**1.Revenue by Region:**

Sum total fees the service data table and group them by the region from the branch data table to see which region generates the most revenue.

**2.Revenue by Department:**

Sum total fees from the service data table and group them by the department from the service data table to see which department generates the most revenue

**3.Revenue by Client:**

Determine the top client

**Key Performance indicator (KPI)**

1.Total Revenue

2.Total Hours

3.Revenue per Region over Overall Revenue

4.Month on Month Revenue Increase

**PROBLEM STATEMENT QUERIES**

1. **Revenue by Region:**

SELECT b.Region, SUM(s.total\_revenue) AS TotalRevenue

FROM services s

JOIN [branch data] b ON s.branch\_id = b.Branch\_ID

GROUP BY b.Region

ORDER BY TotalRevenue DESC;

1. **Revenue by Department:**

SELECT department, SUM(total\_revenue) AS TotalRevenue

FROM services

GROUP BY department

ORDER BY TotalRevenue DESC;

1. **Revenue by Customer**

SELECT client\_name, SUM(total\_revenue) AS TotalRevenue

FROM services

GROUP BY client\_name

ORDER BY TotalRevenue DESC

**KPIs Queries**

1. **Total Revenue:**

SELECT SUM(total\_revenue) AS TotalRevenue

FROM services;

1. **Total Hours:**

SELECT SUM(hours) AS TotalHours

FROM services;

1. **Revenue by Region over Overall Revenue:**

SELECT

department,

SUM(total\_revenue) AS DepartmentRevenue,

(SUM(total\_revenue) / (SELECT SUM(total\_revenue) FROM services\_data)) \* 100 AS RevenuePercentage

FROM

services

GROUP BY

department;

1. **Month on Month Percentage Increase:**

WITH MonthlyRevenue AS (

SELECT

FORMAT(service\_date, 'yyyy-MM') AS Month,

SUM(total\_revenue) AS Revenue

FROM

services

GROUP BY

FORMAT(service\_date, 'yyyy-MM')

),

RevenueComparison AS (

SELECT

Month,

Revenue,

LAG(Revenue) OVER (ORDER BY Month) AS PreviousMonthRevenue

FROM

MonthlyRevenue

)

SELECT

Month,

Revenue,

PreviousMonthRevenue,

CASE WHEN PreviousMonthRevenue > 0 THEN ((Revenue - PreviousMonthRevenue) / PreviousMonthRevenue) \* 100 ELSE NULL END AS RevenuePercentageIncrease

FROM

RevenueComparison

WHERE

PreviousMonthRevenue IS NOT NULL;

**MODIFIED SQL QUERIES FOR PROBLEM STATEMENTS**

1. **Revenue by Region (Modified)**

SELECT

b.region,

s.service\_date AS ServiceDate,

SUM(s.total\_revenue) AS TotalRevenue

FROM services s

JOIN [branch data] b ON s.branch\_id = b.branch\_id

GROUP BY b.Region, s.service\_date

**2. Revenue by Department (Modified):**

SELECT

department,

SUM(total\_revenue) AS TotalRevenue,

service\_date

FROM services

GROUP BY department, service\_date

**3. Revenue by Customer (Modified):**

SELECT

TOP 5 client\_name,

SUM(total\_revenue) AS TotalRevenue,

service\_date

FROM dbo.services

GROUP BY client\_name, service\_date

**Power BI DAX Measures for Our KPIs**

1. **Total Revenue:**

Total Revenue = SUM(services\_data[total\_revenue])

1. **Total Hours:**

Total Hours = SUM(services\_data[hours])

1. **Revenue % of Overall by Region:**

Revenue % of Overall by Region =

DIVIDE(

SUM(services\_data[total\_revenue]),

CALCULATE([Total Revenue], ALL(services\_data))

) \* 100

1. **Month on Month Revenue % Increase:**

Month on Month Revenue % Increase =

VAR CurrentMonthRevenue = SUM(services\_data[total\_revenue])

VAR PreviousMonthRevenue = CALCULATE(

SUM(services\_data[total\_revenue]),

DATEADD(services\_data[date\_column], -1, MONTH)

)

VAR RevenueChange = IF(

PreviousMonthRevenue = 0,

BLANK(),

(CurrentMonthRevenue / PreviousMonthRevenue) - 1

)

RETURN

RevenueChange \* 100

**DAX EXPRESSION FOR CREATING A NEW TABLE & COLUMNS**

1. **Date Table:**

DateTable = CALENDAR(MIN(services[Service\_Date]), MAX(services[Service\_Date]))

1. **Year Column**:

Year = YEAR(DateTable[Date])

1. **Quarter Column:**

Quarter =”Qtr “ & QUARTER(DateTable[Date])

1. **Month Column:**

Month = FORMAT('DateTable'[Date], "MMMM")