Final Project

INSY 695 077 - Advanced Visualization using Power BI

Master of Management Analytics

Desautels Faculty of Management

By

Group - 3

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Contents

1 Executive Summary

24Seven currently operates 10 stores across 10 distinct provinces, with Toronto being unique for hosting two stores, both situated in its Downtown area. The objective of this project is to identify an optimal site for 24Seven's 11th store. To achieve this, we utilized diverse datasets, including historical sales figures and regional crime statistics and designed a dashboard to effectively convey our findings.

Upon analysis, Quebec City and Calgary emerged as the top contenders for the new store location, selected based on criteria such as sales projections, crime rates, unemployment figures, and income statistics. While Toronto showed promising sales projections, the existence of two stores there already diminishes the appeal of adding another, making Quebec City or Calgary more attractive options for expansion.

2 Steps to Solution

2.1 Datasets Used

For this project, we have used a variety of datasets available on Open-Source platforms. In addition to it we also used the 4 datasets provided in the class. A brief description about the datasets and their source is as follows:

1. Historical Sales: Includes transactional details like Sales Date, Product Category Key, Customer Key, Store Key and Total Amount
2. Customer Details: Covers customer demographics like age, gender, and location.
3. Product Categories: Lists the primary categories of the products sold.
4. Stores: Geographic data on stores and region
5. Canadian Postal Codes: Includes information about Canadian postal codes, including latitude, longitude, place names, and whether the area is rural or urban.
6. Unemployment Data: Contains unemployment statistics for Canada and its provinces.
7. Income Statistics: Provides an overview of income levels across different regions in Canada, offering insights into total and median income changes over time.
8. Theft: Contains data on theft and total offenses reported across Canada and its provinces for the year 2021
9. Population: Contains data on the projected population of Canada and its provinces under three different growth scenarios: low-growth, medium-growth, and high-growth

2.2 Power Query Steps

Historical Sales:

1. **Source**: Load the Excel workbook named "Historical Sales.xlsx" from the specified file path.
2. **Promoted Headers**: Promote the first row of the selected sheet as headers for the table, treating all values as headers (including single values).
3. **Changed Type**: Transform the data types of columns in the table. Convert "Sale Date" to type date, "Product Category Key", "Customer Key", and "Store Key" to type Int64, and "Total Amount" to type Currency.
4. **Renamed Columns**: Rename the columns of the table to more descriptive names. Rename "Sale Date" to "SaleDate", "Product Category Key" to "ProductCategoryKey", "Customer Key" to "CustomerKey", "Store Key" to "StoreKey", and "Total Amount" to "TotalAmount".

Customer Details:

1. **Promoted Headers**: Promote the first row of the table as headers for the dataset, treating all values as headers (including single values).
2. **Changed Type**: Transform the data types of columns in the table. Convert "Customer Key" and "Age" to type Int64, and other columns to type text.
3. **Duplicated Column**: Duplicate the "Postal Code" column and name the duplicated column "Postal Code - Copy".
4. **Reordered Columns**: Reorder the columns of the table. Place "Customer Key", "First Name", "Last Name", "Registered Address", "Registered City", "Postal Code - Copy" (renamed later), "Registered Province", "Postal Code", "Phone", "Email", "Gender", and "Age" in the specified order.
5. **Extracted First Characters**: Extract the first character from each value in the "Postal Code - Copy" column and store it in a new column named "ProvinceCode".
6. **Renamed Columns**: Rename the columns of the table to more descriptive names. Rename "Postal Code - Copy" to "ProvinceCode" and adjust the naming of other columns for consistency.
7. **Trimmed Text**: Trim whitespace from the "Phone" column values to remove any leading or trailing spaces.

Product Categories:

1. **Promoted Headers**: Promote the first row of the table as headers for the dataset, treating all values as headers (including single values).
2. **Changed Type**: Transform the data types of columns in the table. Convert "Product Category Key" to type Int64 and "Product Category" to type text.
3. **Renamed Columns**: Rename the columns of the table to more descriptive names. Rename "Product Category Key" to "ProductCategoryKey" and "Product Category" to "ProductCategory".

Stores

1. **Promoted Headers**: Promote the first row of the table as headers for the dataset, treating all values as headers (including single values).
2. **Changed Type**: Transform the data types of columns in the table. Convert "Store Key" to type Int64 and "StoreName", "Address", and "PostalCode" to type text.
3. **Split Column by Delimiter**: Split the "StoreName" column into two separate columns based on the space delimiter, creating "StoreName.1" and "StoreName.2".
4. **Changed Type1**: Transform the data types of the split columns "StoreName.1" and "StoreName.2" to type text.
5. **Renamed Columns**: Rename the split columns "StoreName.1" to "StoreCity" and "StoreName.2" to "StoreCityArea".
6. **Duplicated Column**: Duplicate the "PostalCode" column and name the duplicated column "PostalCode - Copy".
7. **Cleaned Text**: Clean any special characters or formatting from the values in the "PostalCode - Copy" column.
8. **Trimmed Text**: Trim any leading or trailing whitespace from the values in the "PostalCode - Copy" column.
9. **Split Column by Delimiter1**: Split the "PostalCode - Copy" column into two separate columns based on the space delimiter, creating "PostalCode - Copy.1" and "PostalCode - Copy.2".
10. **Changed Type2**: Transform the data types of the split columns "PostalCode - Copy.1" and "PostalCode - Copy.2" to type text.
11. **Removed Columns**: Remove the unnecessary column "PostalCode - Copy.2".
12. **Renamed Columns1**: Rename the remaining split column "PostalCode - Copy.1" to "PostalCodeFirstLetter".
13. **Split Column by Positions**: Split the "PostalCodeFirstLetter" column into three separate columns based on character positions, creating "PostalCodeFirstLetter.1", "PostalCodeFirstLetter.2", and "PostalCodeFirstLetter.3".
14. **Changed Type3**: Transform the data types of the split columns "PostalCodeFirstLetter.1" and "PostalCodeFirstLetter.3" to type text, and "PostalCodeFirstLetter.2" to type Int64.
15. **Removed Columns1**: Remove the unnecessary columns "PostalCodeFirstLetter.2" and "PostalCodeFirstLetter.3".
16. **Renamed Columns2**: Rename the remaining split column "PostalCodeFirstLetter.1" to "ProvinceCode" and "Store Key" to "StoreKey".

Canadian Postal Codes:

1. **Promoted Headers**: Promote the first row of the selected sheet as headers for the table, treating all values as headers (including single values).
2. **Changed Type**: Transform the data types of columns in the table. Convert "PostalCode", "FSA", "Place Name", "Province", and "AreaType" to type text, "Latitude" and "Longitude" to type number, and "FSA-Province" to type Int64.
3. **Reordered Columns**: Reorder the columns of the table to place "PostalCode", "FSA", "ProvinceCode" (renamed later), "Latitude", "Longitude", "Place Name" (renamed later), "ProvinceName" (renamed later), "FSA-Province", and "AreaType" in a specific order.
4. **Renamed Columns**: Rename the columns of the table for better clarity. Rename "FSA1" to "ProvinceCode" and "Province" to "ProvinceName".
5. **Renamed Columns1**: Further rename the "Place Name" column to "PlaceName".
6. **Reordered Columns1**: Reorder the columns of the table again for consistent arrangement.

Employment Statistics:

1. **Promoted Headers**: Promote the first row of the selected sheet as headers for the table, treating all values as headers (including single values).
2. **Changed Type**: Transform the data types of columns in the table. Convert various columns to their appropriate data types, including integers and percentages.
3. **Filtered Rows**: Remove the row where the "Geography" column is labeled "Canada", assuming it is the overall country data, and we are focusing on provincial data.
4. **Renamed Columns**: Rename the "Geography" column to "ProvinceName" for clarity.
5. **Divided Column**: Divide the "Jan_24_Unemployment rate" column by one hundred to convert it from a percentage to a decimal number.
6. **Changed Type1**: Change the data type of the "Jan_24_Unemployment rate" column to Percentage.Type to properly format it as a percentage.
7. **Repeating steps 7-8**: Repeat steps 7 and 8 for other rate columns such as "Jan_24_Participation rate", "Jan_24_Employment rate", "Jan_23_Unemployment rate", and so on.
8. **Divided Column9 - Changed Type14**: Similarly, divide and change the data type of percentage columns related to differences and percentages of population, labor force, employment, full-time employment, part-time employment, and unemployment.

Income Statistics:

1. **Promoted Headers**: Promote the first row of the selected sheet as headers for the table, treating all values as headers (including single values).
2. **Changed Type**: Transform the data types of columns in the table. Convert columns containing income data to Currency.Type.
3. **Filtered Rows**: Keep only the rows where the "Geography" column matches specific provinces or territories: Alberta, British Columbia, Manitoba, New Brunswick, Newfoundland and Labrador, Northwest Territories, Nova Scotia, Nunavut, Ontario, Prince Edward Island, Quebec, Saskatchewan, and Yukon.
4. **Renamed Columns**: Rename the "Geography" column to "ProvinceName" and "Total income_2020-2021" to "TotalIncome_2020-2021" for clarity.

Theft:

1. **Theft_Sheet**: Select the sheet named "Theft" from the loaded workbook.
2. **Promoted Headers**: Promote the first row of the selected sheet as headers for the table, treating all values as headers (including single values).
3. **Changed Type**: Transform the data types of columns in the table. Convert "Total offences" and "Theft" columns to type Int64.
4. **Filtered Rows**: Remove the row where the "Geography" column is labeled "Canada", assuming it is the overall country data, and we are focusing on provincial data.
5. **Renamed Columns**: Rename the "Geography" column to "ProvinceName" for clarity.

Population:

1. **Sheet2_Sheet**: Select the sheet named "Sheet2" from the loaded workbook.
2. **Promoted Headers**: Promote the first row of the selected sheet as headers for the table, treating all values as headers (including single values).
3. **Reordered Columns**: Reorder the columns of the table to place "Geography", "Jan_23_Population", "Jan_24_Population", "Diff_Population", and "%Diff_Population" in a specific order.
4. **Filtered Rows**: Remove the row where the "Geography" column is labeled "Canada", assuming it is the overall country data, and we are focusing on provincial data.
5. **Renamed Columns**: Rename the "Geography" column to "ProvinceName" for clarity.

6. **Trimmed Text**: Trim any leading or trailing whitespace from the "ProvinceName" column values.
7. **Renamed Columns1**: Rename the columns "Jan_23_Population ", "Jan_24_Population ", "Diff_Population ", and "%Diff_Population " to remove extra spaces.
8. **Changed Type**: Transform the data types of columns in the table. Convert "Jan_23_Population", "Jan_24_Population", and "Diff_Population" to type Int64.

Population_2028_Projections:

1. **2028_Sheet**: Select the sheet named "2028" from the loaded workbook.
2. **Promoted Headers**: Promote the first row of the selected sheet as headers for the table.
3. **Changed Type**: Convert the data types of columns as follows:
    - "Geography" to type text.
    - "Low-growth", "medium-growth", and "high-growth" to type number.
4. **Added Custom**: Add a new column named "Date" with a constant value of 2028-1 for all rows.
5. **Changed Type1**: Convert the "Date" column to type date.
6. **Renamed Columns**: Rename the "Date" column to "Year".
7. **Extracted Year**: Extract the year from the "Year" column and convert it to type Int64.
8. **Removed Columns**: Remove the original "Year" column.

Population_2033_Projections:

1. **2033_Sheet**: Select the sheet named "2033" from the loaded workbook.
2. **Promoted Headers**: Promote the first row of the selected sheet as headers for the table.
3. **Changed Type**: Convert the data types of columns as follows:
    - "Geography" to type text.
    - "Low-growth", "medium-growth", and "high-growth" to type number.
4. **Added Custom**: Add a new column named "Year" with a constant value of 2033 for all rows.
5. **Removed Columns**: Remove the "Year" column.
6. **Added Custom1**: Add a new column named "Date" with a constant value of 2033 for all rows.
7. **Changed Type1**: Convert the "Date" column to type date.

Population_2038_Projections:

1. Like Previous

Population_2043_Projections:

1. Like Previous

Calendar:

1. **CalendarAuto():** Automatically generates a calendar table based on data in the model.

NOTE: *Duplicated each population project dataset three times, leaving one of three scenario population projection types (low, med, high) in each one, respectively. Yielding 12 queries for eventual concatenation (appending). Below is an example of the query steps applied to each of them. These queries are prefixed with 'i _' to indicate their intermediary nature:*

Ex. Query: ***i_2028-low:***

1. **Added Custom**: Create a new column named "Year" with a constant value of 2028.
2. **Duplicated Column**: Duplicate the "Custom" column.
3. **Merged Columns**: Combine the "Year", "Custom", and "Custom - Copy" columns into a new column named "Date".
4. **Changed Type1**: Change the type of the "Date" column to date.
5. **Renamed Columns**: Rename the "Date - Copy" column to "Year".
6. **Extracted Year**: Extract the year from the "Year" column.
7. **Removed Columns**: Remove the original "Year" column.
8. **Renamed Columns1**: Rename the "low-growth" column to "PopulationProjection".
9. **Removed Columns1**: Remove the "medium-growth" and "high-growth" columns.
10. **Inserted Literal**: Add a new column named "GrowthScenario" with a constant value of "Low".
11. **Reordered Columns**: Rearrange the columns as follows: "Geography", "PopulationProjection", "GrowthScenario", and "Date".

Step Concatenation to produce ***i_ PopGrowthScenarios***:

1. **Source**: Combine multiple tables:
    - #"i_2043-Low"
    - #"i_2043-Med"
    - #"i_2043-High"
    - #"i_2038-Low"
    - #"i_2038-Med"
    - #"i_2038-High"
    - #"i_2028-Low"
    - #"i_2028-Med"
    - #"i_2028-High"
    - #"i_2033-Low"
    - #"i_2033-Med"
    - #"i_2033-High"
2. **Renamed Columns**: Rename the "PopulationProjection" column to "Population"

PopulationScenariosFinal:

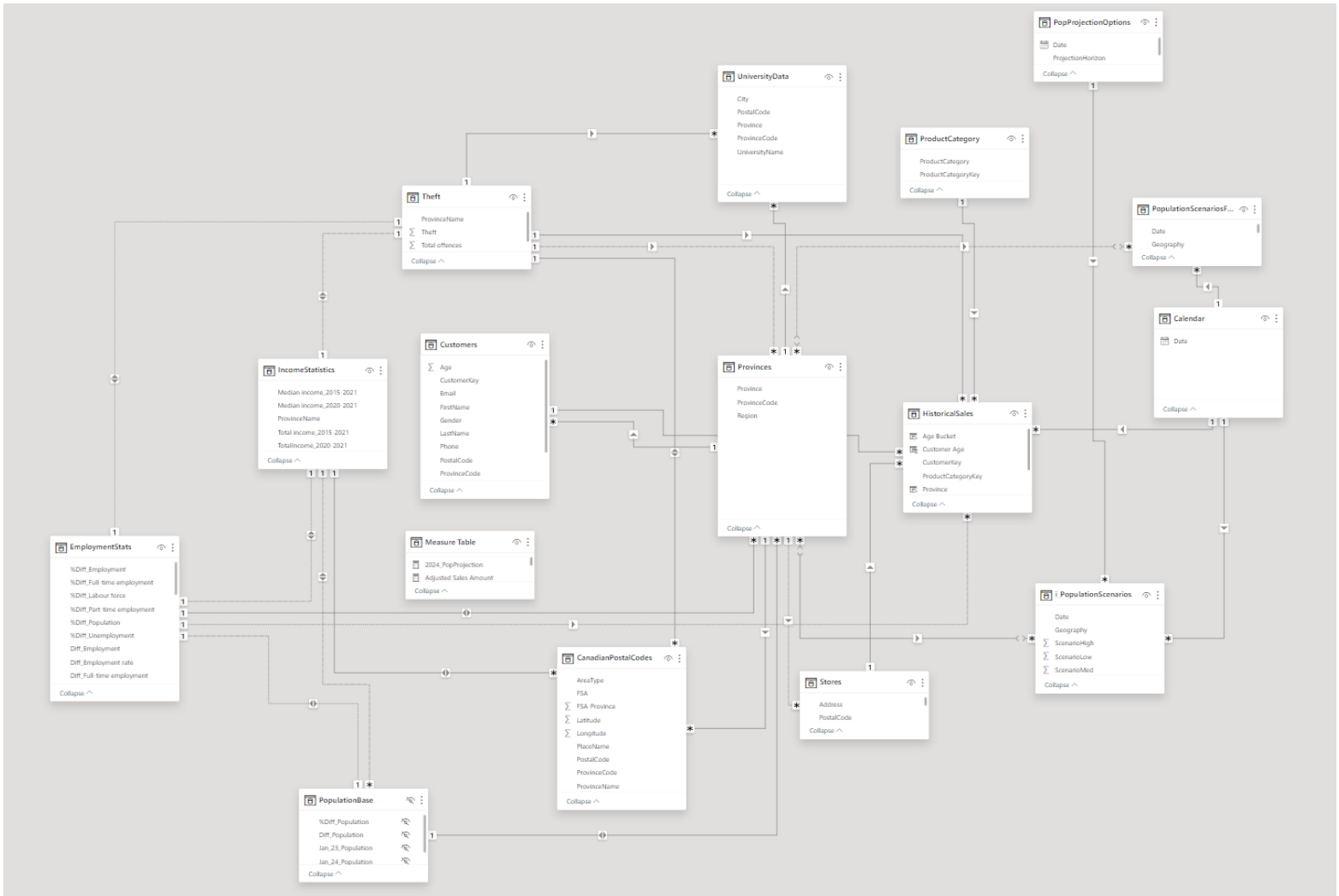
1. **Source**: Combine the tables **i_BasePop2023** and **i_PopGrowthScenarios**.
2. **Added Custom**: Add a custom column named "AdjustedDate" using a conditional statement. If the "Date" is January 1, 2023, then the "Population" is divided by 3; otherwise, it remains the same.
3. **Removed Columns**: Remove the original "Population" column.
4. **Reordered Columns**: Rearrange the columns.
5. **Renamed Columns**: Rename the "AdjustedDate" column to "Population".
6. **Changed Type**: Convert the "Population" column to the number data type.
7. **Duplicated Column**: Duplicate the "Date" column.
8. **Renamed Columns1**: Rename the duplicated "Date" column to "Year".
9. **Extracted Year**: Extract the year from the "Year" column and convert it to the integer data type.

Data Refresh Table:

1. **Source**: Retrieves the current local date and time using **DateTime.LocalNow()**.
2. **Converted to Table**: Converts the datetime value into a single-column table.
3. **Renamed Columns**: Renames the automatically generated column to "Date Time".

2.3 Relationship Mapping

Illustrated below is the Data Model View in PowerBI:



2.4 Calculation Steps

The measures included in the PowerBI file, organized using a measures table with subfolders, are as follows:

Customer metrics:

- **AgeAverage**: Computes the mean age of customers using the AVERAGE function on the 'Age' column in the 'Customers' table.
- **ActiveCustomerCount**: Determines the count of unique active customers through the DISTINCTCOUNT function on the 'CustomerKey' column in the 'Customers' table.

Location metrics:

- **BasePopulationSum**: Calculates the total population in each location by aggregating the 'Jan_23_Population' column in the 'PopulationBase' table, removing filters on 'ProvinceName' with the ALL function, and then applying slicer filters with the VALUES function.
- **EmploymentRatio**: Computes the ratio of employment by dividing the sum of 'Jan_23_Employment' by the sum of 'Jan_23_Labour force' from the 'EmploymentStats' table using the DIVIDE function.
- **MedianIncomeSum**: Aggregates the 'Median income_2020-2021' column in the 'IncomeStatistics' table using the SUM function.
- **StoreCount**: Counts the number of unique stores based on the 'StoreKey' column in the 'Stores' table using the DISTINCTCOUNT function.
- **UnemploymentRatio**: Calculates the ratio of unemployment by dividing the sum of 'Jan_23_Unemployment' by the sum of 'Jan_23_Labour force' from the 'EmploymentStats' table using the DIVIDE function.

Population metrics:

- **2024PopulationProjection**: Estimates the population for 2024 by summing the 'Jan_24_Population' column in the 'PopulationBase' table.
- **ProjectedPopulationCustom**: Attempts to forecast population based on a selected growth rate and horizon. It iteratively calculates the projected population for each year within the horizon using the base population and specified growth rate.
- **ProjectedPopulationCustom2**: Like the previous measure but incorporates additional logic to handle previous projections and current year calculations.
- **DefaultPopulationProjection**: Projection using standard growth rate. It creates a series of years within the projection horizon with the GENERATESERIES function and applies growth rates accordingly.
- **DefaultPopulationProjection2**: Like the above measure but returns projected population alongside corresponding years.

Sales metrics:

- **AdjustedSalesAmount**: Modifies historical sales amount based on a percentage change. It multiplies the total sales amount from the 'HistoricalSales' table by the percentage change from the 'Percentage Change in Sales' table using the SUMX function.
- **AverageOrderAmount**: Computes the average order amount by averaging the 'TotalAmount' column in the 'HistoricalSales' table.
- **DefaultSalesForecast**: Generates a default sales forecast. It calculates the current year sales amount and projects it forward based on a fixed growth rate and projection horizon using the POWER function.

- **SalesForecast**: Projects sales based on selected growth rate and horizon. It extrapolates the current year sales amount forward using the POWER function.
- **MoMSalesChange**: Calculates the month-over-month sales change by comparing current month sales to the previous month's sales and normalizing using the DIVIDE function.
- **YoYSalesChange**: Computes the year-over-year sales change by comparing current year sales to the previous year's sales and normalizing using the DIVIDE function.
- **ProjectionHorizonCalculation**: Determines the projection horizon by calculating the difference between the selected end date and start date using the YEAR function.
- **SelectedDateRangeRetrieval**: Retrieves the selected date range using the SELECTEDVALUE function.
- **SelectedPercentageRetrieval**: Fetches the selected percentage change from the 'PercentageChanges' table using the MAX function.
- **TotalSalesAmount**: Aggregates the total sales amount from the 'HistoricalSales' table using the SUM function.

2.5 Results

For this project, we prepared 4 dashboards in total:

2.2.1 Sales_By_Location

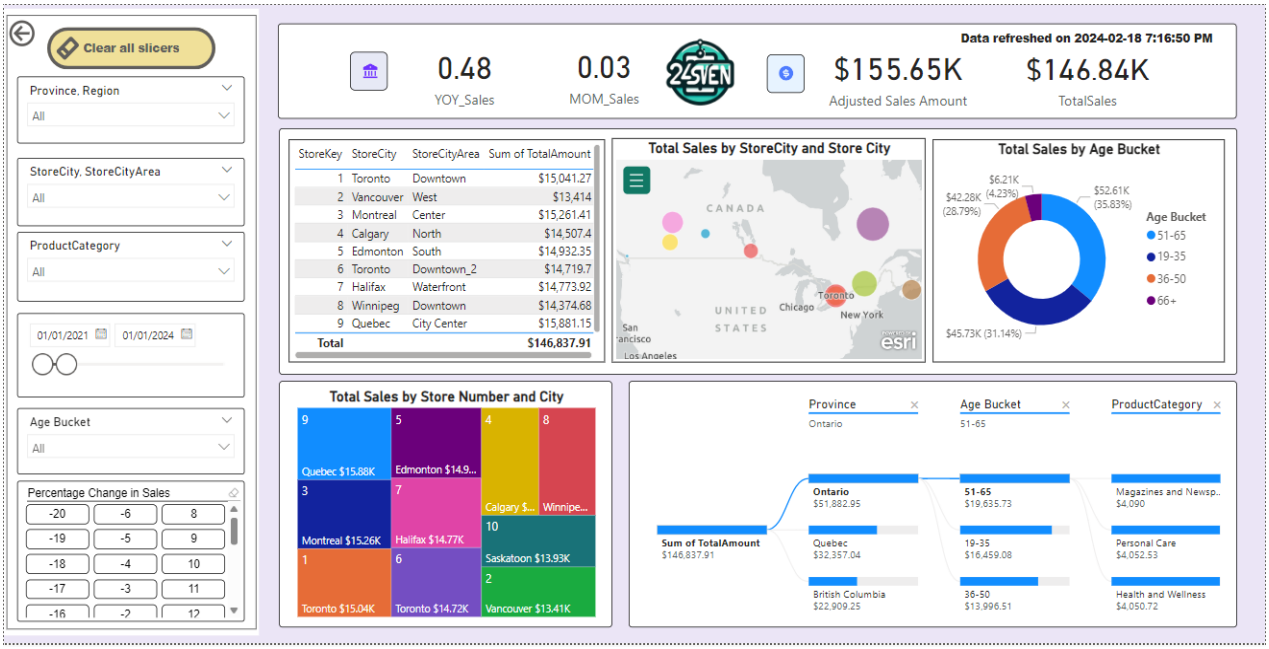


Table 1: Sales_By_Location

Analysis:

The dashboard analysis reveals Quebec City, Montreal, and Downtown Toronto as prime candidates for the new store location. However, considering Toronto already hosts two stores in its downtown area, opening a third there might not yield significant benefits.

Edmonton and Calgary in Alberta and Halifax in Nova Scotia present themselves as viable alternatives, boasting favorable conditions.

Thus, considering projected sales and crime statistics, Montreal, Quebec City, Calgary, and Halifax emerge as the most suitable locations for expansion.

Business Insights: From this analysis, stakeholders can derive several key business insights:

1. Market Saturation in Toronto: The presence of two stores in Downtown Toronto suggests the market there might be nearing saturation. Opening a third store could lead to diminishing returns, highlighting the importance of market diversification.

2. Regional Opportunities for Growth: The identification of Quebec City, Montreal, Calgary,

and Halifax as potential locations indicates regions with untapped market potential or favorable conditions for retail expansion. This suggests that these areas could offer new customer bases and growth opportunities outside the saturated markets.

3. Importance of Crime Statistics in Location Decision: The consideration of crime rates alongside projected sales underscores the significance of safety and security in choosing store locations. Lower crime areas might ensure a safer environment for customers and employees and reduce security-related expenses.

4. Strategic Expansion Strategy: The analysis points towards a strategic approach to expansion, favoring locations with a balance of high projected sales and low crime rates. This strategy aims to maximize revenue potential while minimizing risk.

2.2.2 Customers_By_Location

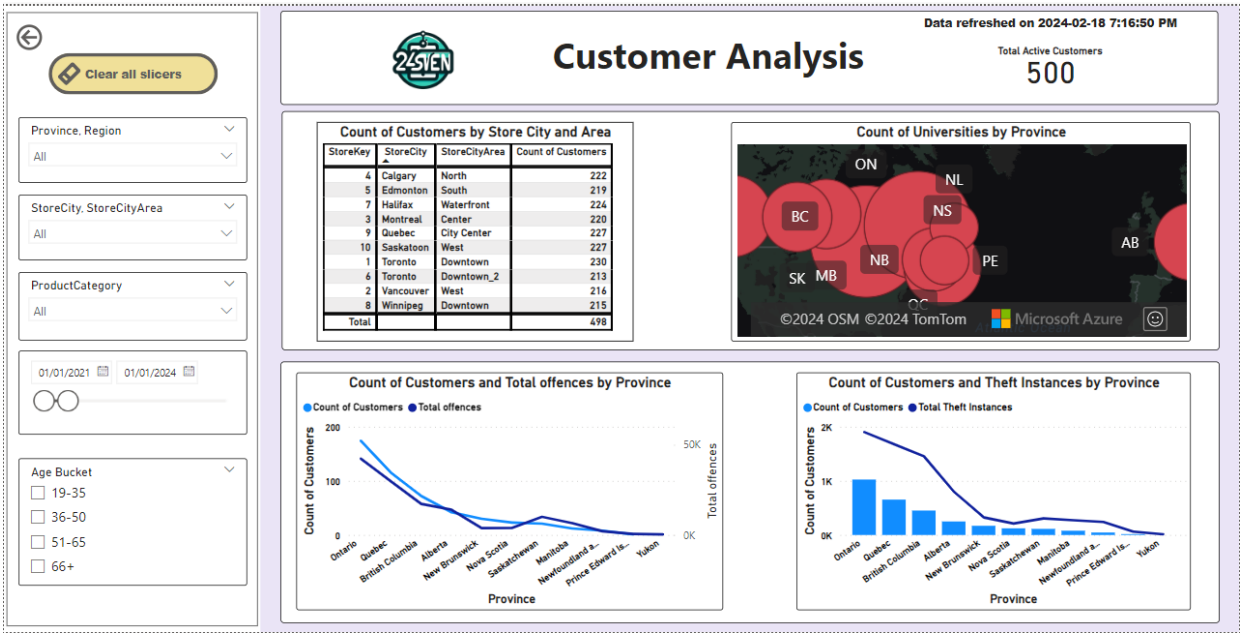


Table 2: Customers_By_Location

Analysis:

The dashboard analysis identifies Downtown Toronto, Quebec City, and Saskatoon as the leading three locations in terms of customer count. However, when considering additional factors such as crime and theft rates, Toronto and Saskatoon become less desirable. Conversely, Calgary and Halifax, with their similar customer counts but lower crime rates, emerge as more favorable options. Thus, considering customer density and safety metrics, Quebec City, Calgary, and Halifax stand out as the optimal choices for location expansion.

Business Insights: This analysis offers several crucial business insights for strategic decision-making:

1. Customer Density as a Key Factor: The high customer counts in Downtown Toronto, Quebec City, and Saskatoon highlight the importance of customer density in selecting new store locations. Areas with higher foot traffic can potentially translate to higher sales volumes.

2. Impact of Crime and Theft Rates: The evaluation of crime and theft rates alongside customer counts illustrates the necessity of considering safety and security in location decisions. While high customer density is attractive, high crime rates can deter potential customers and increase operational risks.

3. Strategic Expansion into Safer Markets: The shift towards considering Quebec City, Calgary, and Halifax as prime locations for new stores suggests a strategic move towards markets that are not only populous but also safer. This strategy aims to ensure not just higher foot traffic but also a secure shopping experience for customers, which can enhance brand reputation and loyalty.

4. Data-Driven Expansion Strategy: This analysis exemplifies a data-driven approach to expansion, where decisions are made based on a comprehensive evaluation of multiple factors, including customer counts and crime statistics. Such an approach helps in minimizing risks associated with new store openings and maximizing the potential for success.

2.2.3 Income, Theft & Unemployment_By_Location

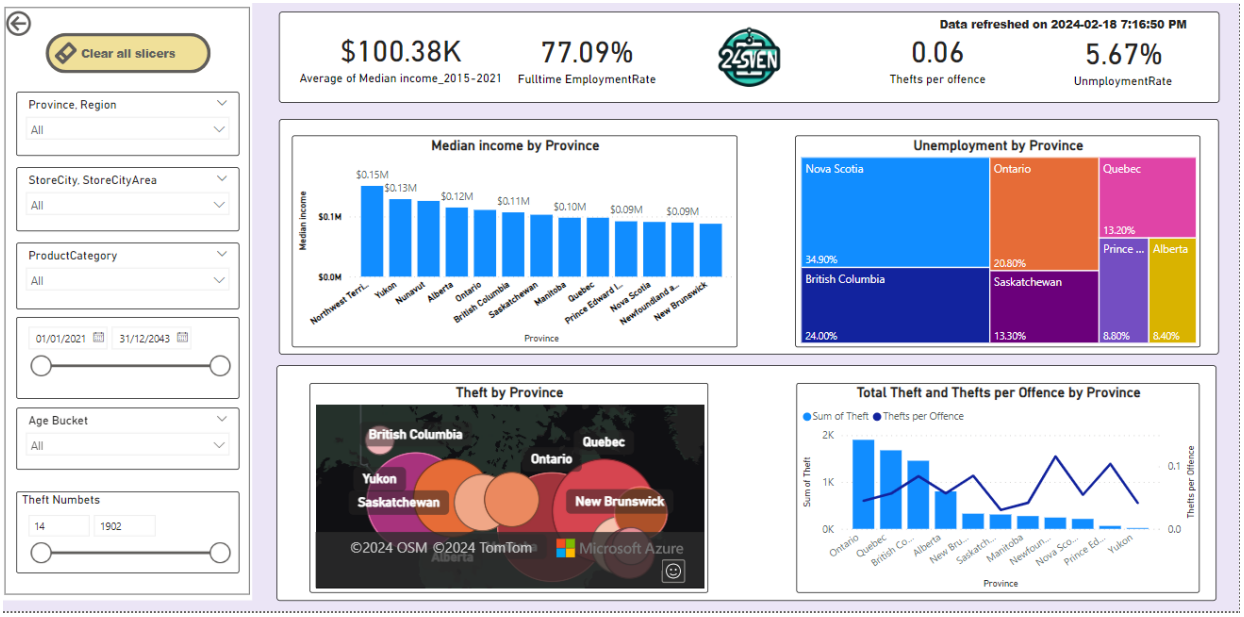


Table 3: Income, Theft & Unemployment_By_Location

Analysis:

The income chart reveals that there was a more significant increase in income levels between 2020-21 than over the entire period from 2015 to 2021, likely a result of inflation-driven wage increments that enhanced consumer spending capability. Ontario, Quebec, and British Columbia saw the highest income growth during this period.

However, when considering unemployment rates alongside income increases, Ontario and British Columbia are less attractive for new store openings due to their high unemployment rates, placing them among the provinces with the most significant employment challenges.

Nova Scotia initially appeared promising based on customer count and sales, its position as the province with the highest unemployment rate diminishes its suitability. Alberta presents a compelling case with its low unemployment rate coupled with strong customer count and sales figures.

Finally, Quebec City and Calgary emerge as the most strategic locations for establishing 24Seven new stores, balancing income trends with employment statistics.

Business Insights: From this analysis, several critical business insights can be drawn for strategic planning and expansion:

1. **Influence of Income Growth on Consumer Spending:** The notable increase in income

levels between 2020-21, particularly in Ontario, Quebec, and British Columbia, points to inflation-driven wage increments enhancing consumer spending capabilities. This suggests that regions with significant income growth present potential markets for retail expansion due to increased consumer purchasing power.

2. Employment Rates as a Key Consideration: The analysis highlights the importance of considering unemployment rates in conjunction with income increases when evaluating new store locations. High unemployment rates in Ontario and British Columbia, despite their income growth, suggest that these regions might not sustain long-term retail success due to a potentially weaker economic environment.

3. Balancing Customer Base and Economic Stability: Nova Scotia's high customer count and sales figures initially indicate a promising market. However, its high unemployment rate suggests economic instability that could impact consumer spending, highlighting the need to balance a strong customer base against the overall economic health of a potential location.

4. Alberta's Favorable Market Conditions: Alberta's combination of a low unemployment rate and strong customer count and sales figures presents a compelling case for expansion. This indicates that areas with both economic stability and a solid customer base are optimal for new store openings.

5. Optimal Locations for Expansion: The emergence of Quebec City and Calgary as the most strategic locations for new stores underscores the importance of selecting sites that offer both robust income trends and favorable employment statistics. These cities represent markets where increased consumer spending power and economic stability coexist, offering fertile ground for retail growth.

2.2.4 Scenario Analysis of Population Projection

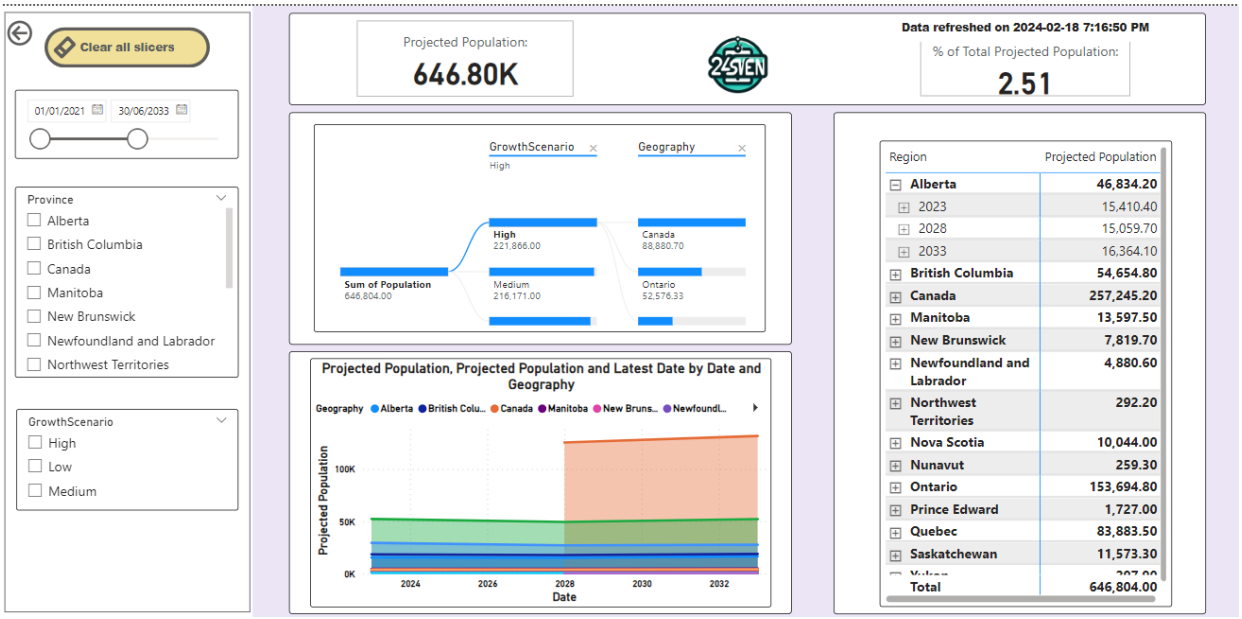


Table 4: SimpleScenarioAnalysis

Analysis:

This dashboard displays information about the population projection till 2040. It considers three different growth scenarios – High, Medium, and Low.

Taking all these scenarios into account if we analyze the position of Quebec and Calgary, the province with the highest population growth in all three scenarios is Quebec.

Business Insights: The fact that Quebec consistently shows the highest population growth across all scenarios can lead to several business insights:

1. Market Expansion Opportunity: Quebec's leading position in population growth indicates a significant opportunity for market expansion. As the population increases, so does the potential customer base, making it an attractive location for businesses looking to grow.

2. Increased Consumer Demand: With the highest projected population growth, Quebec is likely to see an increase in consumer demand across various sectors. Businesses can anticipate greater demand for products and services, suggesting the need for strategic planning in inventory, services offered, and marketing efforts to cater to this expanding market.

3. Long-Term Strategic Investment: The consistent growth across scenarios underscores Quebec as a stable and promising region for long-term business investments. Companies considering new stores or expansions might view Quebec as a strategic choice due to its expected steady increase in population and, consequently, consumer base.

3 Conclusion

Based on the comprehensive analysis of various datasets including sales, crime rates, income levels, unemployment rates, and customer counts across different regions, several key conclusions can be drawn for the strategic expansion of 24Seven stores:

1. Selective Expansion Based on Economic Indicators: Regions like Quebec City and Calgary offer a balanced mix of high consumer spending power and economic stability, making them ideal candidates for new store locations. These areas not only have favorable income growth but also maintain lower unemployment rates, indicating a healthy economic environment conducive to retail success.

2. Importance of Safety and Security: Safety metrics, particularly low crime, and theft rates, significantly influence location attractiveness. Calgary and Halifax, with their lower crime rates compared to other regions, emerge as more favorable options, underscoring the importance of considering safety in the decision-making process for new store openings.

3. Market Saturation and Competition: Toronto's market saturation, evidenced by the presence of two existing stores, suggests that additional stores in this area might not yield substantial benefits. This highlights the need to consider market saturation and the competitive landscape when planning expansion to avoid diminishing returns.

4. Economic Challenges Overriding Initial Promises: Despite initial attractiveness based on customer counts and sales figures, regions like Nova Scotia are deemed less suitable due to high unemployment rates. This illustrates that economic challenges can significantly impact the potential success of new locations, overriding factors that may initially seem promising.

5. Strategic Consideration of Multiple Factors: The decision to expand requires holistic consideration of multiple factors, including customer density, income and employment statistics, and regional safety. A multi-faceted approach ensures that expansion efforts are aligned with both short-term opportunities and long-term sustainability.

6. Data-Driven Decision Making: Utilizing a variety of datasets to inform location strategy exemplifies the value of data-driven decision-making in retail expansion. Insights derived from comprehensive data analysis enable more informed and strategic choices, reducing risk and maximizing potential for success.

In conclusion, the strategic expansion of 24Seven stores hinges on selecting locations that offer a synergy of strong market potential, economic stability, and safety. Quebec City and Calgary stand out as prime examples of such locations, where the conditions are ripe for retail growth and long-term success.