Fern and Petals Sales Analysis

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INTRODUCTION

This project offers a thorough analysis of sales data for FNP (Ferns N Petals), utilizing visualizations to reveal key insights into revenue, customer behaviour, and product performance. The dashboard consolidates data from multiple sources, including orders, products, and customer information, to present actionable trends and recommendations for strategic decision-making.

PROBLEM STATEMENT

Ferns N Petals (FNP) operates in a highly competitive market for gifting and special occasion services. With a diverse range of product offerings, including cakes, flowers, and personalized gifts, the business faces challenges in optimizing its product portfolio, identifying seasonal and regional demand patterns, and enhancing operational efficiency. The primary business problem centres on maximizing revenue while improving customer satisfaction and streamlining delivery processes. This necessitates:

Ferns and Petals Sales Analysis

1. Identifying high-performing products and categories to concentrate marketing and inventory efforts.

2. Understanding seasonal and occasion-based demand to align promotional strategies effectively.

3. Reducing operational bottlenecks, such as delivery delays, to improve the customer experience.

4. Leveraging customer and regional data to drive personalized marketing and expansion initiatives.

BUSINESS REQUIREMENTS

To effectively address the business challenges, the following requirements have been identified for the project:

1. Data Integration

• Consolidate sales, customer, product, and delivery data from various sources into a unified database for analysis.

• Ensure data accuracy, completeness, and consistency across all datasets.

2. Dashboard Development

• Create an intuitive and interactive dashboard that visualizes key metrics such as revenue, orders, customer behavior, and product performance.

• Include filtering options for occasions, categories, time periods, and geographical locations.

3. Performance Metrics

• Define and track key performance indicators (KPIs) like total revenue, average order value, delivery time, and customer acquisition costs.

• Provide insights into peak performance periods (e.g., specific months, days, or hours).

4. Product and Category Analysis

• Identify high-performing products and categories to prioritize inventory and marketing efforts.

• Highlight underperforming areas for potential improvement.

5. Customer Insights

• Analyse customer spending patterns and preferences to design personalized marketing campaigns.

• Identify trends in regional demand to optimize offerings and expand into high-potential markets.

6. Operational Efficiency

• Assess order-delivery times and identify bottlenecks to enhance logistics and customer satisfaction.

• Provide recommendations to streamline operations and reduce delivery delays.

7. Actionable Recommendations

• Generate insights to support strategic decisions, such as pricing strategies, promotional planning, and product development.

• Present opportunities for revenue growth during off-peak months and in underperforming regions.

8. Scalability and Maintenance

• Ensure the dashboard and analytics framework can accommodate future data growth and evolving business needs.

• Provide documentation and training for stakeholders to use the dashboard effectively.

KEY PERFORMANCE INDICATORS (KPIS)

1. Overall Business Performance:

• Total Revenue: ₹3,520,984

• Total Orders: 1,000

• Average Customer Spend: ₹3,520.98

• Average Order-Delivery Time: 5.53 days

2. Revenue Metrics:

• Revenue by Occasion: Monitor revenue generated from key occasions such as Valentine's Day, Anniversaries, and others.

• Revenue by Category: Evaluate the performance of product categories including Colours, Cakes, Mugs, etc.

• Monthly Revenue: Assess seasonal trends, highlighting high-performing months (e.g., February) and low-performing months (e.g., April).

• Hourly Revenue: Identify peak revenue hours (late morning and early evening).

3. Product Performance:

• Top 5 Products by Revenue: Identify the highest-earning products, such as the Magnam Set and Dolores Gift.

• Revenue Contribution by Category: For example, Colors contribute the highest revenue.

4. Geographical Performance:

• Top Cities by Orders: Sales volume in areas such as Imphal and North Dumdum.

• Regional Performance: Identify growth potential in underperforming cities.

5. Customer Behavior:

• Average Order Value: Evaluate the typical spending per order by customers.

• Order Trends by Day: Notice high order volumes on specific days like Sundays and Tuesdays.

6. Operational Efficiency:

• Delivery Times: Monitor the average time taken for order deliveries and pinpoint bottlenecks.

• Order Fulfillment Rates: Assess on-time deliveries and overall customer satisfaction.

7. Marketing Effectiveness:

• Occasion-Specific Sales: Examine sales linked to promotional campaigns for particular occasions.

• Discount and Offer Success: Analyze the impact of seasonal discounts and promotions.

DATA SOURCE

Here's the detailed information for the three tables: Customers, Orders, and Products, along with their respective columns and descriptions.

1. **Customer Table**

• Customer ID: Unique identifier for each customer.

• Customer Name: Full name of the customer.

• Location: Geographical location (city, state) of the customer.

• Total Spent: Total revenue generated from this customer across all their orders.

• Orders Placed: Number of orders placed by the customer.

2. **Orders Table**

• Order ID: Unique identifier for each order.

• Order Date: Date when the order was placed.

• Delivery Date: Date when the order was delivered.

• Customer ID: Links the order to the corresponding customer in the Customers table.

• Product ID: Links the order to the respective product in the Products table.

• Quantity: Number of units of the product ordered.

• Price: Price of the product at the time of the order.

• Revenue: Total revenue generated from the order (Price × Quantity).

• Occasion: Occasion associated with the order (e.g., Birthday, Anniversary, etc.).

3. Products Table

• Product ID: A unique identifier for each product.

• Product Name: The name of the product.

• Category: The category of the product (e.g., Cakes, Flowers, Gifts).

• Price: The price of the product as listed in the catalog.

RELATIONSHIPS BETWEEN TABLES

• Customer ID connects the Customers table to the Orders table.

• Product ID connects the Orders table to the Products table.

• These relationships facilitate cross-table analysis to reveal trends and generate actionable insights.

OBJECTIVES AND DELIVERABLES

The primary goal of this project is to utilize data analysis to drive decision-making, enhance operational efficiency, and improve customer experience for Ferns N Petals (FNP). The detailed goals are as follows:

1. Increase Revenue and Profitability

• Identify high-performing products, categories, and customer segments to prioritize marketing and inventory strategies.

• Maximize revenue by focusing on occasions and periods that yield the highest returns.

2. Understand Customer Behavior

• Gain insights into customer preferences and spending patterns to personalize marketing efforts and boost customer retention.

• Segment customers by geography, purchase history, and occasion-based trends.

3. Enhance Operational Efficiency

• Reduce delivery times and streamline logistics to elevate customer satisfaction.

• Identify bottlenecks in the order-delivery process and optimize resource allocation.

4. Optimize Marketing Strategies

• Align promotional activities with high-demand occasions and time periods.

• Leverage insights on peak order times and geographical trends to deploy targeted campaigns.

5. Improve Product Portfolio

• Analyze underperforming products to either enhance or phase them out.

• Innovate new offerings based on customer demand and trends.

6. Enable Strategic Decision-Making

• Provide actionable insights to stakeholders to support data-driven decisions.

• Develop a scalable dashboard to monitor ongoing performance and adapt to evolving business needs.

KEY OUTCOMES AND BENEFITS
The successful execution of the project will yield the following outcomes:

1. Revenue Growth

• Enhanced revenue through targeted marketing of high-performing products, categories, and occasions.

• Identification of growth opportunities during off-peak months.

2. Improved Customer Satisfaction

• Improved delivery experience by reducing the average delivery time (currently 5.53 days).

• Personalized customer engagement strategies that lead to higher retention rates.

3. Operational Excellence

• Streamlined order processing and delivery operations to lower costs and enhance efficiency.

• Identification of logistical inefficiencies for future improvements.

4. Strategic Insights

• Clear identification of top-performing cities, products, and sales periods.

• Comprehensive dashboard facilitating continuous monitoring of KPIs and performance trends.

5. Better Marketing ROI

• Increased return on investment (ROI) in marketing by concentrating on the right occasions, regions, and customer segments.

• Successful alignment of promotions with customer demands and peak sales periods.

6. Data-Driven Decision-Making

• Empower stakeholders with actionable data insights for pricing strategies, inventory management, and regional expansion.

• Scalability of analysis for future data integration and evolving business scenarios.

By accomplishing these goals and outcomes, the project will enable FNP to seize market opportunities, enhance customer loyalty, and sustain a competitive advantage in the gifting and special occasions industry.

KEY FINDINGS AND TRENDS

1. Overall Performance:

• Total Orders: 1,000

• Total Revenue: ₹3,520,984

• Average Customer Spend: ₹3,520.98

• Average Order-Delivery Time: 5.53 days

2. Revenue Analysis:

• By Occasion: Revenue is highest for "Anniversary" and "Valentine's Day," highlighting the significance of targeting these events.

• By Category: The "Colors" category (e.g., flowers, decorations) generated the most revenue ₹1,005,645, followed by "Cakes" ₹329,862.

• By Month: February leads in revenue ₹704,509, coinciding with Valentine's Day, while April shows a notable dip ₹140,393.

• By Hour: Revenue peaks during late morning and early evening hours, indicating optimal marketing times.

3. Product Performance:

Top 5 Products:

• Magnam Set: ₹121,905

• Dolores Gift: ₹106,624

• Harum Pack: ₹101,556

• Deserunt Box: ₹97,665

• Quia Gift: ₹114,476

4. Geographical Trends:

• Top Cities by Orders: Imphal, North Dumdum, and Bhatar are leading in sales volume, indicating regional preferences for promotional targeting.

5. Customer Behavior:

• Customers spend an average of ₹3,520.98 per order.

• Increased order volumes on Sundays and Tuesdays suggest potential days for targeted campaigns.

CONCLUSION

This analysis underscores the key factors influencing FNP's revenue and offers actionable insights to boost sales, streamline operations, and enhance customer experience. By concentrating on high-performing categories, refining regional strategies, and tackling operational inefficiencies, FNP can maintain growth and effectively expand its market presence.

THANK YOU