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Marketing retail analytics using tableau and Knime

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Abstract

We deal with the P.O.S (Point of sales) data for a café chain restaurant. Through findings and analysis we suggest the best ideas for the restaurant to increase their revenues.

Keywords: *Exploratory Analysis, Menu Analysis*

EXPLORATORY ANALYSIS

- 1) Exploratory Analysis of data & an executive summary of top findings, supported by graphs.
- 2) What kind of trends do we notice in terms of consumer behavior over different times of the day and different days of the week?
Stating recommendations based on the same
- 3) Certain menu items that can be taken off the menu?
- 4) Trends across months that we are able to notice?

MENU ANALYSIS

We identify the most popular combos that can be suggested to the restaurant chain after a thorough analysis of the most commonly occurring sets of menu items in the customer orders. We suggest the best combo meals.

Tools Used:

- 1) **Knime** analytics Tool
- 2) **Tableau**

INTRODUCTION

- This topic is about Marketing Retail Analytics using Tableau and Knime.
- This project helps in providing analytical data on the inventory levels and supply chain management in the restaurant.
- This helps to analyse the consumer demand in the café chain restaurant
- This Marketing retail analytics is crucial for making marketing and procurement decisions for the café chain restaurant.
- The report examines the consumer characteristics and market segmentation.
- It helps to examine the retail leakage (gaps in the current retail market), and the retail business potential of the café chain restaurant.
- The study provides a foundation of data to better understand the retail needs and opportunities of the café chain restaurant.
- This Marketing and Retail Analytics tools such as Tableau and Knime provides insight on the consumer buying behaviour so that the café chain can forecast and plan for their future demand.
- This study informs how to price and promote products or services in the café chain to generate more revenue.
- This also helps to optimize the supply chain in the restaurant.
- We identify and understand the sales trends and outcomes of the café chain and help the salespeople to improve the revenue of the café chain.
- This study helps to optimize the pricing for value for the café chain products

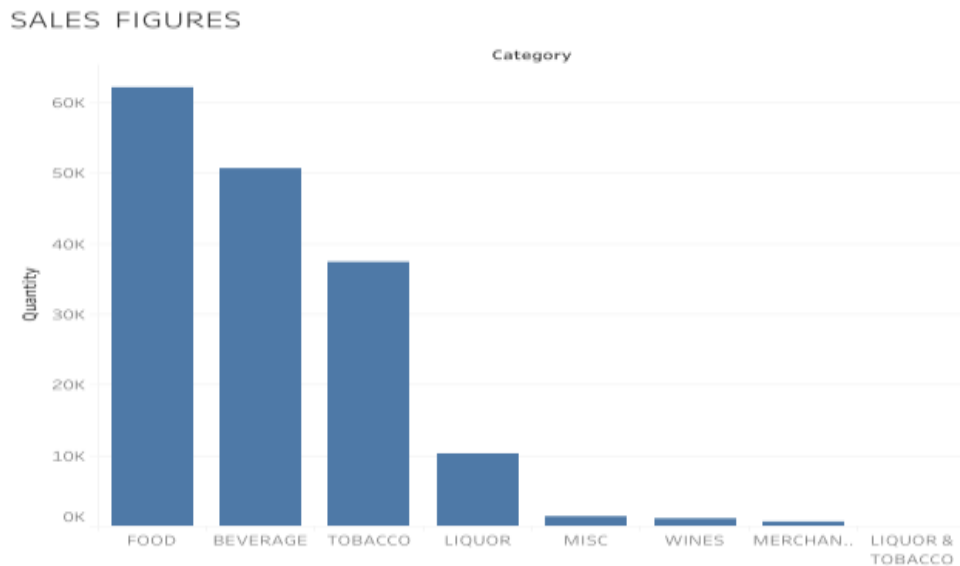
- This also helps to identify the quick pricing wins for our products and services.
- This research helps to plan promotions and feature value for the services and commodities of the restaurant.
- Through findings and analysis we suggest the best ideas for the café chain to improve their sales.

FINDINGS AND ANALYSIS

Exploratory Analysis

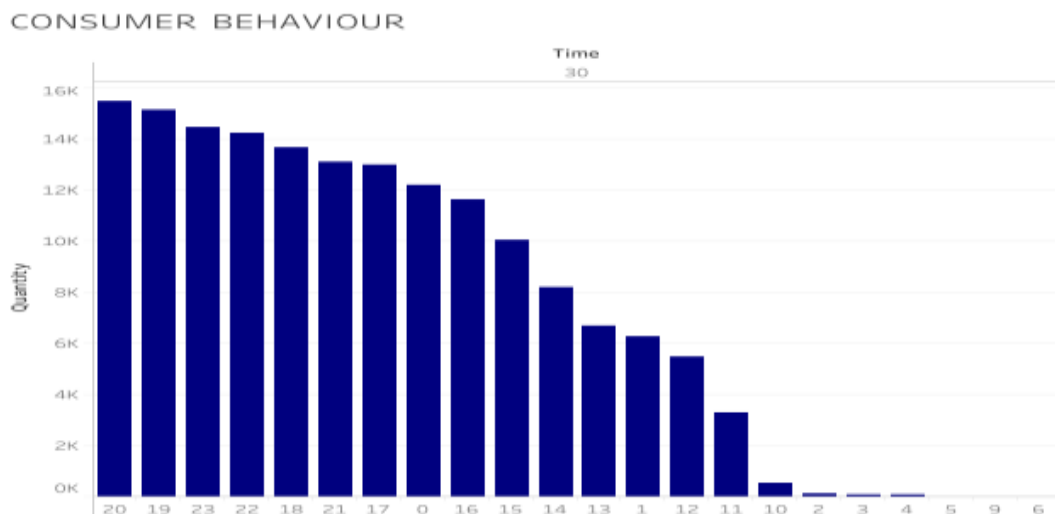
Exploratory Analysis of data & executive summary of your top findings, supported by graphs

- Based on the graph we infer about the sales figures of the café chain
- The café chain has recorded the highest sales figures for the food and beverages category
- The sales figures of food items in the café chain is more than 60k and that of beverages is more than 50k
- The café chain has recorded minimal sales figures for misc and wines
- The café chain has recorded moderate sales figures for tobacco and liquor
- The café chain has recorded the least sales figures for merchandise.



What kind of trends do we notice in terms of consumer behaviour over different times of the day and different days of the week? Can we state concrete recommendations based on the same?

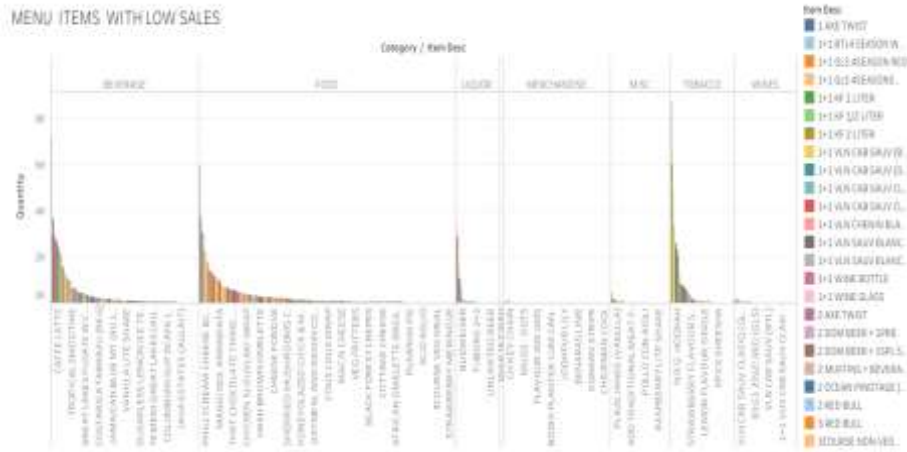
- Based on the graph we infer about the trends of consumer behaviour of the café chain
- The quantity of sales of items in the café chain is highest during the month end
- The quantity of sales in the café chain is highest during the time interval of 6-8 pm
- The quantity of sales in the café chain between 6-8 pm is more than 10k per hour
- The quantity of sales in the café chain is moderate during the time interval of 4-6 pm
- The quantity of sales in the café chain is minimal during the time interval of 2-4 pm



Menu items that can be taken off the menu.

- Based on the graph we infer about the menu items with low sales which can be taken off the menu
- In the beverages section Yemeni great lakes, Columbian sup d café, and java estates have recorded very minimal sales in café chain.

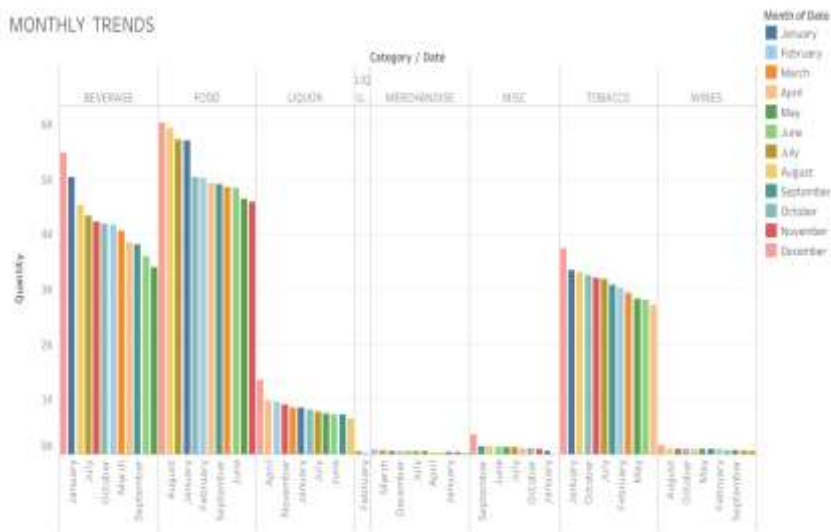
- In the food section pumpkin pie, alio agilo, 3 course veg meal and strawberry meringue have recorded minimal sales in the café chain
- In the liquor section unlimited beer and beer hookah have recorded minimal sales in the café chain
- In the merchandise section Banaras lime, konkan stripe and chairman cool have recorded minimal sales in the café chain
- In the misc. section pollo conaioli and raspberry lite shake have recorded minimal sales in the café chain
- In the tobacco section spice sheesha has recorded minimal sales in the café chain
- In the wine section VLN CAB SAUV and 1+1 VLN CAB SAUV Have recorded minimal sales in the café chain



Trends across months that we are able to notice

Based on the graph we analyse about the monthly trends of the consumers in the café chain

- In the beverages section Jan and July have recorded the maximum sales, October and March have recorded moderate sales and September has recorded minimal sales in the café chain
- In the food section Jan and Aug have recorded the maximum sales, Feb and September have recorded moderate sales and June has recorded minimal sales in the café chain
- In the liquor section April and November have recorded the maximum sales, Jan and July have recorded moderate sales and June has recorded minimal sales in the café chain
- In the merchandise section March and December have recorded the maximum sales, April and July have recorded moderate sales and Jan has recorded minimal sales in the café chain
- In the misc. section September and June have recorded the maximum sales, October and July have recorded moderate sales and Jan has recorded minimal sales in the café chain
- In the Tobacco section Jan and October have recorded the maximum sales, Feb and July have recorded moderate sales and May has recorded minimal sales in the café chain
- In the wines section August and October have recorded the maximum sales, Feb and May have recorded moderate sales and September has recorded minimal sales in the café chain



3.2) Menu Analysis

Identifying the most popular combos that can be suggested to the restaurant chain after a thorough analysis of the most commonly occurring sets of menu items in the customer orders. The restaurant doesn't have any combo meals. Can we suggest the best combo meals?

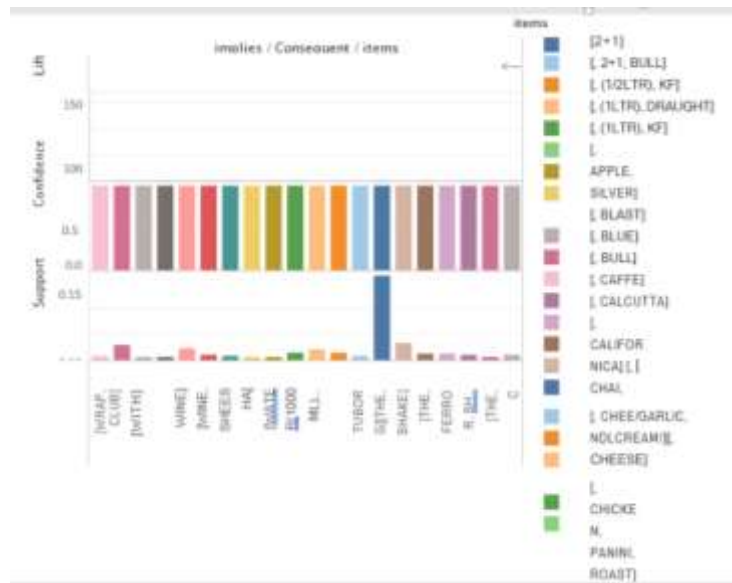
PROCEDURE

- In KNIME we download the café chain dataset using excel reader
- We perform the market basket analysis in KNIME using the cell splitter and associate rule learner
- We export the market basket analysis data into excel using the excel writer in KNIME
- Now we use this market basket analysis data in tableau to generate insights and suggest most popular combos based on the commonly occurring sets of menu items in the customer order to the café chain

EXPLANATION

Based on the support, confidence and lift ratio of the customer orders we can suggest the combos of:

- 1) Melons with Miami
- 2) Oreo Shake with Cookies
- 3) Sheesha with Red wine
- 4) Philly cream with Cheese
- 5) Arrabiata with Maggi



DISCUSSIONS AND RECOMMENDATIONS

- The food items and beverages have recorded the maximum sales in the café chain restaurant
- The sales figures of food items and beverages is highest during the month end.
- The café chain restaurant records the maximum sales of food items and beverages during 6-8 pm .
- In the beverages section Yemeni great lakes, Columbian sup d café, and java estates have recorded very minimal sales in café chain.
- In the food section pumpkin pie, alio agilo, 3 course veg meal and strawberry meringue have recorded minimal sales in the café chain
- These items can removed off the menu from the foods and beverages section in the café chain.
- In the beverages section Jan and July have recorded the maximum sales, October and March have recorded moderate sales and September has recorded minimal sales in the café chain
- In the food section Jan and Aug have recorded the maximum sales, Feb and September have recorded moderate sales and June has recorded minimal sales in the café chain
- Based on the menu analysis, the combo offers that can be suggested in the café chain are:
 - 1) Melons with Miami
 - 2) Oreo Shake with Cookies
 - 3) Sheesha with Red wine
 - 4) Philly cream with Cheese
 - 5) Arrabiata with Maggi

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