

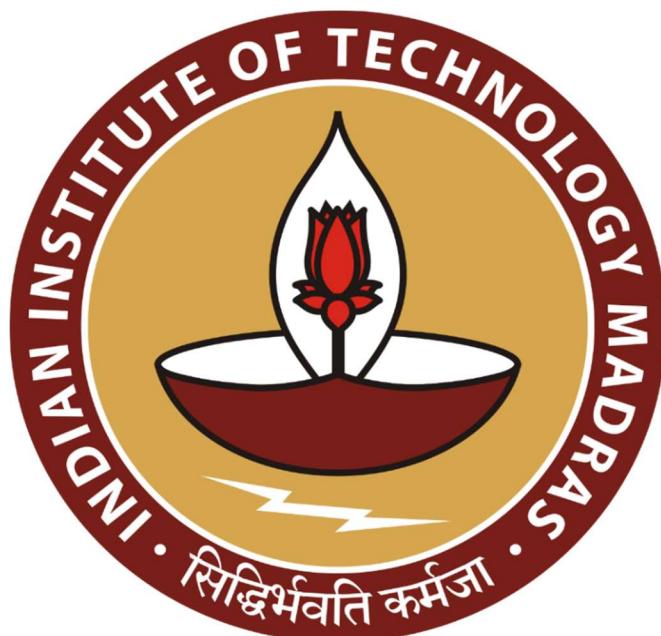
Operational and Sales Analysis of a Packaged Drinking Water Company

A Proposal report for the BDM capstone Project

Submitted by

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Declaration Statement

I am working on a Project Title “Operational and Sales Analysis of a Packaged Drinking Water Company”. I extend my appreciation to **ABN SUN Foods and Beverages with its subsidiary IRA Gold**, for providing the necessary resources that enabled me to conduct my project.

I hereby assert that the data presented and assessed in this project report is genuine and precise to the utmost extent of my knowledge and capabilities. The data has been gathered through primary sources and carefully analyzed to assure its reliability.

Additionally, I affirm that all procedures employed for the purpose of data collection and analysis have been duly explained in this report. The outcomes and inferences derived from the data are an accurate depiction of the findings acquired through thorough analytical procedures.

I am dedicated to adhering to the information of academic honesty and integrity, and I am receptive to any additional examination or validation of the data contained in this project report.

I understand that the execution of this project is intended for individual completion and is not to be undertaken collectively. I thus affirm that I am not engaged in any form of collaboration with other individuals, and that all the work undertaken has been solely conducted by me. In the event that plagiarism is detected in the report at any stage of the project's completion, I am fully aware and prepared to accept disciplinary measures imposed by the relevant authority.

I agree that all the recommendations are business-specific and limited to this project exclusively, and cannot be utilized for any other purpose with an IIT Madras tag. I understand that IIT Madras does not endorse this.



Signature of Candidate

Name: Aditya Gumgaonkar

Date: September 12, 2025

1 Executive Summary and Title

The project focuses on studying and giving recommendations for the challenges faced by **IRA Gold**, a packaged drinking water company working under **ABN SUN Foods and Beverages**. The company serves in both B2B and B2C markets, supplying distributors, retail shops, institutions, and individual customers who need packaged drinking water.

IRA Gold currently faces three major challenges. First, its machines are not being used to their full potential because of the absence of electricity transformers, which limits production even though the infrastructure is available. Second, sales drop during the monsoon season as customer demand decreases and transport services in city areas get disrupted. Third, the company is still waiting for government grants that are needed for infrastructure upgrades, and this slows down expansion and creates long-term uncertainty.

To address these challenges, I plan to look at two sets of data. One will be production data covering machine capacity, downtime, and actual use to find where efficiency can be improved. The other will be sales data focusing on seasonal demand patterns to build forecasting methods and sales strategies. Together, this analysis will help improve efficiency, handle seasonal sales dips better, and guide the company toward steady growth.

2 Organization Background

ABN SUN Foods and Beverages, established on **15 March 2025** by **Mr. Ashwini Akshay Nanote**, is a packaged drinking water company located in **Bidgaon, near Symbiosis Institute of Technology, Nagpur**. The company operates under the brand **IRA Gold** and leverages the founder's prior experience in **ABN SUN RO Technologies** and packaged water trading.

With a team of **12 employees**, the company serves both **B2B and B2C segments**, catering to distributors, retail outlets, institutions, and individual consumers. Its main offering is **high-quality packaged drinking water**, and the organizational structure is lean to enable efficient operations and quick decision-making. ABN SUN Foods and Beverages aims to provide **safe and reliable drinking water** while gradually expanding into additional urban and semi-

urban markets, reflecting its mission to ensure accessible hydration and vision to become a trusted name in the packaged water industry.

3 Problem Statement

3.1 Problem Statement 1: Due to limited electricity infrastructure, the utilization of machines is not at full capacity, restricting production output and affecting the ability to meet demand.

3.2 Problem Statement 2: Product sales decline significantly during the monsoon season, as lower demand and disrupted transportation impact overall revenue.

3.3 Problem Statement 3: Dependency on pending government grants for essential infrastructure improvements delays expansion and creates uncertainty in long-term.

4 Background of the Problem

The issues faced by IRA Gold arise from the nature of its packaged drinking water business. Firstly, the utilization of machines is not at full capacity due to limited electricity infrastructure, which restricts production output despite the availability of equipment. This creates challenges in meeting customer demand efficiently and optimizing daily production schedules.

Secondly, product sales experience a significant decline during the monsoon season. Lower consumer demand combined with disrupted transportation facilities in city areas affects revenue generation and the ability to maintain consistent supply to both B2B and B2C customers.

Thirdly, the company remains dependent on pending government grants for essential infrastructure improvements, which delays expansion and creates uncertainty in long-term operational and financial planning. This affects strategic decision-making and limits the ability to scale production to meet growing demand.

In summary, the problems stem from **underutilization of production capacity, seasonal sales fluctuations, and dependency on government approvals for infrastructure expansion**. Addressing these challenges is crucial for improving operational efficiency, stabilizing sales performance, and supporting sustainable growth for IRA Gold.

5 Problem Solving Approach

i. Details about the Methods Used with Justification

Given the nature of challenges at **IRA Gold**, both **quantitative** and **qualitative** methods will be applied.

Quantitative Methods:

- **Time-Series Analysis:** Seasonal fluctuations in production and sales, particularly during the monsoon, will be studied using time-series analysis to identify patterns and demand cycles.
- **Statistical Computation:** Metrics such as machine efficiency, utilization rates, and revenue forecasts will be computed to guide operational and financial decisions.

Qualitative Methods:

- **Interviews and Discussions:** Direct interaction with the owner, **Mr. Ashwini Akshay Nanote**, and employees will provide contextual insights on production challenges, electricity shortages, and seasonal disruptions.
- **Benchmarking:** Comparing IRA Gold with similar packaged drinking water businesses will highlight best practices in machine utilization, credit handling, and sales management.

This mix of methods ensures the study captures both measurable performance gaps and contextual challenges, enabling actionable solutions.

ii. Details about the Intended Data Collection with Justification

To ensure data-driven insights, information will be collected in three key areas:

- **Production Data:** Records of machine capacity, downtime, and actual utilization will highlight efficiency gaps and the role of electricity infrastructure in limiting output.
- **Sales Data:** Daily, weekly, and monthly sales figures, along with B2B and B2C transactions, will be collected to study demand variations, especially seasonal declines during monsoon months.
- **Infrastructure and Grant Data:** Information on government approvals, transformer installations, and related dependencies will be gathered to assess their effect on production stability.

Justification:

Focusing on production and sales variables ensures the analysis addresses core business operations, while infrastructure-related data reveals how external delays affect planning. Combining these with qualitative insights provides a holistic view, ensuring solutions are both practical and sustainable.

iii. Analysis Tools and Justification

Analysis Tools:

- **Google Sheets and Excel:** For basic computations, data cleaning, and preliminary charts to identify immediate patterns.
- **Python (Pandas, Matplotlib, Seaborn):** For advanced manipulation, trend analysis, and visualizations to uncover deeper insights.

Justification:

Google Sheets and Excel provide a quick, user-friendly foundation for analysis and reporting, while Python supports detailed, large-scale exploration and visualization. The combined use of both ensures flexibility, accuracy, and depth in deriving meaningful insights from production, sales, and infrastructure data.

6 Expected Timeline

6.1 Work Breakdown Structure:

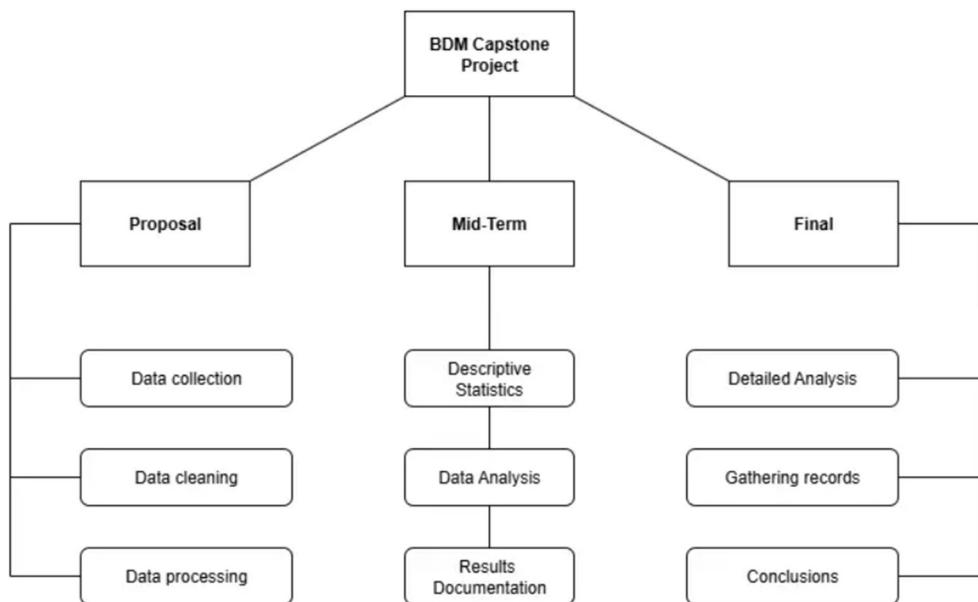


Figure 1 Work Breakdown Structure.

6.2 Gantt chart:

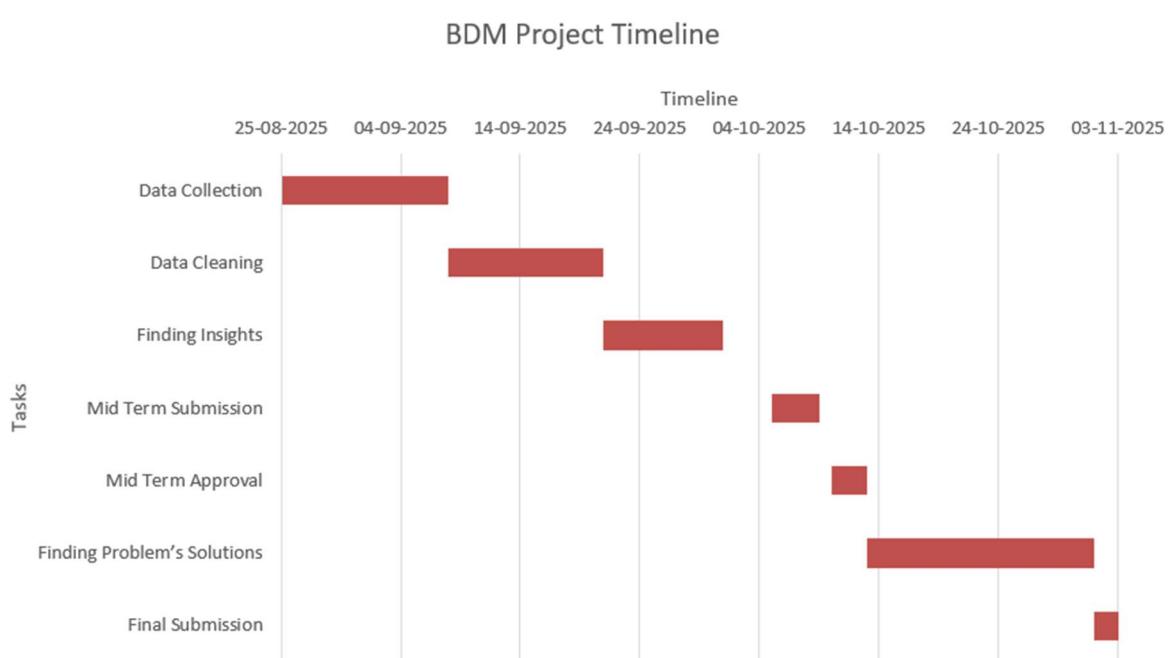


Figure 2 Expected timeline for completion of project.

7 Expected Outcome

- To optimize machine utilization and improve production efficiency by analyzing production-related data, ensuring that available capacity is fully leveraged.
- To develop strategies for managing seasonal sales fluctuations, particularly during the monsoon period, through data-driven forecasting and targeted marketing approaches.
- To provide a comprehensive operational and financial overview of the business using data analysis of production output, sales trends, and revenue performance.
- To assess the impact of pending government grants and infrastructural dependencies on operations, and propose actionable measures or temporary solutions to reduce delays and maintain production stability.
- To enable informed decision-making for long-term operational planning, improving overall efficiency, stabilizing seasonal performance, and supporting sustainable growth for IRA Gold.

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