Project Report

Startup Investment Analysis – Shark Tank US

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Introduction

This project focuses on analysing investment patterns and funding behaviour of startups featured on Shark Tank US. By exploring data from multiple seasons, it aimed to uncover which industries receive the most attention, how investor activity varies, and how much founders ask for versus what they received.
Using a combination of Python (for EDA) and Power BI (for visualization), the goal is to identify the trends in funding amounts, investor activity, and industry performance.

Abstract:

Over 10,000 startup pitches and 6,000+ deals were analysed. Both Python and Power BI were used to extract insights on which industries attracted the most funding, which sharks invested the most, and whether startups received what they asked for. Several anomalies such as deals exceeding the original ask were also uncovered.

Tools Used:

Tools	Usage
Python	Core programming logic
Pandas	Data analysis and manipulation.
Matplotlib	Visuals generation
Power BI	Final interactive dashboard
DAX	Creating custom measures
Excel / CSV	Exporting reports
Jupyter Notebook	Project development and Code execution

Dataset Summary:

- **Dataset Name:** shark_tank_cleaned.csv
- **Rows/Columns:** 10,000+ rows × 40+ fields
- **Key Fields Included:**
  - Startup info (name, industry, pitch date)
  - Deal details (ask amount, equity, invested amount)
  - Investor breakdown (amount & equity per shark)
  - Deal Status (Yes/No), Air Year, Season

Project Workflow:

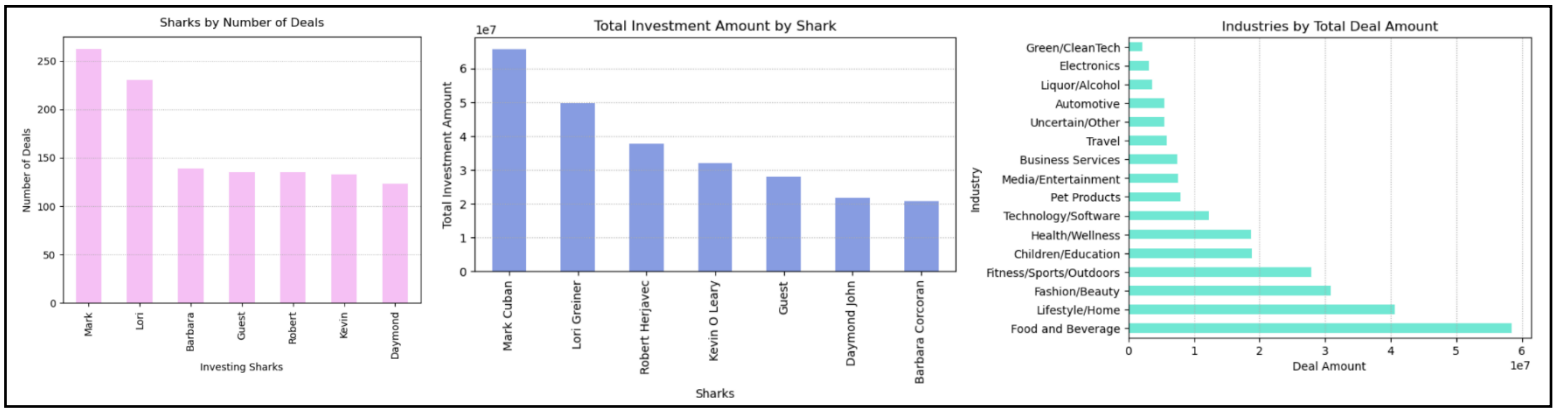
- **Data Loading & Preparation:**
  - Read the dataset using pandas.
  - Analysed the structure of the dataset.
  - Dropped irrelevant columns.
  - Handled null values and converted data type of columns.
  - Created required column; "Investing Sharks"
  - Saved cleaned dataset
- **Exploratory Data Analysis:**
  - Analysed:
    1. Number of deals per shark: Bar chart
    2. Industry funding distribution: Horizontal Bar chart
    3. Total invested amount per shark: Bar chart
  - Found multiple cases where sharks invested more than the original ask.

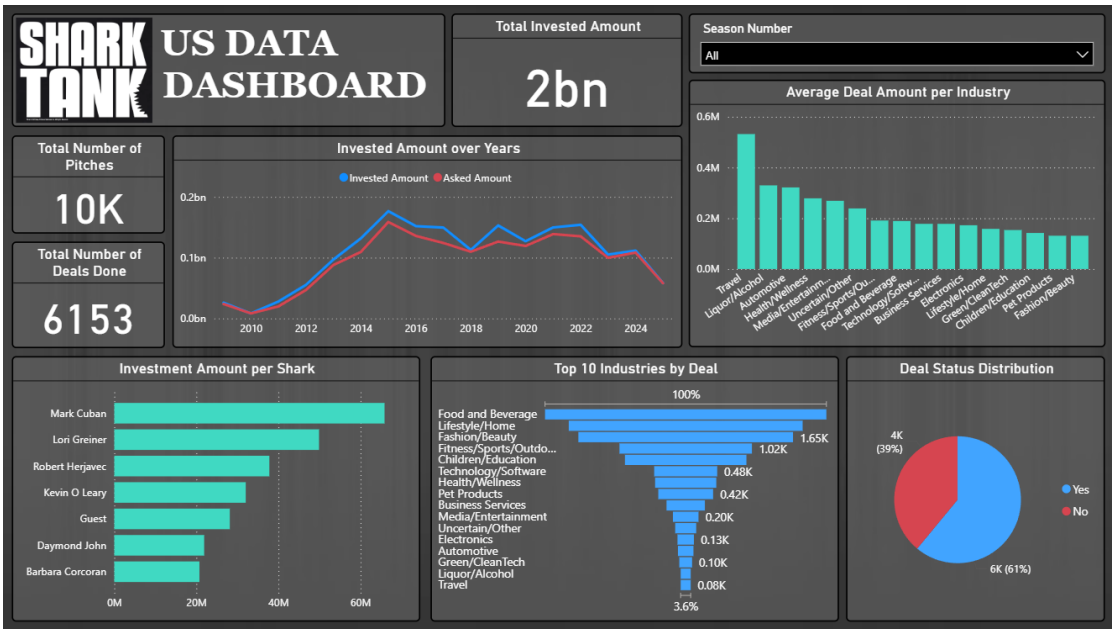
- **Interactive Dashboard Using Power BI:**
  - Added slicers for Season number
  - Built KPIs (total investment, total deals, average deal amount)
  - Used line chart to show trends over years (Ask amount vs. Invested amount)
  - Bar & column charts for industry and investor comparison
  - Funnel charts representing top 10 industry by deal

Visual Insights:

- 61% of startups received deals while 39% were rejected.
- Industries like Tech showing a higher rejection rate.
- Top industries are Food & Beverage (by volume) and Travel (by average deal size).
- Mark Cuban led in total investments, followed by Lori Greiner.
- Average investment exceeded the average ask amount in certain years.

Visual Output from Python and Power BI:





Conclusion:

This project provided a full-cycle view of investment behaviour on Shark Tank. Using both Python-based EDA and Power BI dashboarding, we uncovered actionable trends across investors, industries, and time. The analysis highlights how data can inform venture capital decisions and reveals that deal-making often diverges from what entrepreneurs expect.