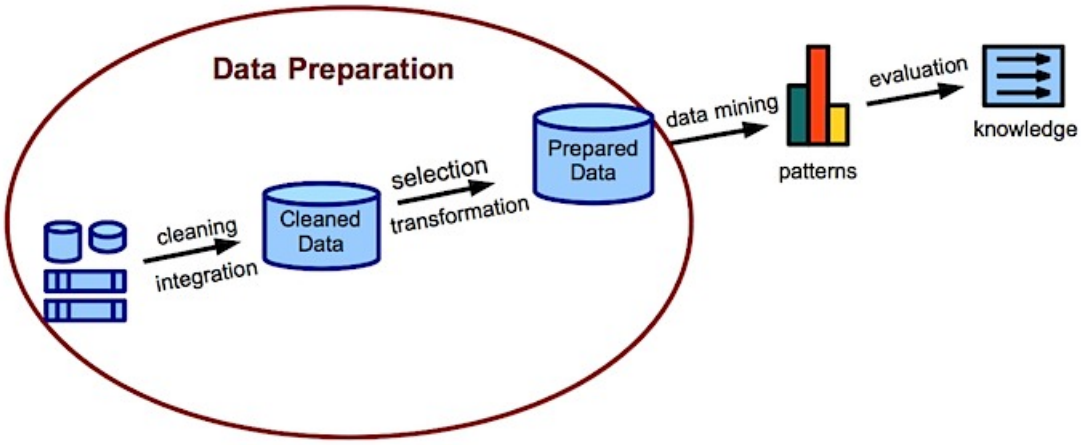
Title:- Quantium Data Analytics Job Simulation Program Report

By:- Satvik Pandey(22BECSE38)

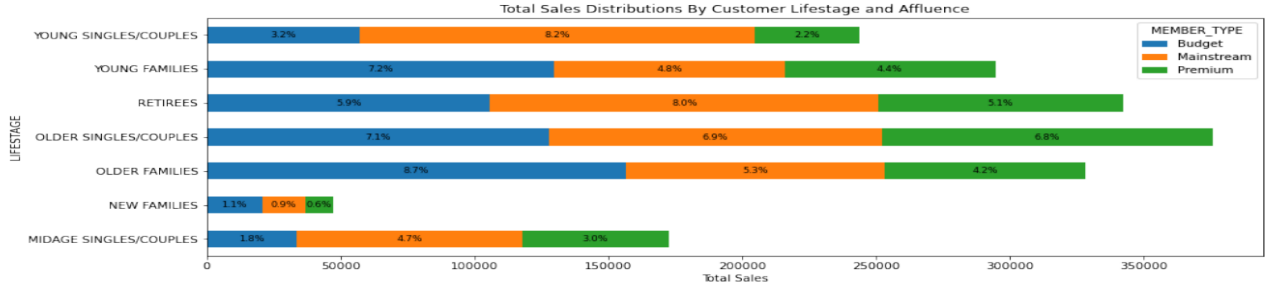
Introduction:

This report provides an overview of my experience in participating in the Quantium Data Analytics Job Simulation Program. Throughout the program, I completed three tasks that involved Analysis of transaction and customer data to identify trends and inconsistencies,Developing metrics and examine sales drivers to gain insights into overall sales performance,Create visualizations and prepare findings to formulate a clear recommendation for the client's strategy.This report will outline the tasks performed, the skills and knowledge gained, and the overall learning outcomes.



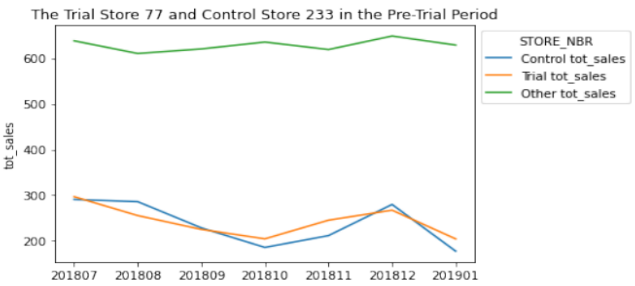
Task 1: Data preparation and customer analytics

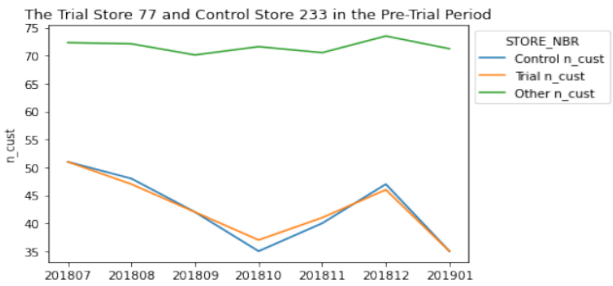
In Task 1, I analyzed consumer purchasing behavior and behavior by focusing on consumers and their wafer purchasing patterns, providing recommendations for future category analysis. I use R to perform advanced data analysis, including data cleaning, data processing, and editing. I also exported important features such as pack size and brand name to support the information, unit, and preferred type. These metrics help me to identify different behaviors of different products, such as premium customers preferring larger packs and branded products, while budget customers opting for smaller, cheaper products. The insights allow me to suggest marketing plans such as special promotions for important customers and family tips that will increase sales.

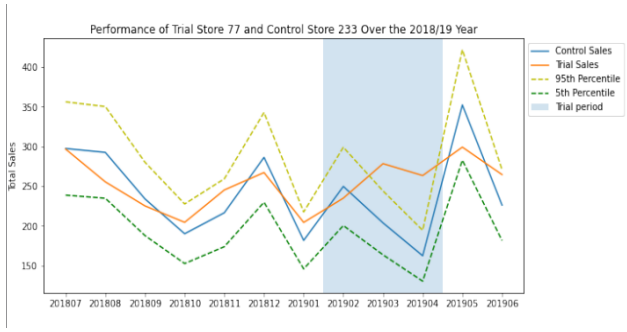


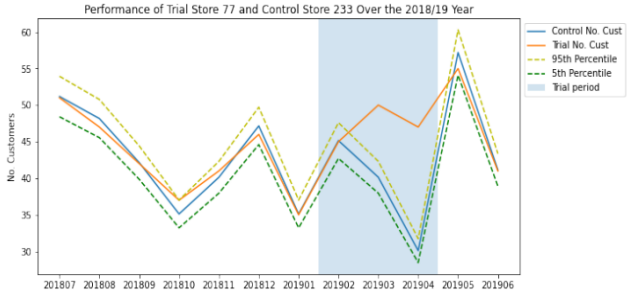
Task 2: Experimentation and uplift testing

In Task 2, I evaluated the performance of a store trial conducted in stores 77, 86, and 88. Using the QVI_data dataset, I analyzed the monthly sales performance of each store, focusing on key metrics such as total sales revenue, total number of customers, and average transactions per customer.









To compare the trial stores with potential control stores, I developed a function that applied similarity measures such as Pearson correlation and magnitude distance. This allowed me to systematically identify the most comparable control stores for each trial store. I then compared the performance of the trial and control pairs during the trial period to see if sales increased

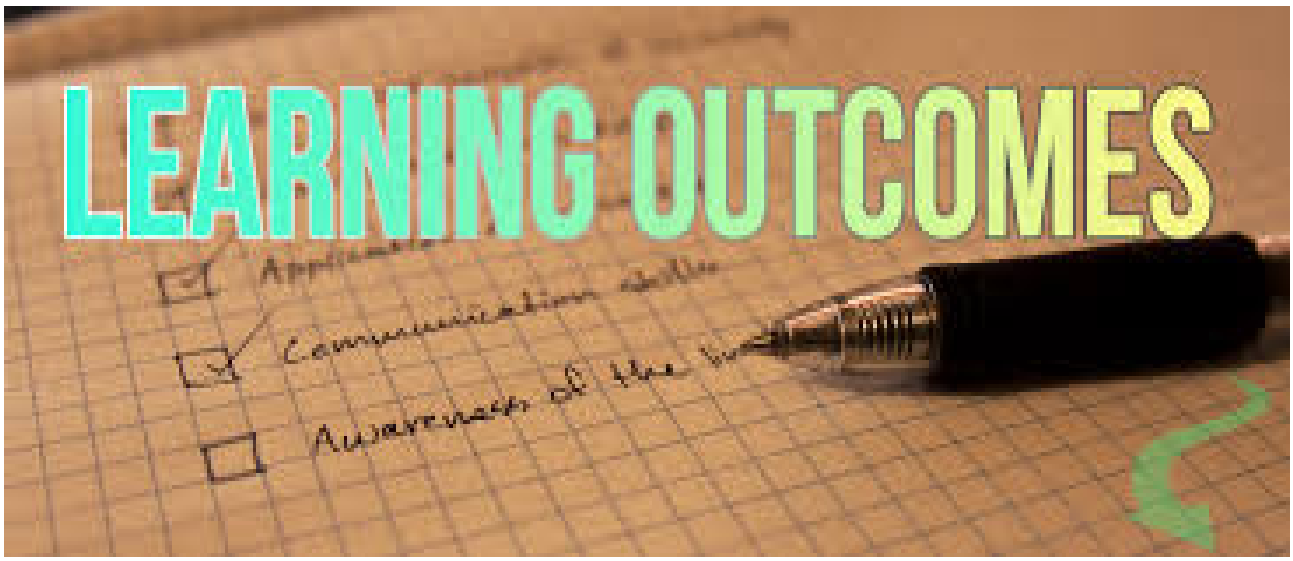
significantly, and investigated whether the change was driven by an increase in the number of customers or more frequent purchases per customer.

Initial findings were submitted as part of an early analysis, highlighting key trends in customer behavior and sales patterns.

Task 3: Analytics and commercial application

In Task 3, I created a final report for Julia, summarizing the insights and findings from previous tasks, using the Pyramid Principles framework. The report included data visualizations, key insights, and recommendations to guide strategic planning for the next six months.

Visualizations such as graphs and charts were created from the results of Tasks 1 and 2, ensuring consistency in the presentation format. These charts highlighted important trends in customer segmentation, chip purchasing behavior, and the performance of store trials. The recommendations were aimed at optimizing sales strategies, targeting specific customer segments, and capitalizing on successful trial store outcomes to improve overall performance.
This report provides Julia with actionable insights and clear next steps for enhancing category management strategies.



Learning Outcomes:

1: Data Exploration and Cleaning:

- Gained experience in data exploration and cleaning using R, including identifying outliers, handling missing data, and deriving new features from existing data.

- Learned how to segment customers based on attributes like Life stage and Premium Customer status to uncover purchasing trends.
- Developed skills in analyzing customer behavior to drive strategic recommendations for targeted marketing and product promotions.

2: Store Performance Analysis:

- Developed the ability to evaluate store performance metrics such as total sales revenue, customer count, and transaction frequency.

- Gained proficiency in comparative analysis using similarity measures like Pearson correlation and magnitude distance to assess the impact of store trials.

- Learned how to interpret sales patterns and customer behaviors during trial periods to determine the effectiveness of interventions.

Task 3: Report Creation & Strategic Recommendations:

- Enhanced skills in synthesizing analytical insights into a coherent report using the Pyramid Principles framework.

- Developed competency in creating data visualizations and ensuring consistency across presentations.

- Learned how to provide clear and actionable recommendations to stakeholders based on data-driven insights,and how to present complex analytics in a client-facing,professional manner.

Conclusion:

Though the completion of these three tasks, I was able to Successfully analyse the customer purchasing behaviors.Evaluate store trial Performance and Synthesize the insights into actionable strategic recommendations

In Task 1, I uncovered key customer segments and trends that influence chip purchasing behavior, enabling the identification of target markets for tailored promotions. Task 2 involved a deep dive into the performance of trial stores, where I compared sales metrics with control stores and identified the driving factors behind changes in revenue, whether through an increase in customers or transaction frequency. Finally, in Task 3, I consolidated all findings into a professional report using the Pyramid Principles framework, providing Julia with data-driven insights and clear recommendations to guide the strategic plan for the next six months.

This comprehensive analysis will aid in optimizing category management, enhancing targeted marketing efforts, and improving sales strategies for future performance reviews.

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Satvik Pandey

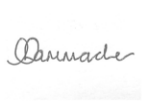
Data Analytics Job Simulation

Certificate of Completion

August 16th, 2024

Over the period of August 2024, Satvik Pandey has completed practical tasks in:

Data preparation and customer analytics
Experimentation and uplift testing
Analytics and commercial application



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