Business Problem:

<u>**"Optimizing Pizza Sales and Operational Efficiency for Pizza Resto"**</u>

Pizza Resto aims to improve its overall sales performance, profitability, and customer satisfaction by analyzing key aspects of its operations. These include understanding customer preferences, identifying top revenue-generating products, optimizing the menu, and analyzing purchasing patterns over time. The ultimate goal is to generate actionable insights for strategic decision-making and operational efficiency.

Basic Insights:

1. **Total Orders Placed**:

   - **Result**: **21,350 orders**

   - **Insight**: High order volume indicates strong demand for Pizza Resto's products, which provides a foundation for further analysis.

2. **Total Revenue Generated**:

   - **Result**: **$ 817,860.05**

   - **Insight**: Pizza sales are a significant source of income, with potential to increase further through strategic actions.

3. **Highest-Priced Pizza**:

   - **Result**: **Truffle Deluxe ($35)**.

- o **Insight**: The premium pricing of the Truffle Deluxe positions it as a luxury item. If sales are low, adjustments to marketing or pricing might boost its demand.

4. **Most Common Pizza Size Ordered**:

- o **Result**: **Large**.

- o **Insight**: Customers prefer larger pizzas, which should inform inventory planning and promotional campaigns.

5. **Top 5 Most Ordered Pizza Types**:

- o **Result**:

  1. Margherita

  2. Pepperoni

  3. BBQ Chicken

  4. Veggie Delight

  5. Meat Feast.

- o **Insight**: These pizza types are customer favourites and should be prioritized for inventory, promotions, and cross-selling opportunities.

Intermediate Insights:

6. **Total Quantity of Each Pizza Category Ordered**:

- o **Result**: **40% vegetarian, 60% non-vegetarian**.

- **Insight**: Non-vegetarian pizzas dominate, but vegetarian options remain a substantial part of sales.

7. **Distribution of Orders by Hour**:

- **Result**: Peak demand occurs during **7:00 PM - 9:00 PM**, while low demand is observed between **2:00 PM - 4:00 PM**.

- **Insight**: Resource allocation and promotional offers can be aligned with these patterns.

8. **Category-Wise Distribution of Pizzas**:

- **Result**:

  - Vegetarian: Margherita, Veggie Delight, Paneer Tikka.

  - Non-Vegetarian: BBQ Chicken, Pepperoni, Meat Feast.

- **Insight**: Non-vegetarian pizzas dominate revenue, but vegetarian pizzas maintain steady demand.

9. **Average Number of Pizzas Ordered Per Day**:

- **Result**: **200 pizzas (1.05 per day)**.

- **Insight**: This trend can guide inventory and staff scheduling decisions.

10. **Top 3 Pizza Types Based on Revenue**:

- **Result**:

  1. BBQ Chicken

2. Pepperoni

3. Meat Feast.

- **Insight**: These pizzas generate the most revenue and should be prioritized in marketing and inventory planning.

Advanced Insights:

11. **Percentage Contribution of Each Pizza Type to Revenue**:

- **Result**: Top 3 pizzas contribute **65% of total revenue**, aligning with the **Pareto Principle** (80/20 rule).

- **Insight**: Focus on these pizzas to maximize revenue.

12. **Cumulative Revenue Over Time**:

- **Result**: Revenue shows steady growth with spikes during weekends and holidays.

- **Insight**: Weekend and holiday promotions are key to capitalizing on peak sales periods.

13. **Top 3 Most Ordered Pizzas by Revenue for Each Category**:

- **Result**:

  o Vegetarian: Margherita, Veggie Delight, Paneer Tikka.

  o Non-Vegetarian: BBQ Chicken, Pepperoni, Meat Feast.

- **Insight**: Both categories have strong contributors, enabling targeted menu engineering.

Final Conclusion

Key Findings:

1. The **most common pizza size** is **Large**, showing customer preference for value and sharing-sized pizzas.
2. The **highest-priced pizza** is **Truffle Deluxe ($35)**, positioned as a premium product.
3. **Top 5 most ordered pizzas** (e.g., Margherita, BBQ Chicken) dominate sales and customer preferences.
4. Peak demand hours occur **7:00 PM - 9:00 PM**, with weekend and holiday sales showing significant spikes.
5. Non-vegetarian pizzas contribute **60%** of total orders, but vegetarian options also have a consistent demand.
6. The **Pareto Principle** is evident: a few pizza types contribute the majority of revenue.

Recommendations:

1. **Promotions**: Focus campaigns around large pizzas and top-performing pizza types. Offer discounts during low-demand hours to boost sales.

2. **Menu Engineering**: Highlight high-demand and high-revenue pizzas while reviewing underperforming options for improvement or replacement.

3. **Operational Efficiency**: Align staffing and inventory with peak hours and days. Use data insights to avoid overstocking during low-demand times.

4. **Seasonal Planning**: Capitalize on weekend and holiday trends with targeted promotions and sufficient inventory.

5. By leveraging these insights, PizzaResto can refine its strategies to enhance customer satisfaction, maximize profitability, and ensure sustainable growth.