Project Overview

Client: Steven, Sales Manager

Request Date: [Insert Date]

Project Title: Enhancing Internet Sales Reporting with Visual Dashboards

Business Request

Email from Steven – Sales Manager:

Hi Nasrul!
I hope you are doing well. We need to improve our internet sales reports and want to move from static reports to visual dashboards. Essentially, we want to focus it on how much we have sold of what products, to which clients and how it has been over time. Seeing as each sales person works on different products and customers, it would be beneficial to be able to filter them also. We measure our numbers against the budget, so I added that in a spreadsheet so we can compare our values against performance. The budget is for 2021, and we usually look 2 years back in time when we do analysis of sales.
Let me know if you need anything else!
// Steven

Business Demand Overview

- **Reporter:** Steven – Sales Manager
- **Value of Change:** Visual dashboards and improved sales reporting
- **Necessary Systems:** Power BI, CRM System
- **Other Relevant Info:** Budget provided in Excel for 2021

User Stories

No	Role	Request / Demand	User Value	Acceptance Criteria
1	Sales Manager	To get a dashboard overview of internet sales	Can better follow which customers and products sell the best	A Power BI dashboard that updates data once a day
2	Sales Representative	A detailed overview of Internet Sales per Customer	Can follow up with my customers who buy the most and identify opportunities to sell more	A Power BI dashboard that allows filtering data by each customer
3	Sales Representative	A detailed overview of internet Sales per Product	Can follow up on which products sell the most	A Power BI dashboard that allows filtering data by each product
4	Sales Manager	A dashboard overview of internet sales	Can follow sales performance over time against the budget	A Power BI dashboard with graphs and KPIs comparing sales against the budget

User Stories and Project Expectations

User Stories:

The table above outlines the key user stories for this project, which are essential in guiding the development of the Power BI dashboards. Each user story is focused on the needs of specific roles within the sales team and describes the desired outcome and the value it will bring to the users.

1. **Sales Manager - Dashboard Overview of Internet Sales:**
    - **Objective:** The Sales Manager needs a high-level overview of internet sales, with the ability to track which customers and products are performing the best.
    - **Expected Outcome:** The Power BI dashboard should provide a clear and concise view of overall sales performance, including top-performing products and customers. This will enable the Sales Manager to make informed strategic decisions and identify potential growth opportunities.
    - **Insight:** Identification of top-selling products and key customers, allowing for targeted marketing and sales strategies.
2. **Sales Representative - Detailed Overview per Customer:**
    - **Objective:** Sales Representatives need detailed insights into the sales performance of individual customers, allowing them to track buying patterns and identify opportunities to increase sales.
    - **Expected Outcome:** The Power BI dashboard should enable Sales Representatives to filter and analyze sales data by customer. This level of detail will help them to tailor their sales approaches to meet the specific needs of each customer.
    - **Insight:** Understanding customer purchasing behavior, leading to more personalized sales tactics and potentially increased customer loyalty and sales.
3. **Sales Representative - Detailed Overview per Product:**
    - **Objective:** Sales Representatives need detailed insights into product sales, helping them to understand which products are performing well and which may require additional attention.
    - **Expected Outcome:** The Power BI dashboard should allow for filtering by product, showing sales trends, and performance metrics. This will help Sales Representatives focus on promoting the right products to the right customers.

    - **Insight:** Recognition of product trends, enabling more effective product promotions and inventory management.

4. **Sales Manager - Sales Performance vs. Budget:**
    - **Objective:** The Sales Manager needs to track sales performance against the budget to assess how well the sales team is meeting its financial goals.
    - **Expected Outcome:** The Power BI dashboard should include graphs and KPIs that compare actual sales figures against the budgeted targets. This comparison will be crucial for understanding whether the team is on track to meet its financial goals.
    - **Insight:** Real-time tracking of sales performance against budget, enabling proactive adjustments to sales strategies as needed.

Project Expectations:

The primary goal of this project is to transition from static reports to interactive visual dashboards that provide actionable insights into internet sales. The Power BI dashboards will serve as a powerful tool for both Sales Managers and Sales Representatives, offering the following benefits:

- **Improved Decision-Making:** By providing a visual representation of sales data, the dashboards will enable the sales team to make more informed decisions quickly.
- **Enhanced Sales Performance Monitoring:** The ability to filter data by customer, product, and time will allow the team to monitor performance in real-time and respond promptly to trends.
- **Budget Tracking:** The integration of budget data into the dashboards will help the Sales Manager ensure that the team is meeting its financial goals.
- **Increased Efficiency:** Automating the update process (e.g., daily updates) will reduce the time spent on manual reporting and allow the team to focus on driving sales.

Key Insights to be Driven:

- **Top-Performing Products and Customers:** Identifying the products and customers that contribute the most to sales will allow the sales team to focus efforts on high-value areas.
- **Sales Trends Over Time:** Understanding how sales performance changes over time will help in forecasting and planning future sales strategies.

- **Customer and Product Segmentation:** The ability to filter data by specific customers or products will enable targeted approaches, potentially leading to increased sales.
- **Budget vs. Actual Performance:** Comparing sales performance against the budget will highlight areas where the team is excelling or falling short, guiding necessary adjustments.

Query Syntax for Data Gathering

1. This query is focused on cleansing and refining the DIM_Date table to prepare it for use in reporting. Here's an explanation of what the query does and why it is structured this way:

```
-- Cleansing DIM_Date Table

SELECT
    [DateKey],
    [FullDateAlternateKey] AS Date,
    [EnglishDayNameOfWeek] AS Day,
    -- [DayNumberOfWeek]
    -- [SpanishDayNameOfWeek]
    -- [FrenchDayNameOfWeek]
    -- [DayNumberOfMonth]
    -- [DayNumberOfYear]
    [WeekNumberOfYear] AS WeekNr,
    [EnglishMonthName] AS Month,
    Left([EnglishMonthName], 3) AS MonthShort,  -- Extracting the first three letters
for better visualization
    -- [SpanishMonthName]
    -- [FrenchMonthName]
    [MonthNumberOfYear] AS MonthNo,
    [CalendarQuarter] AS Quarter,
    [CalendarYear] AS Year
    -- [CalendarSemester]
    -- [FiscalQuarter]
    -- [FiscalYear]
    -- [FiscalSemester]
FROM
    dbo.DimDate
WHERE
    CalendarYear >= 2019;
```

Insights Driven:

- This cleansed and prepared DIM_Date table will be a crucial part of your Power BI model, providing a reliable timeline for the analysis of sales trends, seasonal patterns, and performance against the budget.
- The data will support the creation of accurate and timely visualizations that reflect the sales team's performance, helping stakeholders make informed decisions based on the most up-to-date information.

2. This query focuses on cleansing and refining the DIM_Customer table to prepare customer-related data for use in reporting. Here's an explanation of the query and its purpose:

```
-- Cleansing DIM_Customer Table

SELECT
    c.customerkey AS CustomerKey,
    -- [GeographyKey]
    -- [CustomerAlternateKey]
    -- [Title]
    c.firstname AS First_Name,
    -- [MiddleName]
    c.lastname AS Last_Name,
    c.firstname + ' ' + c.lastname AS Full_Name,
    -- [NameStyle]
    -- [BirthDate]
    -- [MaritalStatus]
    -- [Suffix]
    CASE c.gender
        WHEN 'M' THEN 'Male'
        WHEN 'F' THEN 'Female'
    END AS [Gender],
    -- [EmailAddress]
    -- [YearlyIncome]
    -- [TotalChildren]
    -- [NumberChildrenAtHome]
    -- [EnglishEducation]
    -- [SpanishEducation]
    -- [FrenchEducation]
    -- [EnglishOccupation]
    -- [SpanishOccupation]
    -- [FrenchOccupation]
    -- [HouseOwnerFlag]
    -- [NumberCarsOwned]
    -- [AddressLine1]
    -- [AddressLine2]
    -- [Phone]
    c.datefirstpurchase AS DateFirstPurchase,
    -- [CommuteDistance]
    g.city AS Customer_City
FROM
    dbo.DimCustomer AS c
LEFT JOIN
    dbo.DimGeography AS g ON g.geographykey = c.geographykey
ORDER BY
    CustomerKey ASC;
```

Insights Driven:

- **Customer Demographics:** The cleansed data will allow for a clear understanding of customer demographics, including names, gender distribution, and purchase history.
- **Geographic Sales Distribution:** By linking customer data with geographic information, the sales team can analyze trends and performance across different regions.
- **Purchase Behavior Analysis:** With the DateFirstPurchase column, the analysis can focus on customer acquisition trends and how they correlate with sales performance over time.

3. This query focuses on cleansing and refining the DIM_Product table, preparing product-related data for use in reporting. Here's an explanation of the query and its purpose:

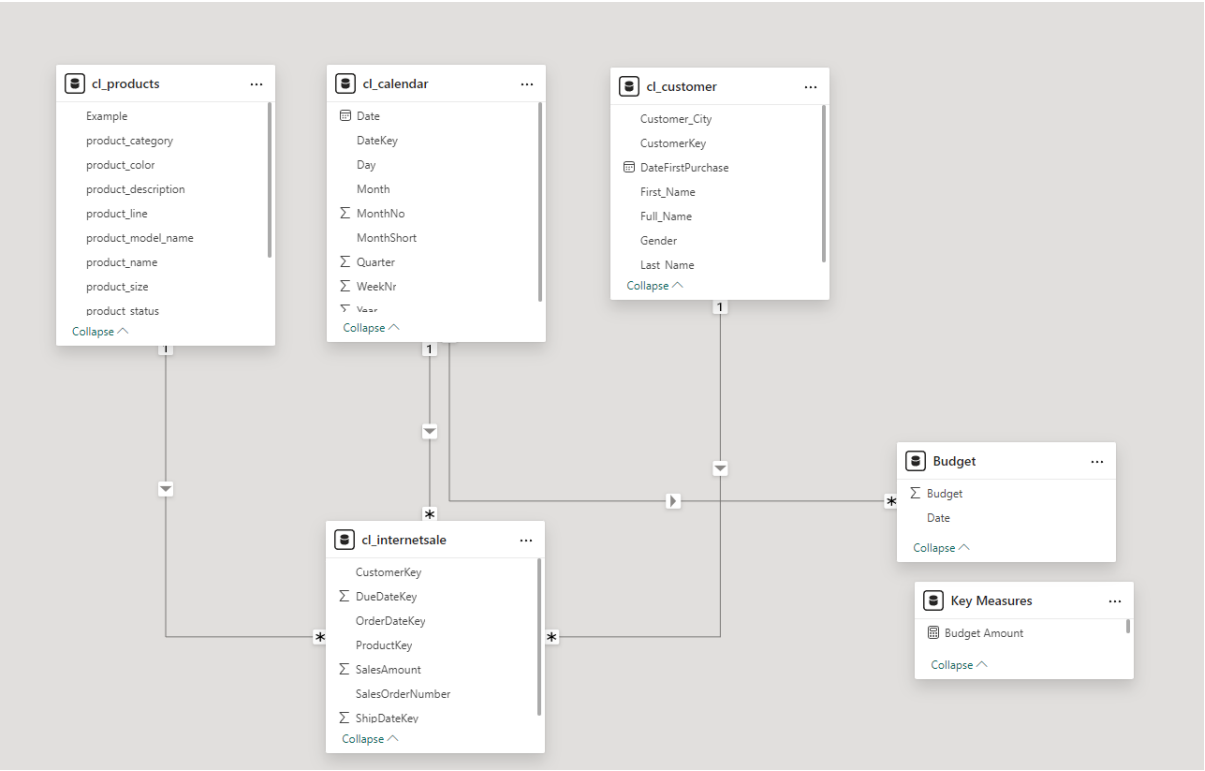
```
-- Cleansed DIM_Product table

SELECT
    p.[ProductKey],
    p.[ProductAlternateKey] AS ProductItemCode,
    -- [ProductSubcategoryKey]
    -- [WeightUnitMeasureCode]
    -- [SizeUnitMeasureCode]
    p.[EnglishProductName] AS product_name,
    ps.EnglishProductSubcategoryName AS sub_category,
    pc.EnglishProductCategoryName AS product_category,
    -- [SpanishProductName]
    -- [FrenchProductName]
    -- [StandardCost]
    -- [FinishedGoodsFlag]
    p.[Color] AS product_color,
    -- [SafetyStockLevel]
    -- [ReorderPoint]
    -- [ListPrice]
    p.[Size] AS product_size,
    -- [SizeRange]
    -- [Weight]
    -- [DaysToManufacture]
    p.[ProductLine] AS product_line,
    -- [DealerPrice]
    -- [Class]
    -- [Style]
    p.[ModelName] AS product_model_name,
    -- [LargePhoto]
    p.[EnglishDescription] AS product_description,
    -- [FrenchDescription]
    -- [ChineseDescription]
    -- [ArabicDescription]
    -- [HebrewDescription]
    -- [ThaiDescription]
    -- [GermanDescription]
    -- [JapaneseDescription]
    -- [TurkishDescription]
    -- [StartDate]
    -- [EndDate]
    p.Status AS Example,
    ISNULL(p.Status, 'Outdated') AS product_status
FROM
    dbo.DimProduct AS p
LEFT JOIN
```

```
    dbo.DimProductSubcategory AS ps ON ps.ProductSubCategoryKey =
p.ProductSubCategoryKey
LEFT JOIN
    dbo.DimProductCategory AS pc ON ps.ProductCategoryKey =
pc.ProductCategoryKey
ORDER BY
    p.ProductKey ASC;
```

Insights Driven:

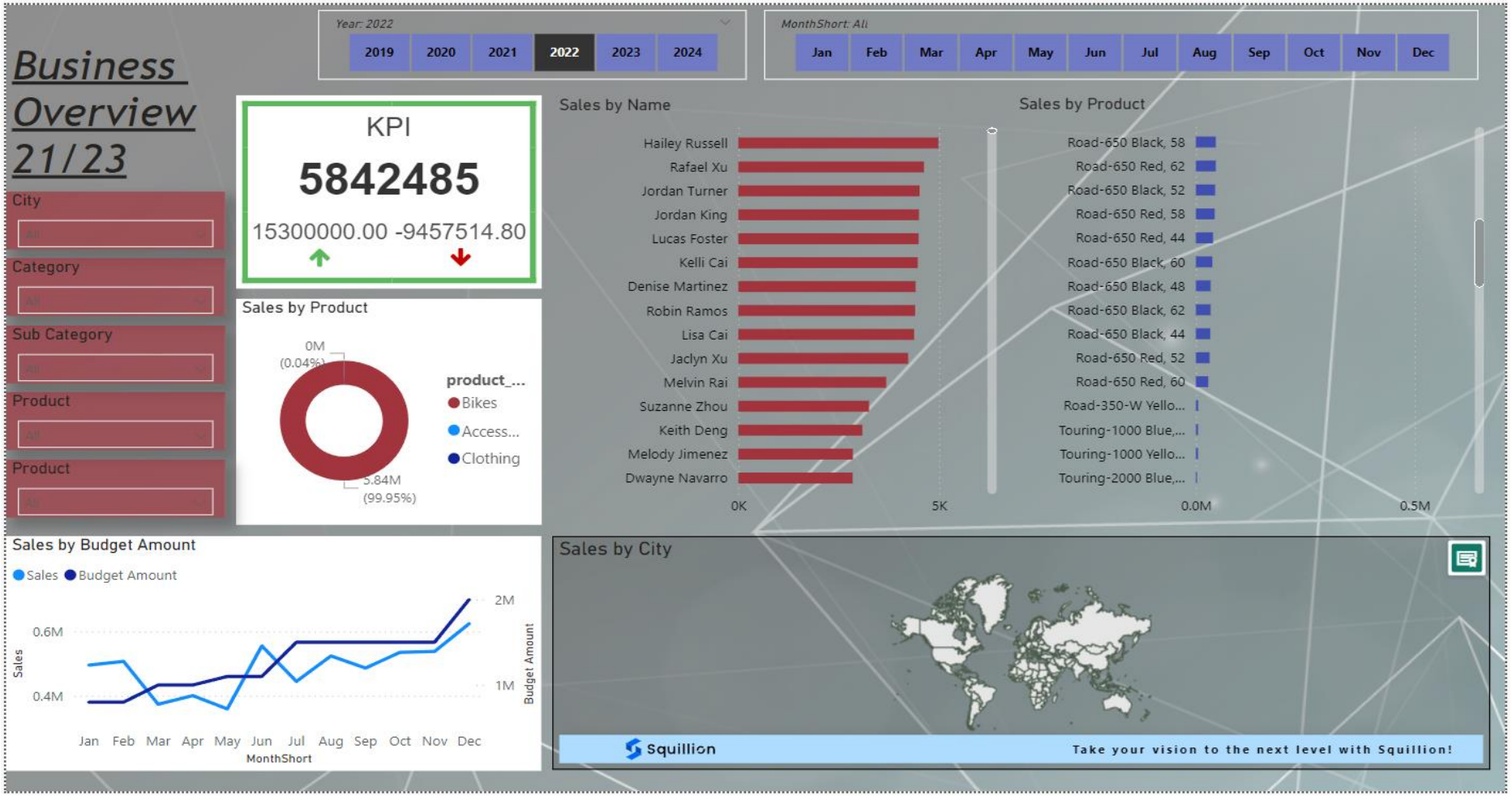
- **Product Performance:** This cleansed product data will be instrumental in analyzing which products are performing well and which are underperforming. The product_category and sub_category columns will enable categorization and comparison across different product lines.
- **Inventory Management:** The product_status column, which defaults to 'Outdated' when NULL, can provide insights into inventory management, particularly in identifying products that may need attention or are no longer active.
- **Sales Trends:** The clean and structured product data will support trend analysis, helping the sales team and management understand product sales over time and across different segments.

Data Modelling:



Power BI Dashboard:

1. Business Overview



2. Customers Overview