**Project 2 Milestone Report 2**

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**Management SQL Code & Results**

*AUTHOR’S NOTE: THE FOLLOWING SQL CODE WAS GENERATED ON POSTGRE SQL PLATFORM DUE TO THE REQUIREMENTS OF SAID DELIVERABLE HIGHLIGHTING FUNCTIONS FOUND NOT TO BE AVAILABLE IN MICROSOFT ACCESS*

**Management Question 1: Is the location profitable to operate in?**

1. Code:

SELECT

C.Address AS CustomerLocation,

DATE\_PART('year', I.InvoiceDate) AS InvoiceYear,

DATE\_PART('month', I.InvoiceDate) AS InvoiceMonth,

SUM(I.TotalAmount) AS TotalRevenue

FROM

InvoiceFact I

JOIN

CustomerDim C ON I.CustomerID = C.CustomerID

GROUP BY

ROLLUP (C.Address, DATE\_PART('year', I.InvoiceDate), DATE\_PART('month', I.InvoiceDate))

ORDER BY

CustomerLocation, InvoiceYear, InvoiceMonth;

1. Results:

A screenshot of a computer

Description automatically generated

**Management Question 2: What can we offer guests that our competitors cannot?**

1. Code:

SELECT

C.CustomerID,

C.FirstName,

C.LastName,

SUM(I.TotalAmount) AS TotalSpending,

COUNT(I.InvoiceID) AS TotalVisits,

DATE\_PART('month', MIN(I.InvoiceDate)) AS FirstVisitMonth,

DATE\_PART('month', MAX(I.InvoiceDate)) AS RecentVisitMonth,

CASE

WHEN SUM(I.TotalAmount) > 1000 AND COUNT(I.InvoiceID) >= 5 THEN 'Premium Guest'

WHEN SUM(I.TotalAmount) > 500 THEN 'High Spender'

WHEN COUNT(I.InvoiceID) >= 3 THEN 'Frequent Visitor'

ELSE 'Occasional Guest'

END AS GuestCategory

FROM

CustomerDim C

JOIN

InvoiceFact I ON C.CustomerID = I.CustomerID

GROUP BY

C.CustomerID, C.FirstName, C.LastName

ORDER BY

TotalSpending DESC, TotalVisits DESC;

1. Results:

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**Management Question 3: How can we optimize revenue and reduce operating costs in regard to rooms and services?**

*AUTHOR’S NOTE: WROTE TWO DIFFERENT QUERIES TO BE ABLE TO ANSWER BOTH PART OF THIS SPECIFIC MANAGEMENT QUESTION.*

1. Code Part 1:

SELECT

ReservationID,

DATE\_PART('year', ReservationDate) AS ReservationYear,

DATE\_PART('month', ReservationDate) AS ReservationMonth,

SUM(TotalReservations) AS TotalReservations,

AVG(AvgDuration) AS AvgStayDuration

FROM

ReservationFact

GROUP BY

ROLLUP (ReservationID, DATE\_PART('year', ReservationDate), DATE\_PART('month', ReservationDate))

ORDER BY

ReservationID, ReservationYear, ReservationMonth;

1. Result part 1:

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1. Code Part 2:

SELECT

Status,

Ranking,

COUNT(EmployeeID) AS TotalEmployees,

SUM(CASE WHEN Status = 'Active' THEN 1 ELSE 0 END) AS ActiveStaff

FROM

EmployeeDim

GROUP BY

CUBE (Status, Ranking)

ORDER BY

Status, Ranking;

1. Result part 2:

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**Visualization for Management Questions**

*AUTHOR’S NOTE: POWERBI FROM MICROSOFT WAS USED IN THE GENERATION OF THESE VISUALS.*

**Management Question 1: Is the location profitable to operate in?**

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* + - The following is a clustered bar chart which displays the total revenue by location. This chart answers management’s question, despite the limited data constraints, which location is most profitable to operate in. By this chart, management can provide more focus and attention to specific locations where the most revenue is being generated and provide more incentives for consumers there as well as strengthen its advantage over other competitors in the region.

**Management Question 2: What can we offer guests that our competitors cannot?**A screenshot of a computer

Description automatically generated

* + - The following is a combined bar and line chart that displays the total spending compared to the duration of their reservation at different locations. The chart answers this management question by looking at areas where guests may prefer premium services and unique offerings compared to other locations. Management can take advantage by offering higher prices for locations where customers are willing to spend more for premium services compared to others. The company can also invest in more luxury offerings to have more of an advantage over competitors by offering more luxury offerings than competitors at a location customers are willing to pay more premiums for.

**Management Question 3: How can we optimize revenue and reduce operating costs in regard to rooms and services?**

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Description automatically generated

* + - The line graph here is a comparison of the reservation volume (or number of reservations) to the total amount of revenue spent over time. This answers managements question by examining the periods where revenues and reservations peaked. Through said examination, management can plan and allocate resources efficiently, reducing staff numbers for low points, while having higher staff numbers for peak demand.