HOTEL BOOKING CANCELLATION

Page 1 :

KPI :

1. **Total Bookings:** The Total number of reservations made in a hotel.
   Measure :
   Total Bookings = COUNTROWS(hotel_booking2)

2. **Total Cancellations**: Number of bookings that were cancelled.
   Measure:
   Total Cancellations = CALCULATE(COUNT(hotel_booking2[is_canceled]), 'hotel_booking2'[is_canceled] = 1)

3. **Cancellation Rate**: Percentage of bookings that were cancelled out of the total bookings.
   Measure:
   Cancellation Rate = ROUND(DIVIDE([Total Cancellations], [Total Bookings]), 2)

4. **Total Revenue**: The Total amount of money earned from all completed hotel reservations.
   Measure:
   Total Revenue = CALCULATE(SUM(hotel_booking2[revenue_per_booking]),hotel_booking2[is_canceled] = 0)

CHARTS :

1. **Total Bookings by Booking Status (Donut Chart) :**
   grouping your total bookings based on their current status — like Not Cancelled, Cancelled etc. This gives a clear breakdown of how your bookings are distributed.

   Legend :
   Column :
   booking_status = IF(hotel_booking2[is_canceled] = 1, "Cancelled", "Not Cancelled")

   Values :
   Measure : Total Bookings

Tooltip : Booking Status Insights

```
Booking Status Insight =
VAR SelStatus =
    SELECTEDVALUE ( hotel_booking2[is_canceled] )
VAR Bookings =
    [Total Bookings]
VAR Msg =
    SWITCH (
        TRUE (),
        SelStatus = 0,
            "✅ " & FORMAT ( Bookings, "#,0" ) &
            " confirmed bookings. 👉 Keep momentum by sending pre-stay emails and offering targeted upsells (late checkout, breakfast).",

        SelStatus = 1,
            "⚠️ " & FORMAT ( Bookings, "#,0" ) &
            " cancelled bookings. 👉 Cut the rate by promoting non-refundable advance-purchase rates and flexible rebooking options.",

        "📊 " & FORMAT ( Bookings, "#,0" ) &
        " total bookings across all statuses. Slice by status to see tailored recommendations."
    )
RETURN
    Msg
```

2. Total Cancellations by Hotel Type (Stacked Bar Chart) :

Calculating how many bookings were cancelled, grouped by different hotel types (e.g., Resort Hotel, City Hotel, etc.).

Y Axis :

Column : hotel (City hotel , Resort hotel)

X Axis :

Measure : Total Cancellations

Tooltip : Hotel Cancellation Insights

```
Hotel Cancellation Insight =
VAR HotelType = SELECTEDVALUE(hotel_booking2[hotel])
VAR CancelRate = [Cancellation Rate] *100

VAR Msg =
SWITCH(
    TRUE(),

    HotelType = "City Hotel",
    " 🏙️ City Hotel's cancellation rate is " & FORMAT(CancelRate, "0.0") & "%.
    To reduce this, promote advance-booking discounts, encourage non-refundable options, and engage last-minute bookers who tend to cancel less.",

    HotelType = "Resort Hotel",
    " 🌴 Resort Hotel's cancellation rate is " & FORMAT(CancelRate, "0.0") & "%.
    👉 Reduce cancellations by offering early bird packages, targeting family vacationers, and sending personalized reminders before check-in.",

    "Cancellation rate is " & FORMAT(CancelRate, "0.0") & "%"
)
RETURN Msg
```

3. **Cancellation by Assigned Room (Pie Chart):**

Analysing how often bookings are cancelled based on the specific rooms assigned to the guests before cancellation.

Legend :

Column :

cancel_by_assigned_room = IF(hotel_booking2[reserved_room_type] == hotel_booking2[assigned_room_type],"Desired","Undesired")

Values :

Measure : Cancellation Rate

Tooltip :

```
Cancellation by Assigned Room Insight =
VAR RoomStatus = SELECTEDVALUE(hotel_booking2[cancel_by_assigned_room])
VAR CancelRate = [Cancellation Rate]* 100

RETURN
SWITCH(
    TRUE(),

    RoomStatus = "Desired",
    "Cancellations where guests received their desired room type are " & FORMAT(CancelRate, "0.0") & "%. 👉 Review other factors like pricing, lead time, or booking conditions to reduce cancellations.",

    RoomStatus = "Undesired",
    "Cancellations with undesired room assignments are " & FORMAT(CancelRate, "0.0") & "%. 👉 Improve room allocation accuracy and clearly communicate upgrade or substitution policies to reduce this.",

    "Select a room assignment type to view cancellation insights."
)

```

4. **Booking Trend Over Year (Line Chart):**

The number of bookings (or cancellations, revenue, etc.) changes across different years. It helps analyse seasonality, growth patterns, and year-over-year performance.

Y Axis :

Measure : Total Cancellations

X Axis :

Column: reservation_status_date

5. **Booking Trend Over Month(Clustered Column Chart):**

Refers to how the number of bookings changes across the 12 months of a year, often averaged or compared across years.

X Axis :

Column : month_name = UPPER(LEFT(hotel_booking2[arrival_date_month],3))

Y Axis :

Measure: Total Bookings

Tooltip:

```
Booking Trend Insight =
VAR SelectedMonth = SELECTEDVALUE(hotel_booking2[month_name])
VAR SelectedMonthNum = SELECTEDVALUE(hotel_booking2[month_number])
VAR CurrentMonthBookings = [Total Bookings]

-- Bookings in previous month
VAR PrevMonthBookings =
    CALCULATE(
        [Total Bookings],
        FILTER(
            ALL(hotel_booking2),
            hotel_booking2[month_number] = SelectedMonthNum - 1
        )
    )

-- Booking change %
VAR Change = CurrentMonthBookings - PrevMonthBookings
VAR ChangePct = DIVIDE(Change, PrevMonthBookings) * 100

-- Highest month overall
VAR MaxBookings = CALCULATE([Total Bookings], ALL(hotel_booking2))
VAR IsPeakMonth = CurrentMonthBookings = MaxBookings

RETURN
SWITCH(
    TRUE(),

    ISBLANK(SelectedMonth),
        "Hover over a month to view booking insights.",

    IsPeakMonth,
        SelectedMonth & " has the highest bookings of the year. Excellent performance!",

    Change > 0,
        SelectedMonth & " bookings increased by " & FORMAT(ChangePct, "0.0") & "% compared to the previous month.",

    Change < 0,
        SelectedMonth & " bookings dropped by " & FORMAT(ABS(ChangePct), "0.0") & "% from the previous month.",

    TRUE,
        SelectedMonth & " bookings remained stable compared to the previous month."
)
```

Page 2 :

KPI :

1. **Total Revenue:** The Total number of reservations made in a hotel.
   Measure :
   Total Bookings = COUNTROWS(hotel_booking2)

2. **Expected Revenue:** Forecasted amount of money a hotel or business expects to earn from bookings before cancellations actually happen.
   Measure :
   Expected Revenue =
   SUMX(hotel_booking2,hotel_booking2[room_rate] * hotel_booking2[Nights])

3. **Estimated Revenue Lost :** The total money lost due to cancellations.
   Measure:
   Estimated Revenue Lost = [Expected Revenue] - [Total Revenue]

4. **Potential Revenue Gain (10%)** : The extra revenue you could unlock by reducing cancellations or improving booking conversions.
   Measure:
   Potential Revenue Gain (10%) = hotel_booking2[Estimated Revenue Lost] *0.10

CHARTS :

1. **Cancellation Rate by Lead Time Category (Matrix):**
   It shows how likely guests are to cancel depending on how far in advance they booked (lead time).

   Rows :
   Measure : Lead Time Bucket

```
Lead Time Bucket =
SWITCH(
    TRUE(),
    hotel_booking2[lead_time] <= 7, "0-7 Days",
    hotel_booking2[lead_time] <= 30, "8-30 Days",
    hotel_booking2[lead_time] <= 60, "31-60 Days",
    hotel_booking2[lead_time] <= 90, "61-90 Days",
    "90+ Days"
)
```

   Columns:
   Table :
   Booking Weekday = FORMAT(hotel_booking2[reservation_status_date], "dddd")

Values:

Measure: Total Cancellations

Tooltip:

```
Lead Time Cancellation Insight =
VAR SelectedBucket = SELECTEDVALUE ( hotel_booking2[Lead Time Bucket] )
VAR SelectedDay    = SELECTEDVALUE ( hotel_booking2[Booking Weekday] )
VAR TotalCanc      = [Total Cancellations]          -- existing measure

/* Bucket-specific high-risk limits  */
VAR HighLimit =
    SWITCH (
        SelectedBucket,
        "0-7 Days",  300,   -- >300 cancellations → “high”
        "8-30 Days", 600,
        "31-60 Days",500,
        "61-90 Days",400,
        "90+ Days",  800,
        999999       -- default: effectively unreachable
    )
RETURN
SWITCH (
    TRUE (),

    /* Nothing selected */
    ISBLANK ( SelectedBucket ) || ISBLANK ( SelectedDay ),
        "🔍 Hover over a cell to view dynamic cancellation insights by lead time and weekday.",

    /* 0-7 Days bucket, high cancellations */
    SelectedBucket = "0-7 Days"  && TotalCanc > HighLimit,
        "❗ High cancellations for last-minute bookings (0-7 Days) on " & SelectedDay &
        " (" & FORMAT ( TotalCanc, "#,0" ) & "). 👉 Use non-refundable rates and urgent-deal incentives to lock in commitments.",
    /* 8-30 Days bucket, high cancellations */
    SelectedBucket = "8-30 Days" && TotalCanc > HighLimit,
        "⚠️ Medium lead-time bookings show high cancellations on " & SelectedDay &
        " (" & FORMAT ( TotalCanc, "#,0" ) & "). 👉 Try early-bird discounts or loyalty rewards to retain these guests.",

    /* 31-60 Days bucket, high cancellations */
    SelectedBucket = "31-60 Days" && TotalCanc > HighLimit,
        "🗓️ Cancellations for 31-60 Days on " & SelectedDay &
        " (" & FORMAT ( TotalCanc, "#,0" ) & ") suggest uncertainty. 👉 Flexible rebooking policies may help improve conversions.",

    /* 61-90 Days bucket, high cancellations */
    SelectedBucket = "61-90 Days" && TotalCanc > HighLimit,
        "🗓️ 61-90 day bookings on " & SelectedDay &
        " have noticeable drop-offs (" & FORMAT ( TotalCanc, "#,0" ) & "). 👉 Send reminders or incentives to keep them engaged.",

    /* 90+ Days bucket, high cancellations */
    SelectedBucket = "90+ Days"  && TotalCanc > HighLimit,
        "🗓️ 90+ Day bookings on " & SelectedDay &
        " show early cancellations (" & FORMAT ( TotalCanc, "#,0" ) & "). 👉 Offer reassurance—flexible cancellation or confirmation emails closer to arrival.",

    /* Everything else = normal */
    "📊 " & SelectedBucket & " bookings on " & SelectedDay &
    " have " & FORMAT ( TotalCanc, "#,0" ) & " cancellations. Trend looks stable.")
```

2. Total Cancellation By Market Segment (Clustered Bar Chart):

The number of bookings that were cancelled, grouped by each market segment (e.g., Online, Offline, Corporate, Direct, etc.).

Y Axis :

Column: market_segment

X Axis:

Measure: Total Cancellations

Tooltip:

```
Market Segment Cancellation Insight =
VAR Segment = SELECTEDVALUE(hotel_booking2[market_segment])
VAR Cancellations = [Total Cancellations]

RETURN
SWITCH(
    TRUE(),

    ISBLANK(Segment),
        "📊 Select a market segment to view cancellation insights and improvement tips.",

    Segment = "Online TA" && Cancellations > 1000,
        "🌐 Online Travel Agents segment has " & Cancellations & " cancellations. Reduce risk by enabling stricter cancellation rules and offering prepaid discounts.",

    Segment = "Direct" && Cancellations > 500,
        "📞 Direct bookings show " & Cancellations & " cancellations. Strengthen confirmation emails and consider offering flexible rebooking.",

    Segment = "Corporate" && Cancellations > 300,
        "🏢 Corporate segment has " & Cancellations & " cancellations. Engage with company travel managers and consider negotiated non-refundable blocks.",

    Segment = "Groups" && Cancellations > 250,
        "👥 Group bookings had " & Cancellations & " cancellations. Use upfront deposits and group contract terms to reduce drop-offs.",

    Segment = "Complementary",
        "🎁 Complementary bookings have " & Cancellations & " cancellations. As these are usually promotional, analyze if no-shows are tied to value perception.",

    TRUE,
        Segment & " segment shows " & Cancellations & " cancellations. Monitor trends and apply appropriate retention strategies."
)
```

3. Revenue Distribution by Market Segment (Clustered Bar Chart) :

It shows how much total revenue comes from each market segment, like: Online, Corporate, Offline, Walk-In, Direct, Travel Agents.

Y Axis :

Column : market_segment

X Axis :

Column: revenue_per_booking = hotel_booking2[room_rate] * hotel_booking2[Nights]

Tooltip :

```
Revenue Insight by Market Segment =
VAR Segment          = SELECTEDVALUE ( hotel_booking2[market_segment] )
VAR SegmentRevenue   = [Total Revenue]
VAR AllRevenue       = CALCULATE ( [Total Revenue], ALL ( hotel_booking2[market_segment] ) )
VAR Share            = DIVIDE ( SegmentRevenue, AllRevenue, 0 )     -- % of total

RETURN
SWITCH (
    TRUE (),

    /* No bar clicked or multiple bars selected */
    ISBLANK ( Segment ),
        "📊 Click a market-segment bar to see tailored revenue insights.",

    /* ----- Segment-specific guidance ---------------------------------- */

    Segment = "Online TA",
        "🌐 Online TA contributes " & FORMAT ( Share, "0.0%" ) &
        " of total revenue (₹" & FORMAT ( SegmentRevenue / 1e6, "0.00" ) & " M). " &
        " 👉 Negotiate lower OTA commissions and encourage guests to re-book directly with loyalty perks.",

    Segment = "Offline TA/TO",
        "📄 Offline agents generate " & FORMAT ( Share, "0.0%" ) &
        " (₹" & FORMAT ( SegmentRevenue / 1e6, "0.00" ) & " M). " &
        " 👉 Offer packaged add-ons (airport pickup, sightseeing) to raise revenue per booking.",

    Segment = "Groups",
        "👥 Groups account for " & FORMAT ( Share, "0.0%" ) &
        " (₹" & FORMAT ( SegmentRevenue / 1e6, "0.00" ) & " M). " &
        " 👉 Bundle event-space, F&B and AV services to lift spend.",

    Segment = "Direct",
        "📞 Direct sales drive " & FORMAT ( Share, "0.0%" ) &
        " (₹" & FORMAT ( SegmentRevenue / 1e6, "0.00" ) & " M). " &
        "👉 Keep nurturing loyalty members and test upsell e-mails before arrival.",

    Segment = "Corporate",
        "🏢 Corporate bookings bring " & FORMAT ( Share, "0.0%" ) &
        " (₹" & FORMAT ( SegmentRevenue / 1e6, "0.00" ) & " M). " &
        "👉 Explore premium room tiers or bundled perks to push ADR upward.",

    /* Fallback for any other / new segment */
    Segment & " contributes " & FORMAT ( Share, "0.0%" ) &
        " (₹" & FORMAT ( SegmentRevenue / 1e6, "0.00" ) & " M). " &
        "👉 Track trends and pilot targeted offers to grow this share."
)
```

4. Revenue by Room Type (Stacked Area Chart) :

It shows how much revenue is generated from each **category of room**, such as: Standard, Standard Plus, Premium, Luxury, Executive Deluxe, Deluxe, Presidential Suite , Family, Suite.

X Axis :

Column: reserved_room

Y Axis :

Measure : Total Revenue

Tooltip:

```
Revenue Insight by Room Type =
VAR RoomType         = SELECTEDVALUE(hotel_booking2[reserved_room])
VAR RoomRevenue      = [Total Revenue]
VAR AllRevenue       = CALCULATE([Total Revenue], ALL(hotel_booking2[reserved_room]))
VAR RevenueShare     = DIVIDE(RoomRevenue, AllRevenue, 0)

RETURN
SWITCH(
    TRUE(),

    ISBLANK(RoomType),
        "📊 Click on a room type to view revenue insights.",

    RoomRevenue < 10 * 1e6,
        "🛏️ Room type '" & RoomType & "' generated ₹" & FORMAT(RoomRevenue / 1e6, "0.00") & " M (" & FORMAT(RevenueShare, "0.0%") & "). " &
        "👉 Low performance – consider promotions or upsell strategies.",

    RoomRevenue >= 10 * 1e6 && RoomRevenue < 50 * 1e6,
        "🛏️ '" & RoomType & "' brought in ₹" & FORMAT(RoomRevenue / 1e6, "0.00") & " M (" & FORMAT(RevenueShare, "0.0%") & "). " &
        "👉 Moderate revenue – evaluate pricing and booking trends.",

    RoomRevenue >= 50 * 1e6,
        "🏨 High performer! '" & RoomType & "' earned ₹" & FORMAT(RoomRevenue / 1e6, "0.00") & " M (" & FORMAT(RevenueShare, "0.0%") & "). " &
        "👉Keep promoting this type and explore premium offerings.",

    TRUE,
        "Room type '" & RoomType & "' generated ₹" & FORMAT(RoomRevenue / 1e6, "0.00") & " M. Continue monitoring its trends."
)
```

5. **Revenue Breakdown by Booking Status (Donut Chart):**

It shows how much revenue comes from each type of booking status, such as: Confirmed Or Cancelled.

Legend :

Table : Booking Type

Values :

Measure :

Revenue by Booking Type =
SWITCH(
SELECTEDVALUE('Booking Type Table'[Booking Type]),
"Confirmed", [Total Revenue],
"Cancelled", [Estimated Revenue Lost])

Tooltip :

```
Booking-Type Revenue Insight =
VAR BookingType   = SELECTEDVALUE('Booking Type Table'[Booking Type])
VAR BookingValue  = [Revenue by Booking Type]

RETURN
SWITCH(
    TRUE(),

    ISBLANK(BookingType),
        "📊 Click a slice to view booking-type revenue insights.",

    BookingType = "Confirmed",
        "✅ Confirmed bookings generated ₹" & FORMAT(BookingValue / 1e6, "0.00") & " M. " &
        "👉 Maximize this stream by promoting direct booking, upsells like breakfast, and loyalty offers.",

    BookingType = "Cancelled",
        "❌ Estimated lost revenue due to cancellations: ₹" & FORMAT(BookingValue / 1e6, "0.00") & " M. " &
        "👉 Reduce this by enforcing tighter cancellation policies, offering discounts for non-refundable bookings, and sending pre-stay reminders.",

    -- fallback (for any new values)
    BookingType & " revenue is ₹" & FORMAT(BookingValue / 1e6, "0.00") & " M."
)

```

6. **Revenue by Hotel Type (Pie Chart) :**

shows how much revenue each hotel category generates, such as:

🏢 City Hotel

🏖️ Resort Hotel

Legend :

Column : hotel

Values :

Measure : Total Revenue

Tooltip :

```
Revenue Insight by Hotel Type =
VAR HotelType     = SELECTEDVALUE(hotel_booking2[hotel])
VAR Revenue       = [Total Revenue]

RETURN
SWITCH (
    TRUE(),

    ISBLANK(HotelType),
        "📊 Click on a hotel type to view revenue insights.",

    HotelType = "City Hotel",
        "🌆 City Hotel generated ₹" & FORMAT(Revenue / 1e6, "0.00") & " M in revenue. " &
        "👉 Focus on weekday corporate bookings, optimize pricing during peak demand, and reduce cancellations with stricter policies.",

    HotelType = "Resort Hotel",
        "🏖️ Resort Hotel brought in ₹" & FORMAT(Revenue / 1e6, "0.00") & " M. " &
        " 👉 Capitalize on seasonal tourism with packages, promote direct bookings, and offer extended-stay discounts.",

    -- Fallback for other hotel types
    HotelType & " generated ₹" & FORMAT(Revenue / 1e6, "0.00") & " M in revenue. Monitor its trends for revenue optimization."
)
```