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## Module 5: Revenue Strategy Dashboard

### Introduction

Module 5 focuses on developing a comprehensive Revenue Strategy Dashboard aimed at supporting General Managers and Revenue Managers in making data-driven pricing and revenue optimization decisions. This module integrates ancillary revenue analysis, upsell performance metrics, and dynamic pricing logic to evaluate both room and non-room revenue streams.

By leveraging Power BI, Power Query, DAX measures, and What-If parameters, this module enables interactive scenario analysis that balances pricing, demand sensitivity, and occupancy behavior. The dashboard provides actionable insights to improve total revenue, RevPAR, and customer value.

### Data Preparation and Ancillary Revenue Table Creation

To analyze revenue beyond room bookings, an Ancillary Transactions table was created using Power Query. To analyze non-room revenue and evaluate upsell opportunities, an Ancillary Transactions table was created using Power Query (M language). This table simulates realistic ancillary services such as Spa, Dining, and Other Services availed by guests during their stay.

The logic begins by filtering valid bookings and then programmatically generating service details, quantities, transaction dates, and revenue amounts to closely reflect real-world hotel operations.

#### Key Columns in Ancillary\_Transactions Table

- TransID – Unique identifier for each ancillary transaction
- BookingID – Links ancillary revenue to room bookings
- CustomerID – Identifies the guest
- Date – Date on which the service was availed
- ServiceType – Category of service (Spa, Dining, Services)
- Item – Specific service offered
- Quantity – Number of services used
- Amount – Revenue generated from the service

This table forms the foundation for analyzing upsell behavior and non-room revenue contribution.

### Power Query Formula Used

let

```
// Load Bookings table
```

```
Source = Bookings,
```

```
// Filter valid bookings
ValidBookings = Table.SelectRows(
    Source,
    each [CheckInDate] <> null and [CheckOutDate] <> null
),

// Add ServiceType randomly
WithServiceType = Table.AddColumn(
    ValidBookings,
    "ServiceType",
    each
        let r = Number.Mod(Text.Length([BookingID]), 3)
        in if r = 0 then "Spa"
            else if r = 1 then "Dining"
            else "Services"
),
    
// Add Item based on ServiceType
WithItem = Table.AddColumn(
    WithServiceType,
    "Item",
    each
        if [ServiceType] = "Spa" then "Swedish Massage"
        else if [ServiceType] = "Dining" then "Buffet Dinner"
        else "Airport Pickup"
),
    
// Add Quantity randomly (1 to 3)
WithQuantity = Table.AddColumn(
    WithItem,
    "Quantity",
    each
```

```
1 + Number.Mod(  
    Text.Length([CustomerID]) +  
    Number.From(Date.Day([CheckInDate])),  
    3  
)  
,
```

```
// Add Amount based on ServiceType and Quantity
```

```
WithAmount = Table.AddColumn(  
    WithQuantity,  
    "Amount",  
    each  
        let base =  
            if [ServiceType] = "Spa" then 1800  
            else if [ServiceType] = "Dining" then 1200  
            else 1000  
            in base * [Quantity]  
)
```

```
// Add Transaction Date within stay period
```

```
WithDate = Table.AddColumn(  
    WithAmount,  
    "Date",  
    each  
        let  
            los = Duration.Days([CheckOutDate] - [CheckInDate]),  
            offset =  
                Number.Mod(  
                    Text.Length([RoomTypeID]) +  
                    Number.From(Date.Day([CheckOutDate])),  
                    los + 1  
)
```

```

in Date.AddDays([CheckInDate], offset)
),

// Add TransID
WithIndex = Table.AddIndexColumn(
    WithDate,
    "TransID",
    1,
    1,
    Int64.Type
),

Final = Table.TransformColumns(
    WithIndex,
    {"{"TransID", each "ANC" & Text.PadStart(Text.From(_), 5, "0"), type text}{}}
),

// Select final columns
AncillaryTable = Table.SelectColumns(
    Final,
    {"TransID", "BookingID", "CustomerID", "Date", "ServiceType", "Item", "Quantity",
    "Amount"}
)

in
AncillaryTable

```

The screenshot shows the Power BI desktop interface with the 'Ancillary\_Transactions' table selected. The table has columns: TransID, BookingID, CustomerID, Date, ServiceType, Item, Quantity, Amount, and MonthStart. The data consists of 25,000 rows of dining transactions. To the right, the Data Model pane shows relationships between tables like Ancillary\_Transactions, BookingID, CustomerID, Date, Item, MonthStart, and TransID.

TransID	BookingID	CustomerID	Date	ServiceType	Item	Quantity	Amount	MonthStart
ANC00013	BK13	C13611	16-04-2023	Dining	Buffet Dinner	1	1200.00	01-04-2023
ANC00017	BK17	C11019	04-10-2025	Dining	Buffet Dinner	1	1200.00	01-04-2025
ANC00020	BK20	C1723	08-01-2024	Dining	Buffet Dinner	1	1200.00	01-08-2024
ANC00024	BK24	C852	06-09-2022	Dining	Buffet Dinner	1	1200.00	01-06-2022
ANC00025	BK25	C1058	07-07-2022	Dining	Buffet Dinner	1	1200.00	01-07-2022
ANC00026	BK26	C11146	08-10-2023	Dining	Buffet Dinner	1	1200.00	01-08-2022
ANC00031	BK31	C3827	19-10-2025	Dining	Buffet Dinner	1	1200.00	01-10-2025
ANC00032	BK32	C3044	20-07-2022	Dining	Buffet Dinner	1	1200.00	01-07-2022
ANC00033	BK33	C13734	18-05-2021	Dining	Buffet Dinner	1	1200.00	01-05-2021
ANC00035	BK35	C2986	10-01-2022	Dining	Buffet Dinner	1	1200.00	01-10-2022
ANC00040	BK40	C3923	10-09-2021	Dining	Buffet Dinner	1	1200.00	01-10-2021
ANC00044	BK42	C8580	31-01-2024	Dining	Buffet Dinner	1	1200.00	01-01-2024
ANC00044	BK44	C14173	03-10-2023	Dining	Buffet Dinner	1	1200.00	01-03-2024
ANC00044	BK45	C1225	04-02-2022	Dining	Buffet Dinner	1	1200.00	01-04-2022
ANC00052	BK52	C12387	31-01-2022	Dining	Buffet Dinner	1	1200.00	01-01-2022
ANC00053	BK53	C4972	20-07-2025	Dining	Buffet Dinner	1	1200.00	01-07-2025
ANC00056	BK56	C11060	13-09-2025	Dining	Buffet Dinner	1	1200.00	01-09-2025
ANC00057	BK57	C255	24-01-2023	Dining	Buffet Dinner	1	1200.00	01-01-2023
ANC00058	BK58	C9440	15-06-2021	Dining	Buffet Dinner	1	1200.00	01-06-2021
ANC00064	BK64	C11483	14-11-2025	Dining	Buffet Dinner	1	1200.00	01-11-2025
ANC00075	BK75	C3143	04-03-2021	Dining	Buffet Dinner	1	1200.00	01-04-2021
ANC00077	BK77	C10487	20-04-2025	Dining	Buffet Dinner	1	1200.00	01-04-2025
ANC00079	BK79	C9013	28-01-2023	Dining	Buffet Dinner	1	1200.00	01-07-2023
ANC00081	BK81	C609	12-06-2024	Dining	Buffet Dinner	1	1200.00	01-12-2024
ANC00082	BK82	C6100	04-09-2025	Dining	Buffet Dinner	1	1200.00	01-04-2025
ANC00083	BK83	C12345	07-06-2021	Dining	Buffet Dinner	1	1200.00	01-07-2021
ANC00086	BK86	C2274	20-09-2021	Dining	Buffet Dinner	1	1200.00	01-09-2021
ANC00097	BK97	C14075	19-09-2025	Dining	Buffet Dinner	1	1200.00	01-09-2025

Table: Ancillary\_Transactions (25,000 rows)

Update available (click to download)

## Measures Used for Revenue Analysis

### 1. Ancillary Revenue

This measure calculates the total revenue generated from ancillary services.

Ancillary Revenue =

SUM(Ancillary\_Transactions[Amount])

It helps assess the overall contribution of Spa, Dining, and Services to total hotel revenue.

### 2. Ancillary Revenue per Booking

This measure calculates the average ancillary revenue generated per booking.

Ancillary Rev / Booking =

DIVIDE(

SUM(Ancillary\_Transactions[Amount]),

COUNT(Booking[BookingID])

)

It evaluates the effectiveness of upselling strategies across bookings.

### 3. Upsell Conversion Percentage

This measure calculates the percentage of bookings that resulted in at least one ancillary service purchase.

Upsell Conversion % =

```
DIVIDE(  
    DISTINCTCOUNT(Ancillary_Transactions[BookingID]),  
    DISTINCTCOUNT(Booking[BookingID])  
)
```

It reflects how successfully room bookings are converted into additional revenue opportunities.

### Pricing Strategy Using What-If Parameters

To enable interactive revenue planning, **What-If parameters** were implemented.

#### Price Uplift %

This parameter allows users to simulate promotional discounts or strategic price increases by adjusting room prices dynamically. It supports scenario testing without modifying core DAX calculations.

#### Occupancy Sensitivity Value

This parameter represents price elasticity with respect to occupancy. Higher values indicate aggressive pricing during high demand, while lower values indicate conservative pricing to protect occupancy.

These parameters allow decision-makers to explore different revenue strategies interactively.

### Recommended Price (Dynamic Pricing Logic)

A **Recommended Price** measure was created to calculate an optimized room rate by combining historical pricing, seasonality, promotional uplift, and occupancy sensitivity.

Recommended Price =

VAR BaseADR = [DADR]

VAR SeasonAdj =

```
SWITCH(  
    SELECTEDVALUE('Date'[Season]),
```

```
    "High", 0.15,
```

```
    "Shoulder", 0.05,
```

"Low", -0.10,

0

)

VAR Uplift = [Price Uplift % Value]

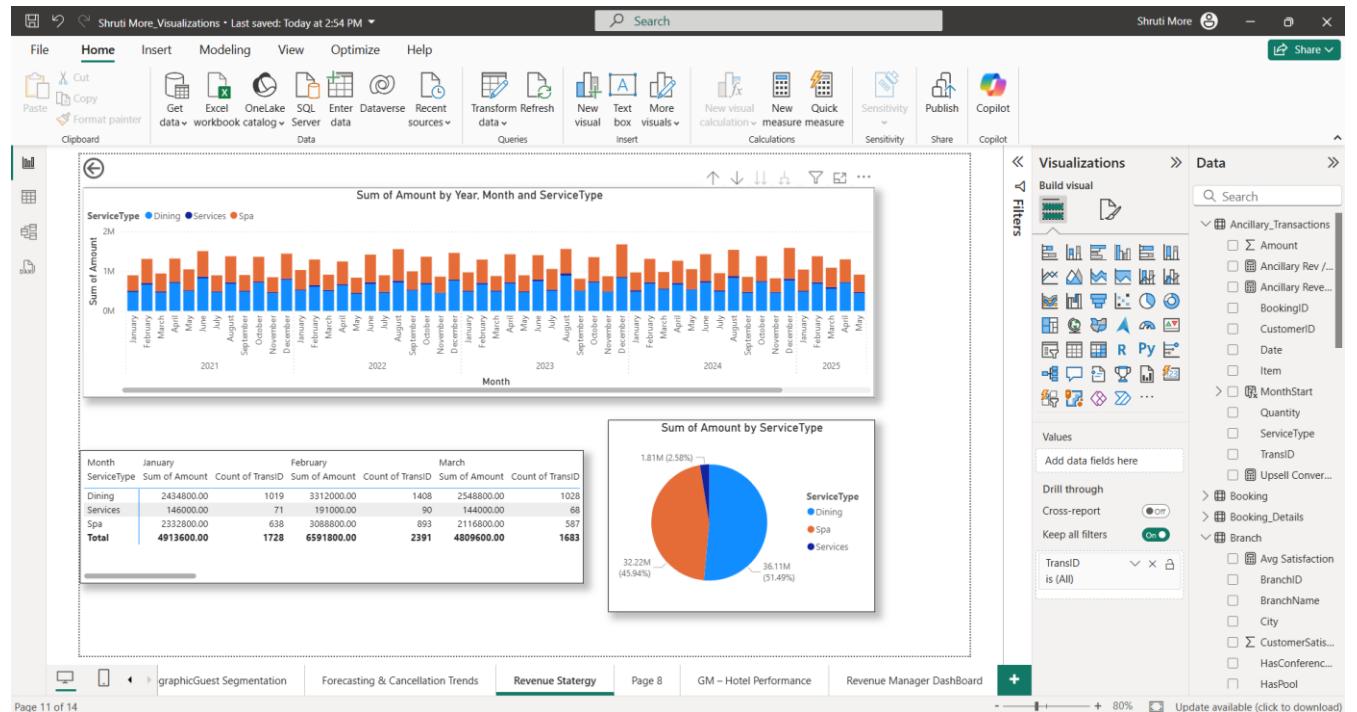
VAR Elasticity = [Occupancy Sensitivity Value]

RETURN

BaseADR \* (1 + SeasonAdj + Uplift) \* Elasticity

This measure helps recommend optimal prices under varying demand and market conditions.

## Visualization & Analysis (Output)



The screenshot shows a Microsoft Power BI desktop interface. On the left, there's a navigation bar with tabs: File, Home, Insert, Modeling, View, Optimize, Help. Below it are icons for Paste, Cut, Copy, Format painter, Clipboard, Get data from Excel, OneLake, SQL Server, Enter Data, Recent sources, Transform Refresh, New visual, Text box, More visuals, Calculations, Sensitivity, Publish, and Copilot. The main area displays a dashboard titled "Pricing Tier Recommendations". It contains a matrix table with columns RoomType (Double, Single, Suite) and rows High, Low, Shoulder, Total. The total values are: Double 4,901.98, Single 7,676.87, Suite 7,447.81, and Total 6,245.34. There are also two sliders: "Occupancy Sensitivity Value" set to 0.84 and "Price Uplift %" set to -0.01. The right side of the screen shows the "Data" pane with sections for Visualizations, Build visual, Filters, Ancillary\_Transactions, Values, Drill through, Cross-report, and Branch. A navigation bar at the bottom includes tabs for graphicGuest Segmentation, Forecasting & Cancellation Trends, Revenue Stategy, Page 8, GM - Hotel Performance, and Revenue Manager Dashboard. The status bar at the bottom indicates "Page 12 of 14" and "Update available (click to download)".

- A stacked column chart shows ancillary revenue trends by service type (Dining, Spa, Services) across months and years. Dining and Spa contribute the highest share of non-room revenue, with visible seasonal peaks.
- A monthly table highlights service-wise revenue and transaction counts, helping identify high-volume and high-value ancillary services. Dining shows frequent usage, while Spa generates higher revenue per transaction.
- A pie chart displays the percentage contribution of each service type to total ancillary revenue, clearly indicating the dominance of Dining and Spa services.
- A Pricing Tier Recommendations matrix presents dynamically calculated recommended prices by room type and season, enabling easy comparison across demand periods.
- What-If sliders (Price Uplift % and Occupancy Sensitivity) allow scenario simulation, showing how pricing changes impact recommended room rates.

Overall, these visuals support data-driven revenue optimization, combining ancillary performance insights with dynamic pricing strategy.

## Insights and Learning from Module 5

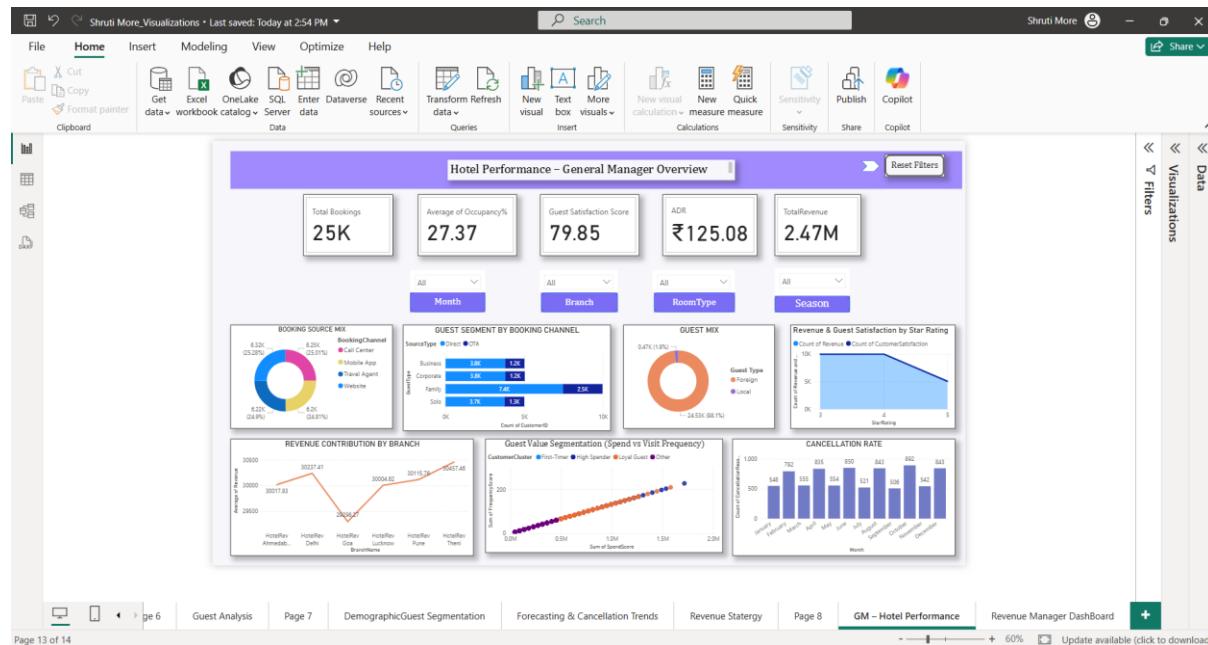
- Ancillary services contribute significantly to total revenue, highlighting strong upsell potential.
- Upsell conversion varies across customer segments, indicating opportunities for targeted promotions.
- Dynamic pricing enables flexible price optimization based on seasonality and demand sensitivity.
- Scenario analysis helps balance higher ADR with potential occupancy impact.
- Integrating ancillary revenue with pricing strategy improves overall RevPAR optimization.

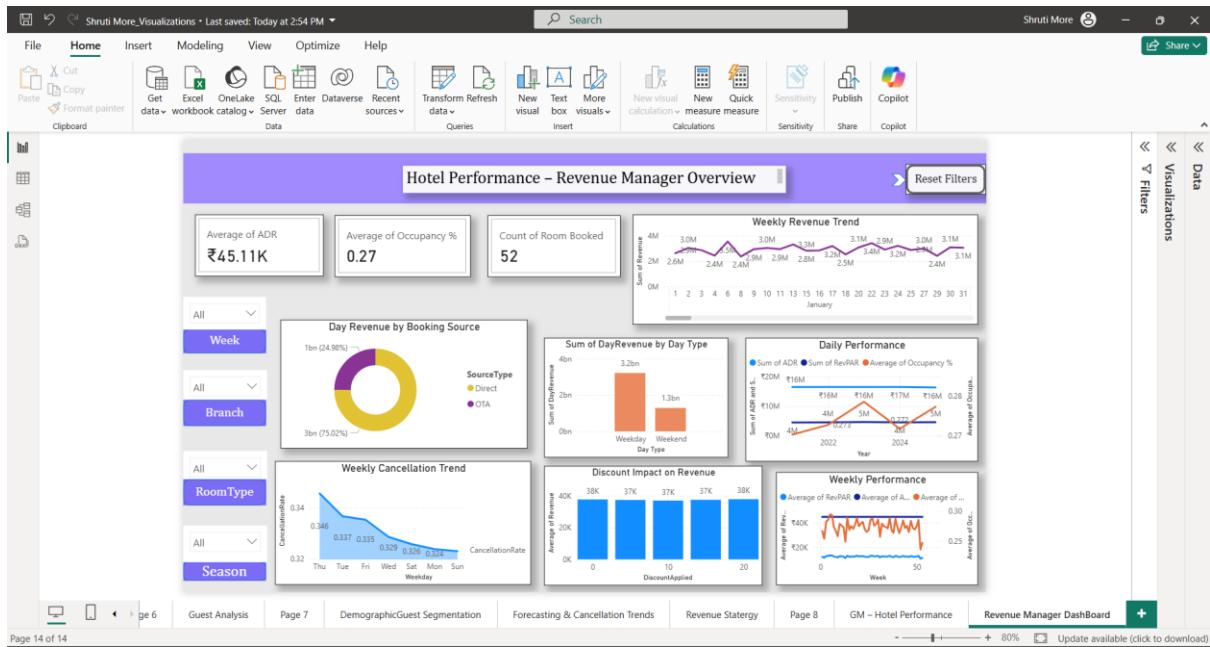
## Conclusion

Module 5 successfully integrates ancillary revenue analysis with dynamic pricing strategies to create a powerful Revenue Strategy Dashboard. By combining DAX measures, Power Query transformations, and What-If parameters, the dashboard enables interactive, scenario-driven decision-making.

This module equips hotel management with actionable insights to optimize pricing, enhance upselling performance, and maximize overall revenue in a competitive hospitality environment.

## Dashboard





## 1. General Manager Dashboard

The General Manager Overview provides a high-level snapshot of overall hotel performance.

- KPI cards display Total Bookings, Average Occupancy %, Guest Satisfaction Score, ADR, and Total Revenue
- Visuals show revenue contribution by branch, guest mix, booking channel distribution, and customer value segmentation
- Cancellation rate and guest satisfaction trends help evaluate service quality and booking reliability

This dashboard enables senior management to quickly assess business health and performance trends.

## 2. Revenue Manager Dashboard

The Revenue Manager Overview focuses on detailed, time-based revenue optimization.

- KPI cards highlight Average ADR, Occupancy %, and Rooms Booked
- Weekly revenue and cancellation trends help monitor short-term performance
- Visuals such as day revenue by booking source, weekday vs weekend revenue, and discount impact on revenue support pricing decisions
- Performance trends assist in adjusting pricing, promotions, and inventory strategies

This dashboard supports tactical revenue management and dynamic decision-making.