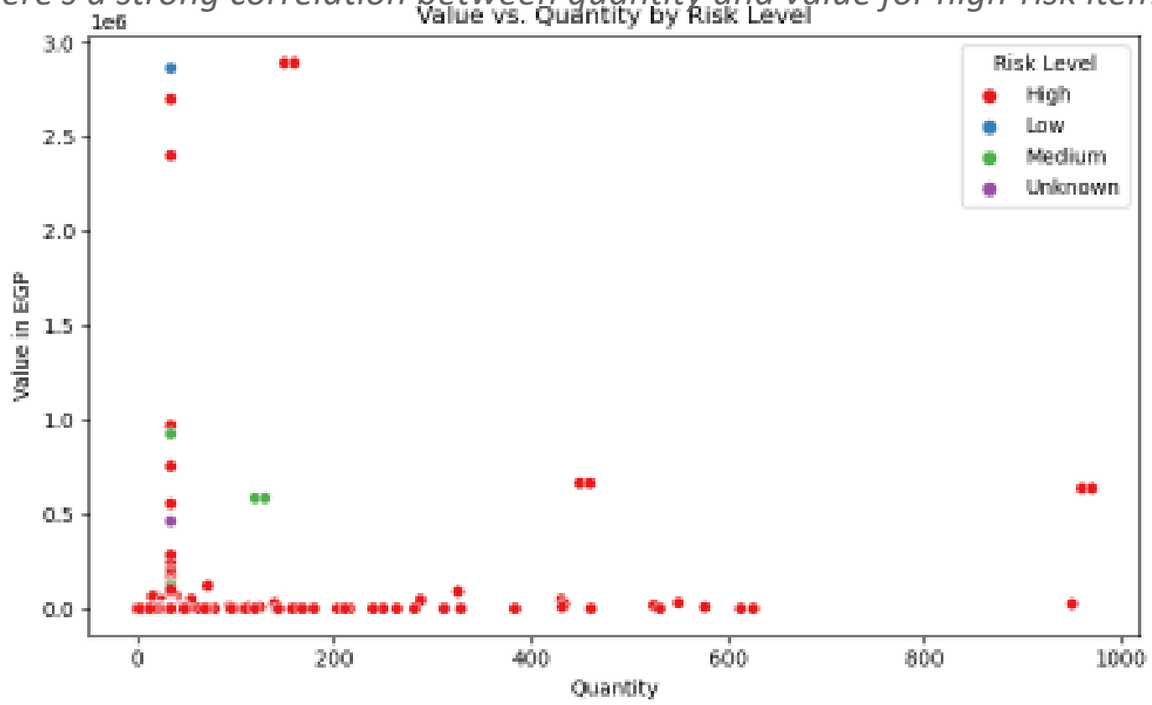


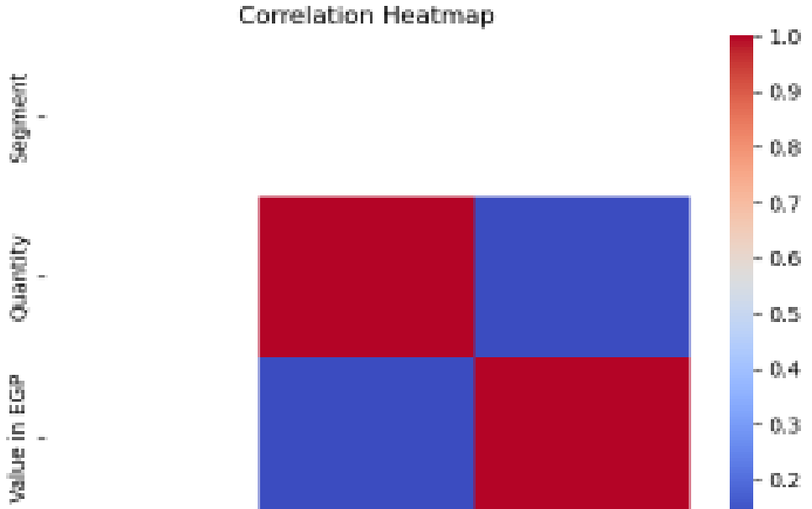




ML Correlation & Risk View

There’s a strong correlation between quantity and value for high-risk items. Most high-value risks are clustered under low quantity. The heatmap confirm





Streamlit ML Prediction View

Users can filter by segment, plant, and product to estimate risk. The model predicts the total value and classifies the risk level dynamically, enhancing pro