

KPIs:

1. Revenue →
  - a. QoQ per hotel, building, wing
  - b. Per room type
  - c. General change over time
  - d. Sources of revenue (room bookings, restaurants, etc.)
2. % of rooms booked by building/wing/floor (room, status\_type)
  - a. Per room type
3. Average of length of stay (stay) → forecast staff needs
4. Customer lifetime value (party, reservation, charge) → top customers
5. Avg turnaround time per room type (stay, room, room\_type)
6. Event utilization and revenue contribution (event, reservation, charge)
7. Customer qualification score vs spend/repeat rate (customer\_qualification, party, reservation, charge)
8. Corporation account performance (organization, reservation, party, charge)
9. Booking lead time and cancellation/no-show rate (reservation, date vs dateTime and stay)

## Write Up:

The goal of this system is to provide hotel management with clear, data-driven insights into financial performance, occupancy efficiency, and customer behavior across all operational layers of the Last Resort Hotel. Using the relational structure in the ERD (connecting reservation, stay, room, room\_type, party, organization, charge, event, and customer\_qualification) management will be able to interpret key business metrics in near real-time. These KPIs are designed to guide strategic decisions such as pricing adjustments, staffing allocation, loyalty targeting, and event utilization.

From a revenue management perspective, several KPIs will track financial outcomes across multiple hierarchies. Metrics such as quarter-over-quarter revenue per hotel, building, and wing, and revenue per room type will be derived by joining the charge, reservation, and room tables. These indicators will allow management to evaluate which physical locations or room categories are the most profitable, and where pricing or marketing strategies should shift. A “general change in revenue over time” measure will summarize total revenue trends using aggregated charge data grouped by date. In addition, the system will break down sources of revenue—such as room bookings, restaurants, and events—based on charge\_type categories, offering transparency into how much income comes from each business stream.

Operational insights will be delivered through KPIs like the percentage of rooms booked by building, wing, and floor, which combines room and status\_type data to visualize occupancy distribution. Similarly, average length of stay from the stay table will help forecast staffing and cleaning schedules, while average turnaround time per room type (integrating stay, room, and room\_type) will inform how efficiently rooms are being prepared between reservations. These operational KPIs will allow management to identify potential bottlenecks in housekeeping or maintenance.

On the customer analytics side, customer lifetime value (CLV) (calculated using party, reservation, and charge tables) will identify the hotel’s highest-value repeat guests and inform loyalty strategies. The customer qualification score versus spend and repeat rate KPI, combining customer\_qualification, party, reservation, and charge, will validate how internal scoring aligns with actual profitability. The corporate account performance KPI (using organization, party, reservation, and charge) will isolate business-to-business revenue trends, showing which organizations drive the most bookings and income.

In addition, the event management portion of the database will power KPIs like event utilization and revenue contribution, which joins event, reservation, and charge tables to assess how well event spaces are generating revenue relative to their capacity and operating costs. Lastly, booking lead time and cancellation/no-show rate (derived from comparing reservation creation timestamps and stay check-in/check-out data) will help management evaluate booking reliability and optimize cancellation policies.

Overall, these KPIs will feed into a management dashboard displaying both numerical summaries and visual charts. The system will allow hotel executives to quickly understand occupancy levels, revenue sources, and customer profitability, while department heads can focus on operational performance, staffing, and event management efficiency. Together, these insights will support better-informed business decisions and improved overall hotel profitability.