

Competitor Pricing Analysis (version 1.0)

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1. Executive Summary

1.1 Objective:

This project's main goal is to enable iDC TV Inc. to recover market leadership by comprehending pricing strategies of rivals, improving its pricing model, and utilising data-driven insights.

1.2 Scope:

- Analyze the current market pricing strategies, especially focusing on competitors such as Best Buy and Walmart.
- Extract insights from available sales and pricing data.
- Develop a comprehensive pricing strategy for iDC TV Inc. to implement within 4 weeks.
- Provide strategic visualizations to represent findings and proposed solutions.

1.3 Stakeholders:

- iDC TV Inc. leadership team
- Business Intelligence team
- Sales and Marketing departments
- IT and Database Management Teams

2. Project Description

2.1 Background:

iDC TV Inc., a renowned Television reseller, has experienced a decline in sales in the first half of 2023. This decline has been attributed to aggressive promotional strategies by competitors and iDC TV Inc.'s own lack of a well-defined pricing strategy.

2.2 Goals:

- Regain competitive edge in the TV market for iDC TV Inc.
- Understand and possibly counteract competitors' pricing strategies.
- Leverage data-driven insights to formulate an effective pricing strategy.
- Elevate TV sales performance for iDC TV Inc. in the latter half of 2023

3. Requirements

3.1 Data Acquisition

- Develop a **Python script** for daily web scraping to gather pricing data from Best Buy and Walmart.
- Collect data segmented by **Product Categories, SKUs, and dates**.

3.2 Data Pipeline Development

Establish an **ETL process** to ensure efficient data ingestion and cleansing.

- **Integration:** Create pipelines to integrate various data sources into a unified dataset, ensuring data consistency and reducing redundancy.
- **Automation:** Implement automated data ingestion and transformation processes to facilitate continuous data updates.

3.3 Database Design

Design a **structured database (SQL)** with defined schemas and tables to house the collected pricing data.

- **Schema Design:** Establish a comprehensive database schema that effectively captures the nuances of the television sales and pricing domain.
- **Performance Optimization:** Index essential columns and design the database for optimal query performance.

3.4 Data Analysis

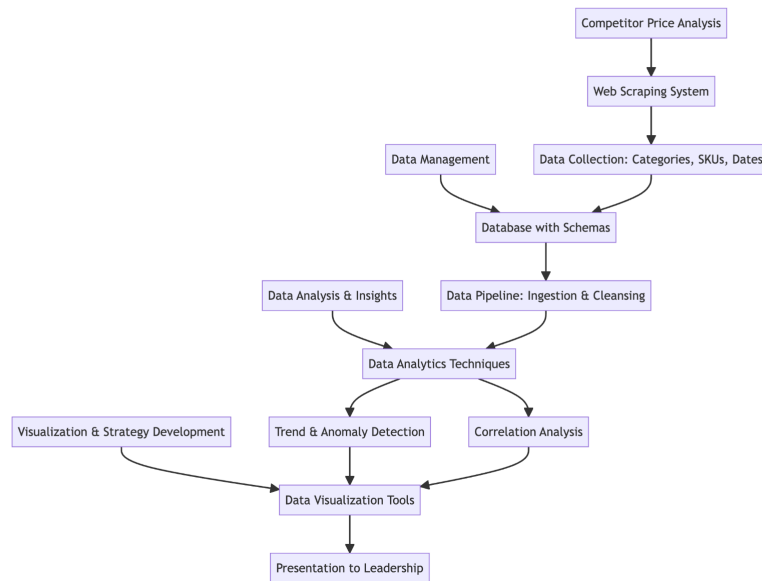
Utilize various analytics techniques (**Power BI**) to derive meaningful insights from the data.

- **Descriptive Analysis:** Provide an overview of the current market landscape, detailing sales figures, pricing trends, and market share.
- **Predictive Analysis:** Use machine learning models to forecast sales and predict potential outcomes of different pricing strategies.
- **Competitive Analysis:** Dissect competitors' pricing strategies, promotional patterns, and market positioning.

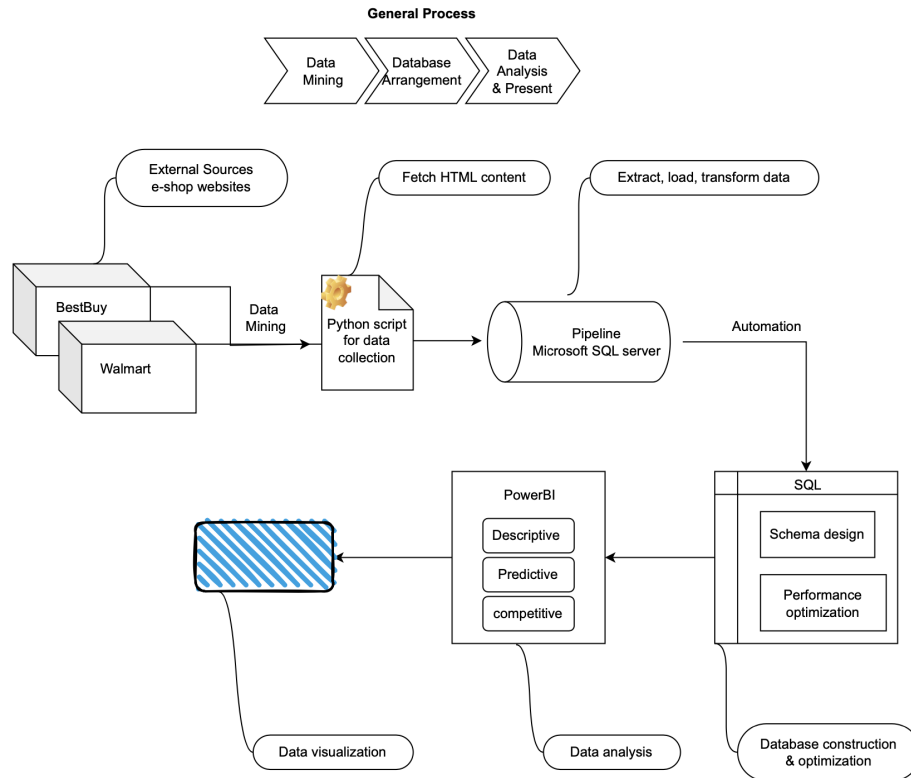
3.5 Data Visualization

Dashboard Development: Create interactive dashboards that showcase key metrics, trends, and insights in an easily digestible format for stakeholders.

User-friendly Interface: Design the visualization tools to be intuitive, ensuring that stakeholders can derive insights without a steep learning curve.



Macro Solution Infrastructure



Micro Solution Infrastructure

4. Constraints and Assumptions

4.1 Constraints

- **Competitive Landscape:** iDC TV Inc. operates in a highly competitive market with strong players like Best Buy and Walmart. These competitors have extensive resources and established market positions, making it challenging to compete solely on price.
- **Market Saturation:** The market for televisions may be reaching a saturation point, with many consumers already owning flat-screen TVs. This could limit the potential for significant sales growth.
- **Limited Budget:** iDC TV Inc. may have budget constraints that could affect the implementation of a new pricing strategy. There may be limitations on how much can be invested in marketing, research, and development.
- **Regulatory Compliance:** The pricing strategy must comply with all relevant laws and regulations, including antitrust and consumer protection laws. Any pricing tactics that could be interpreted as anti-competitive or deceptive must be avoided.
- **Supply Chain Disruptions:** Disruptions in the supply chain, such as those caused by global events like the COVID-19 pandemic or shipping delays, could impact the availability and pricing of televisions.
- **Customer Expectations:** Customers have certain expectations regarding the quality and features of televisions. Any pricing strategy must consider customer preferences and the perceived value of the product.

4.2 Assumptions

- **Data Availability:** It is assumed that iDC TV Inc. has access to sufficient historical sales and market data to perform a thorough analysis and develop a data-driven pricing strategy.
- **Competitor Behavior:** The aggressive promotional strategies of competitors like Best Buy and Walmart are assumed to be a key factor impacting iDC TV Inc.'s sales. Understanding and countering these strategies is a primary goal.
- **Consumer Behavior:** It is assumed that consumer behavior, including price sensitivity and purchasing patterns, can be analyzed effectively to inform pricing decisions.
- **Technology Trends:** iDC TV Inc. can leverage technological advancements and trends in the television industry to offer innovative features and models that can justify premium pricing.
- **Marketing Efforts:** Marketing and advertising campaigns will support the pricing strategy to effectively communicate the value proposition to potential customers.

5. Timeline and Milestones

Week 1: Competitor Price Analysis

Day 1-2: Environment Setup

Set up the development environment, install necessary Python libraries, and create a project directory.

Day 3-4: Project Understanding

Review the project mandate and gather detailed requirements from stakeholders to understand the business needs and data requirements.

Day 5-7: Web Scraping Script

Develop a Python web scraping script to collect pricing data from Best Buy and Walmart's online platforms.

Implement data collection based on product categories, SKUs, and dates.

Start collecting pricing data.

Week 2: Data Management

Day 8-10: Database Setup

Design the database schema with well-defined tables to store the scraped pricing data.

Create the database and tables.

Day 11-14: Data Pipeline

Develop an ETL (Extract, Transform, Load) data pipeline for efficient data ingestion and cleansing.

Import and load the collected data into the database.

Test the data pipeline to ensure data quality and consistency.

Week 3: Data Analysis and Insights

Day 15-17: Data Analytics

Apply various data analytics techniques to the collected pricing data.

Uncover trends, anomalies, and correlations that provide insights into market dynamics.

Prepare data analysis reports.

Day 18-21: Insights Presentation

Summarize the key insights derived from the data analysis.

Prepare a presentation for the executive leadership team with actionable recommendations based on the analysis.

Week 4: Visualization and Strategy Development

Day 22-24: Data Visualization

Create intuitive data visualizations and dashboards that translate complex pricing data into understandable insights.

Ensure that visualizations are interactive and insightful.

Day 25-28: Executive Presentation

Present your findings and insights to the executive leadership team.

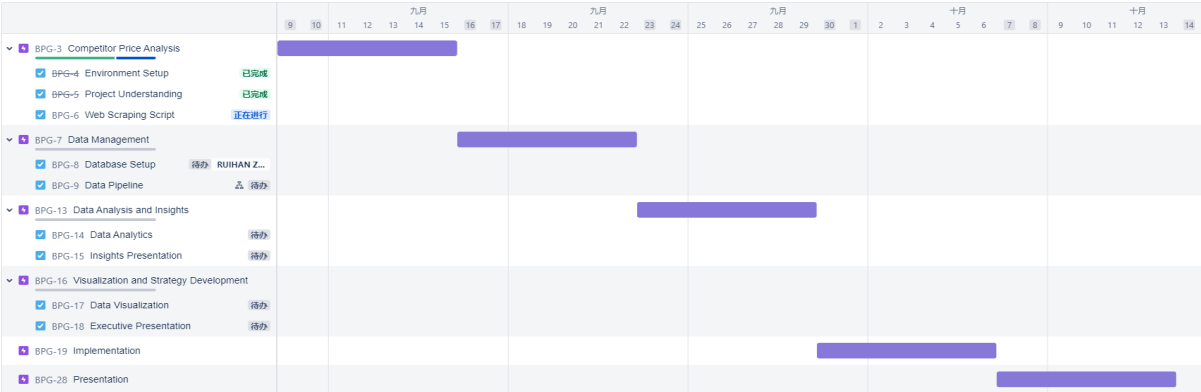
Discuss the competitive pricing strategy recommendations based on the analysis.

Address any questions or feedback from the leadership team.

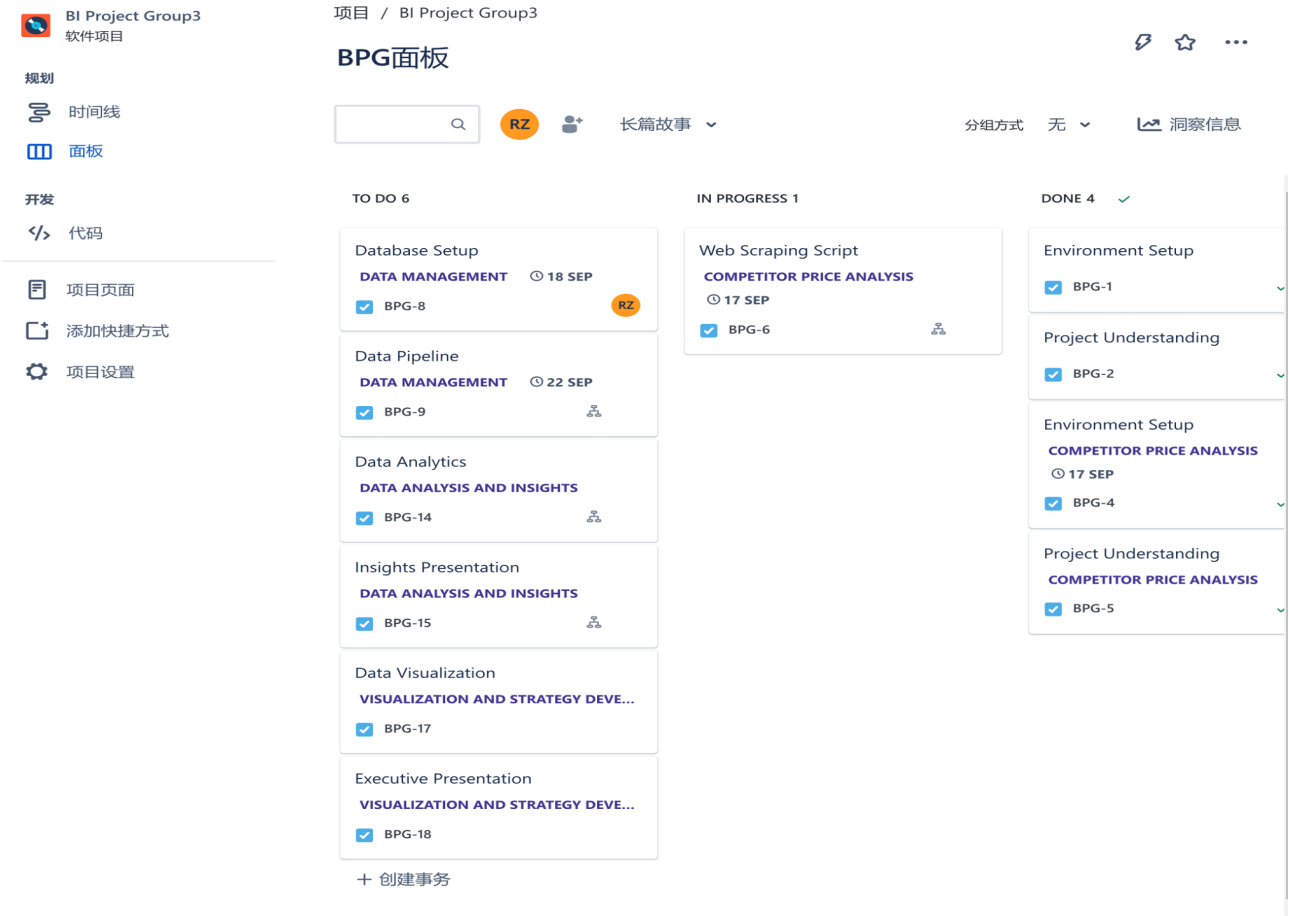
Post-Project:

Week 5 and Beyond: Implementation

Collaborate with the relevant teams within iDC TV Inc. to implement the competitive pricing strategy based on the insights and recommendations.



Timeline Table



Task distribution Table

6. Risks and Mitigations

6.1 Risks

- **Data privacy and security concerns:** Web scraping and using real-world data can lead to concerns about data privacy, security, and potential leaks.
- **Unintended data collection:** There might be unintentional collection of more data than expected, leading to potential misuse.
- **Data quality and availability issues:** Data from sources might be outdated, inaccurate, incomplete, or not easily accessible.
- **Frequent visits** may result in the IP being banned.

6.2 Mitigations

- Ensure all data collection complies with data protection laws. Implement strong security measures and consider anonymizing or pseudonymizing sensitive data.
- Adopt the principle of data minimization, collecting only the data that is absolutely necessary.
- Regularly validate and verify data sources. Establish a data quality framework to assess and improve data quality.
- Change the IP address or use the IP of another member for access.

7. Sign-Off

7.1 Approvals

8. Appendices

8.1 Glossary

8.2 References