Executive Summary: Ferns and Petals Sales Analysis

The goal of this project was to analyse sales, product performance, and customer behaviour using transactional data from Ferns and Petals (FNP), an online gifting company. The project was executed in Microsoft Excel, leveraging advanced features such as **Power Query**, **Power Pivot**, **DAX**, and **data modelling techniques** to clean, transform, and analyse multiple datasets—namely, customers, products, and orders. I built an interactive Excel dashboard that answers the company's most critical business questions.

Key steps included:

- **Data Modeling & Relationships:** Established connections between multiple tables (orders, products, customers) through unique identifiers using Power Pivot, enabling a relational data model suitable for scalable analysis.
- **Data Cleaning & Transformation:** Utilized Power Query to clean raw data, format date columns, and create calculated columns for metrics such as revenue, delivery time, and average spending.
- **Custom Metrics using DAX:** Developed calculated fields using DAX (Data Analysis Expressions) to compute KPIs such as total revenue, average customer spending, average delivery time, and top product performance.
- **Interactive Dashboard:** Built a dynamic dashboard that includes slicers for occasion, time, and date filters, along with visuals to analyse:
    - Revenue by occasion, category, and city
    - Monthly and hourly sales trends
    - Top products by revenue
    - Average order-delivery time and customer spending

Key Insights:

- **Strong Seasonal Trends:**
  Revenue peaks are strongly aligned with major gifting occasions. **Anniversaries and Raksha Bandhan** emerge as top revenue-generating events, while **Diwali** underperforms comparatively, suggesting potential marketing or promotional opportunities around this festival.
- **Category Performance:**
  Cakes and Soft Toys are the leading product categories by revenue, indicating a customer preference for perishable and personalized gifting items. Categories like **Mugs and Plants** show relatively lower sales, offering room for cross-selling or bundling strategies.

- **Time-Based Sales Trends:**
  The **hourly revenue graph** reveals higher order volumes during **early morning and late evening hours**, reflecting likely consumer browsing behaviour post-work or during daily planning.
- **Customer Behavior & Spending:**
  With an average customer spend of **₹3,520.98** per order and over **1000 total orders**, the data indicates healthy transaction values, but also flags an opportunity to increase order frequency via loyalty programs or retargeting.
- **Top Products:**
  High-performing items such as the **Deserunt Box** and **Dolores Gift** contribute disproportionately to revenue, confirming the Pareto principle (80/20 rule) in product sales.
- **Geographic Insights:**
  Imphal and Dhanbad lead the order volume among emerging cities, followed closely by **Kavali and Haridwar**. This indicates growing adoption of online gifting in tier-2 and tier-3 regions, suggesting untapped market potential and an opportunity for localized campaigns.
- **Monthly Sales Volatility:**
  Revenue trends vary significantly month-to-month, with notable spikes in **February, August, and October**, corresponding to **Valentine's Day, Raksha Bandhan, and the festive season**, respectively.

Conclusion:

This project not only demonstrates the power of Excel's BI tools—including Power Pivot, Power Query, and DAX—but also delivers a data-driven narrative to guide FNP's product, marketing, and operations strategy. The analysis reveals clear opportunities to boost revenue through strategic occasion-based promotions, product bundling, and targeted regional campaigns.