

HEADING FOR THE FUTURE PROJECT (MIỀN BẮC)

DATA ANALYSIS
UNVEIL DATA POWER

BUSINESS CASE 3 : SUPPLY CHAIN

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GOAL

Business Background

Despite being the second-biggest player in Vietnam's liquid milk market with brands like Smartmilk and Star, JOYI has seen its market share decline between 2022 and 2023. To address this issue, JOYI is considering new strategy that boosting revenue by maintaining cash cows share and star product, and considering the expansion to Organic Milk Market. This requires analysis of whether JOYI has opportunities to gain a foothold in Organic Milk Market and what strategies will help JOYI maintain its market share

Goal

1. To empower Joyi Dairy's Planning & Purchasing teams with data-driven insights to optimize supply chain operations, enhance inventory management, and improve cost-efficiency.
2. Apply data analysis skills and knowledge to real-world supply chain challenges. The candidate should demonstrate their ability to:
 - Gather, clean, and prepare data from multiple sources.
 - Analyze data to identify trends, patterns, and insights.
 - Develop and communicate data-driven recommendations.
 - Apply data analysis to solve supply chain problems.

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OBJECTIVES

- 1. Executive summary:** Briefly summarize the key findings and recommendations of the analysis.
- 2. Data gathering and preparation:** Describe the data sources, data cleaning procedures, and data transformation steps.
- 3. Data analysis:** Present the results of the data analysis, including descriptive statistics, visualizations, and statistical models.
- 4. Findings and recommendations:** Clearly articulate the key findings of the analysis and provide actionable recommendations based on the insights.
- 5. Presentation:** Effectively communicate the findings and recommendations in a clear, concise, and persuasive manner.
- 6. Suggest** JOYI whether to have opportunities to gain a foothold in Organic Milk Market.
- 7. Recommend** which regions to focus.

DATASET

*Click **HERE** to access and download the provided dataset!*

***Note:** Dataset is dummy data

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REQUIREMENT

Data Exploration and Cleaning

- Explore and understand the provided datasets, including market data, customer surveys, sales history, BOMs, inventory levels, supplier lead times, and payment terms.
- Clean and prepare the data for analysis, handling missing values, outliers, and inconsistencies.

Demand forecasting

- Analyze historical sales data and relevant market factors to identify demand patterns and trends.
- Develop accurate demand forecasting models to predict future demand for each product category or SKU.
- Evaluate the performance of different forecasting models and select the most appropriate model for each product category or SKU.

Inventory Optimization

- Analyze inventory levels, lead times, and safety stock requirements for each product category or SKU.
- Identify optimal inventory levels and reorder points to minimize carrying costs and stockouts.
- Develop inventory management strategies to ensure sufficient stock availability while minimizing inventory holding costs.

Supplier Performance Evaluation

- Evaluate the performance of different suppliers based on factors such as lead times, quality, cost, and reliability.
- Identify opportunities for cost reduction and lead time optimization by negotiating better terms with suppliers.
- Develop supplier relationship management strategies to enhance supplier performance and collaboration.

Data-Driven Recommendations

- Formulate data-driven recommendations for Planning & Purchasing strategies, considering demand forecasts, inventory optimization, and supplier performance evaluation.
- Prioritize recommendations based on their potential impact on supply chain efficiency, cost savings, and profitability.
- Communicate recommendations effectively to senior management and stakeholders, using clear visualizations and compelling storytelling.

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OUTPUT FORMAT

The submission include:

01 report in Slide presentation in PDF format. The first slide is **Executive Summary** slide, which highlights noticeable feature in your report.

01 code source in .py (python file) or .ipynb format (jupyter notebook)

File Size and Format

Language

Vietnamese or English
If the submission uses Vietnamese, English can be used for terminology

- **The maximum number of slides** is 20. This excludes Executive Summary slide, Introduction, Closing slide and References.
- The reference slide (if you have) have to limit at **only 1 slide** and put it in **the last slide** in your presentation. The use of links leading to external materials and sources should be limited.
- **References** (charts, surveys, models),... have to be cited properly and listed fully.

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EVALUATION CRITERIA

Evaluation Criteria

CRITERIA	DESCRIPTION	PERCENTAGE
Data Analysis and Modeling	<ul style="list-style-type: none"> Accuracy and completeness of data analysis Appropriateness and effectiveness of forecasting models Depth and insights from inventory optimization analysis Thoroughness and objectivity of supplier performance evaluation 	20%
Apply Framework (Boston Consulting Group – BCG)	<ul style="list-style-type: none"> Product Classification Recommendation for Purchasing & Inventory 	15%

Evaluation Criteria

CRITERIA	DESCRIPTION	PERCENTAGE
Problem-Solving and Recommendations	<ul style="list-style-type: none">Clarity and feasibility of recommendationsPotential impact of recommendations on supply chain efficiency and profitabilityAlignment of recommendations with Joyi Dairy's strategic goals	25%
Code Quality and Documentation	<ul style="list-style-type: none">Clean and organized code.Proper documentation and comments for reproducibility.Ease of understanding and following the analysis process.	5%

Evaluation Criteria

CRITERIA	DESCRIPTION	PERCENTAGE
Report Quality	<ul style="list-style-type: none"> Clarity and structure of the report. Conciseness. Focus on key findings from EDA and model results. 	15%
Effective presentation	<ul style="list-style-type: none"> Clarity and persuasiveness of presentations Quality of visualizations and storytelling 	20%

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SUBMISSION GUIDELINES

Teams have to submit outputs through the **Round 03 Submission Form**.

- Name your folders and your files according to the following format:

[H4TF DA] Round 3_Team Name

- Valid outputs must be submitted no later than

11:59 PM on Wednesday, July 03rd, 2024.

The organizing committee encourages teams to submit your outputs at least **30 minutes** before the deadline to avoid any unforeseen technical issues.

- In case of technical errors, teams must provide evidence and notify the organizing committee within a **maximum of 12 hours after** the submission deadline. For all other late submissions, regardless of the reason, the outputs will be considered invalid.



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CONTACT

CONTACT



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