Pens and Printers

Sales Method Efficiency Analysis

Project Overview & Business Goals

Project Overview:

Pens and Printers is a company founded in 1984, specializing in selling office supplies to large organizations. As consumer buying behavior shifts, the company has adapted its sales strategies for a new product line (stationery). The company tested three different sales methods: email, calls, and a combination of both (Email+Call). Due to the high costs of launching a new product line, the business needed to **quickly assess which sales method works best for driving effective sales**.

Business Goals:

1. **Assess the effectiveness of each sales method** in generating revenue per customer.

2. **Optimize team time usage**: If methods take similar time but yield different results, reduce time spent on less effective approaches.

3. **Understand customer differences** for each sales method, improving marketing strategies and ensuring the best customer experience.

Summary of Actions Taken & Their Contribution to Solving the Client's Problem

Data Cleaning & Validation:
 The initial review involved:

- **Handling missing values** in the revenue column using mean imputation.

- **Correcting outliers** in the "years_as_customer" column to ensure data consistency.

- **Standardizing categorical values** to ensure consistency in the analysis.

This process resulted in a clean dataset for analysis.

Data Analysis & Visualization:
 Using Python and Power BI, the following analyses were conducted:

1. **Sales by Method**: It was found that the "Email+Call" method generates the highest profit per customer, despite being less frequently used.

2. **Revenue Trends Over Time**: The Email method showed a decline in effectiveness, highlighting the need for strategy adjustment.

3. **Time vs. Profit**: The Call method is the most time-consuming (30 minutes per customer) and produces the lowest revenue per customer.

Impact of the Analysis:
 The analysis answered the client's key questions:

- **Which method generates the highest revenue?** — Email+Call.

- **How does revenue change over time?** — Revenue from Email declined, suggesting a need for adjustment.

- **Are there customer differences across methods?** — Customers using the Email+Call method drive higher sales.

This analysis allowed the client to make data-driven decisions on optimizing their sales strategies for the new product line.

Count of customers by approach

2,57K (17,15%)

7,47K (49,77%)

Sales Method
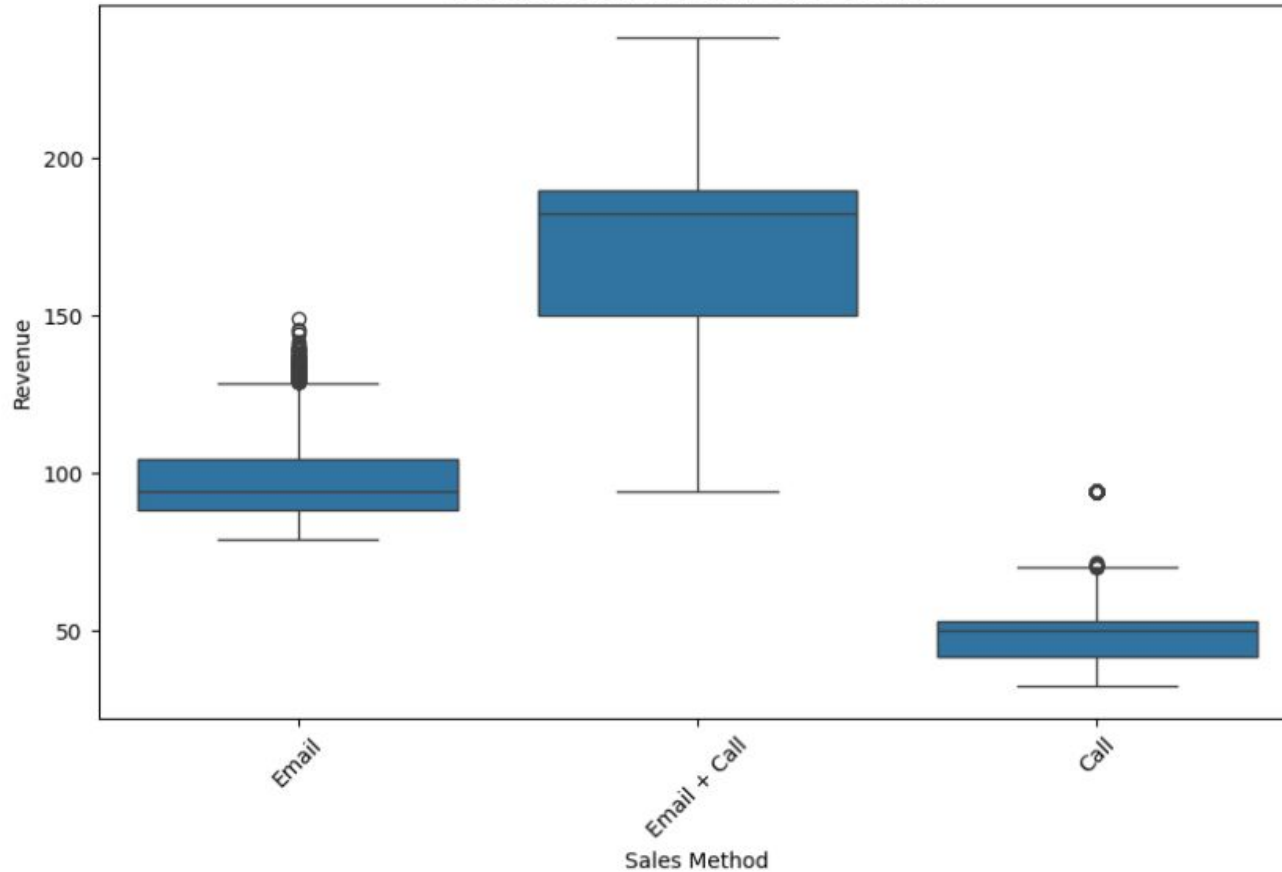- Email
- Call
- Email + Call

4,96K (33,08%)
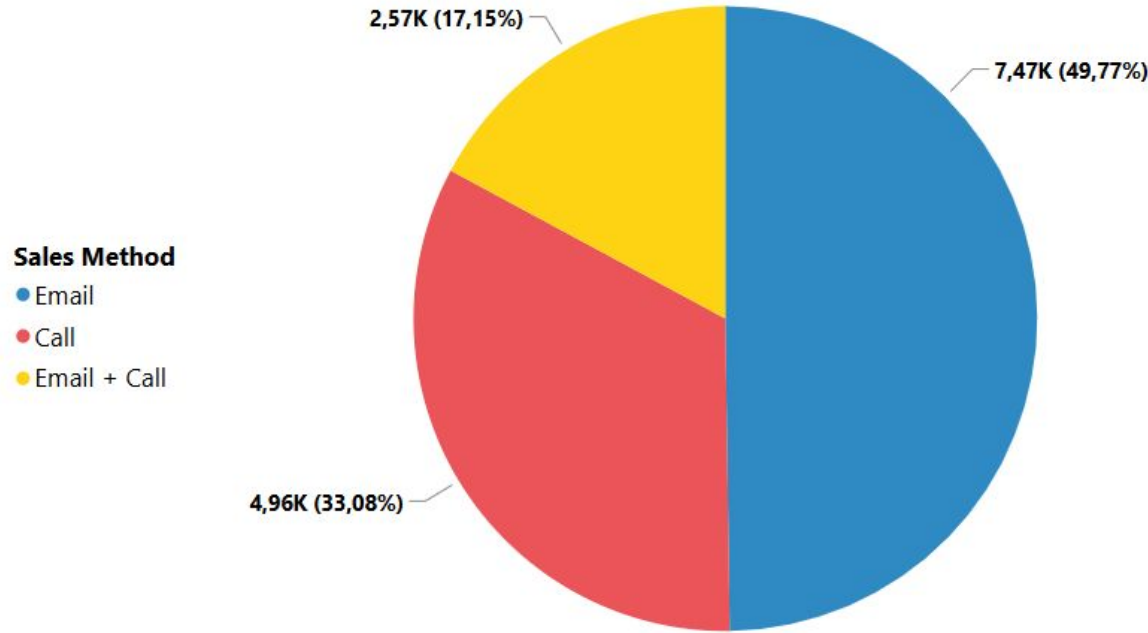
"This slide shows that nearly **half of all sales** were made through **Email,** while only **17%** were made through the **Email+Call** method. This indicates that Email sales are popular and contribute significantly to revenue."

Overall Revenue Distribution
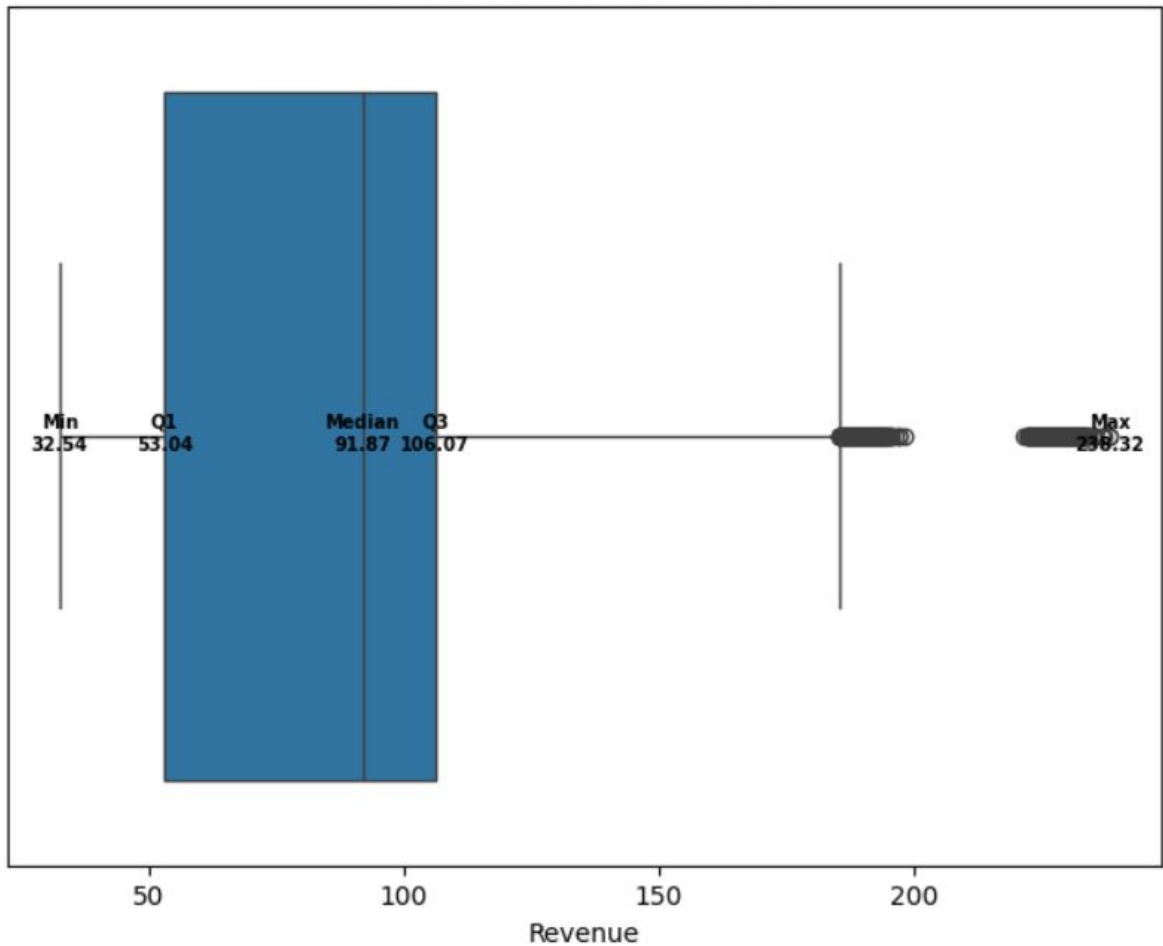
The average order value is 91.87, with most sales falling within the range of 53 to 106.

Revenue Distribution by Sales Method

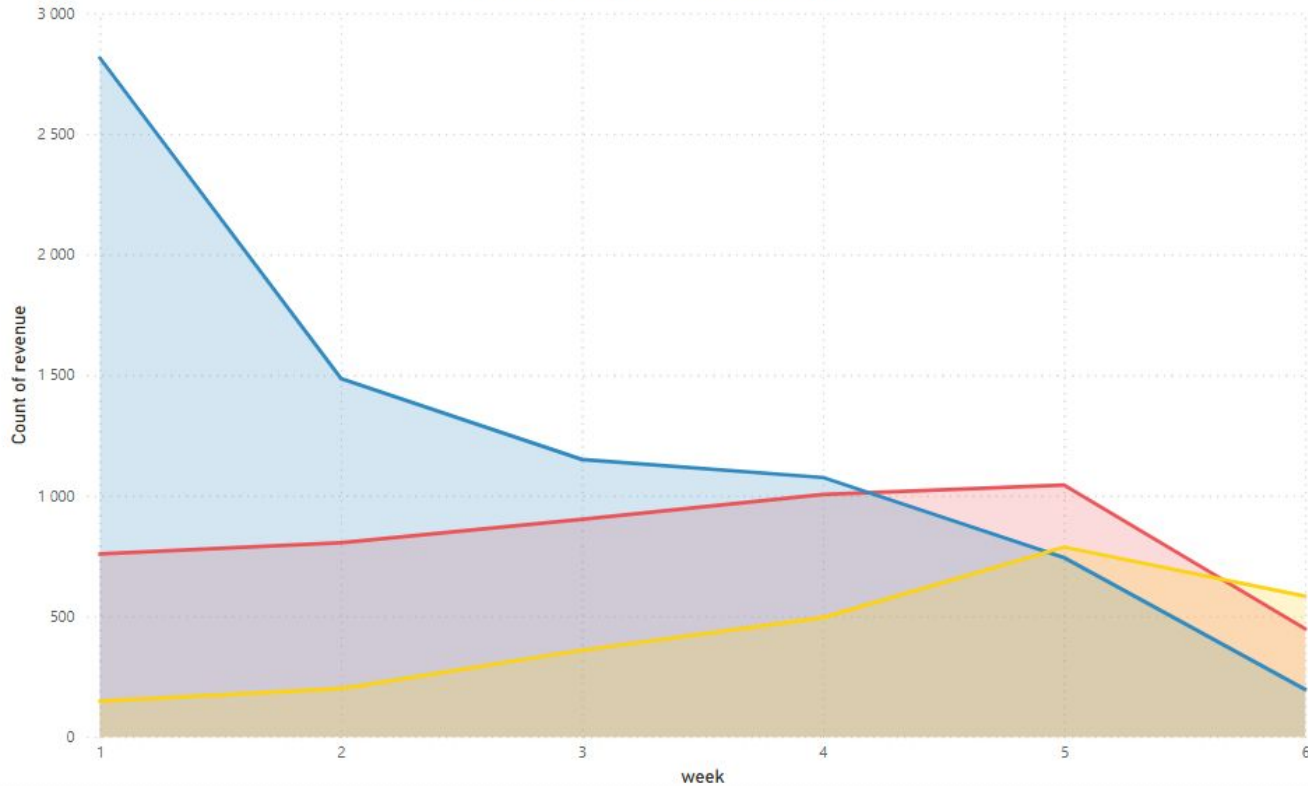Average revenue per customer by sales method:
Email+Call – 182.13
Email – 94.28
Call – 49.94.

This means that although most sales were made through Email, the h**ighest average revenue per customer** was achieved through the **Email+Call** method.

Count of revenue by week and sales method

Sales Method ● Call ● Email ● Email + Call

Over time, there has been a decline in sales through Email and Call. Call is likely not a cost-effective sales method. However, attention should be given to Email+Call, which shows a positive trend, as well as to Email, which has the potential to generate significant revenue, as it did earlier.

Metric for Monitoring New Product Line Sales Effectiveness

◆ **Metric: Average Revenue Per Customer by Sales Method (ARPC)**

◆ **Why ARPC?**

- Fair Comparison: Normalizes revenue across methods based on customer count

- Actionable Insights: Shows which method brings more revenue per customer

- Simple & Trackable: Easy to calculate and monitor regularly

◆ **Formula: ARPC = Total Revenue / Number of Customers (per method)**

Sales Method	Customers	Total Revenue	ARPC ($)
Email	7,466	$723,418	96.90
Call	4,962	$244,566	49.29
Email + Call	2,572	$441,040	171.48

📌 **Monitoring Recommendations**

- Build a Dashboard to track ARPC by method over time

- Review Weekly/Monthly to spot trends and changes

- Segment by Region or Customer Type for deeper insights

Business Recommendations

- **Minimize or discontinue the Call method** as it is time-consuming and yields the lowest profit per customer.

- **Focus more on the Email+Call method**, as it generates the highest average revenue per customer.

- **Improve the Email method** by investigating changes or adjusting the email content, as its effectiveness has decreased over time.