Pens and Printers

Revenue optimization by

determining sales approaches
for new product lines

Agenda

- ▶ An overview of the project and business goals
- ▶ A summary of the work for addressing the problem
- ▶ Key findings
  - ▶ regarding current situation
  - ▶ suggesting the metric to monitor
- ▶ Business recommendations

Overview about the project & business goals

- **Overview**
  - Pens and Printers was founded in 1984 and provides high quality office products .
  - New products are offered often for new customer needs on ground of trusting customer relationships.
  - Standardized sales methods to sell effectively and quick new products.
- **Business goals aligned with this project**
  - Determining the best sales method
  - Understanding business success by measuring revenue
  - Developing a business metric to monitor optimal revenue generation over time for every sales method.
  - Identifying further revenue levers by analyzing given data variables.

A summary of the work for addressing the problem

- The analysis was structured into four main sections:

- **Section 1: Data Validation & Cleaning**
  - This section included handling missing values, outliers, data types, string corrections, etc.
  - Data validation report
- **Section 2: Exploratory Data Analysis**
  - This section investigated the distributions of variables using histograms.
  - Explored the relationships between sales method and revenue with boxplots.
  - Visualized the revenue variable over time (week) using line plots.
- **Section 3: Sales method & business metric recommendation**
  - There were two main questions:
    - The first concerned the recommendation for the sales method.
    - The second question focused on the business metric for monitoring.
- **Section 4: Final Recommendations**
 - This section concludes the analysis with recommendations based on the insights obtained.

Key findings - regarding current situation & recommendation of a sales method

- After adjusting for different group sizes the "Average customer revenue" for every sales channel was calculated.
- "Email+Call" method has the highest average revenue.
- This sales channel is recommended.
- The advice is supported by a statistical analysis using ANOVA and the Tukey test.

Average revenue of customer by sales method
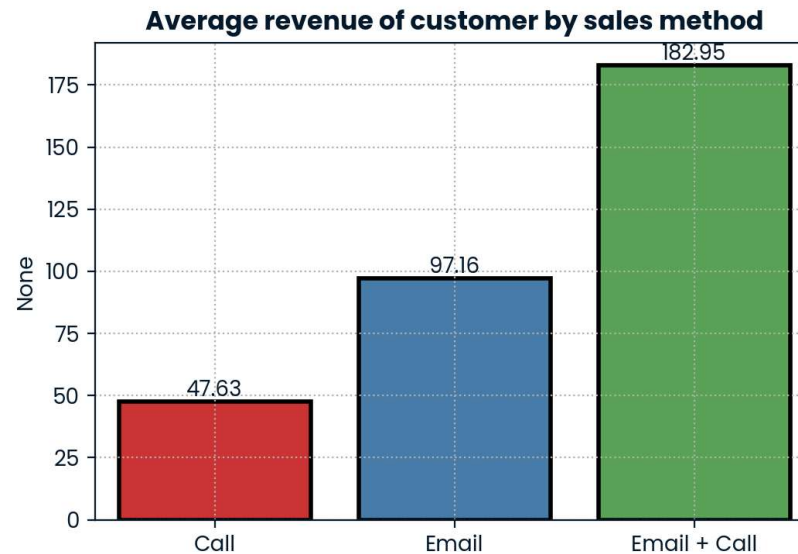
Key findings – business metric for monitoring

▶ The business metric proposed here is the "Normalized Revenue".

▶ Removes bias caused by differences in customer base size

▶ It ensures fair evaluation of method performance.

▶ Highlights per-customer efficiency,

▶ Offers deeper insights into sales strategy effectiveness.

▶ Week-to-Week trends allows tracking of sales methods performance.

▶ The metric is actionable as it identifies underperforming sales channels.

▶ Alignment with business goals to maximize revenue.

Business metric:normalized revenue
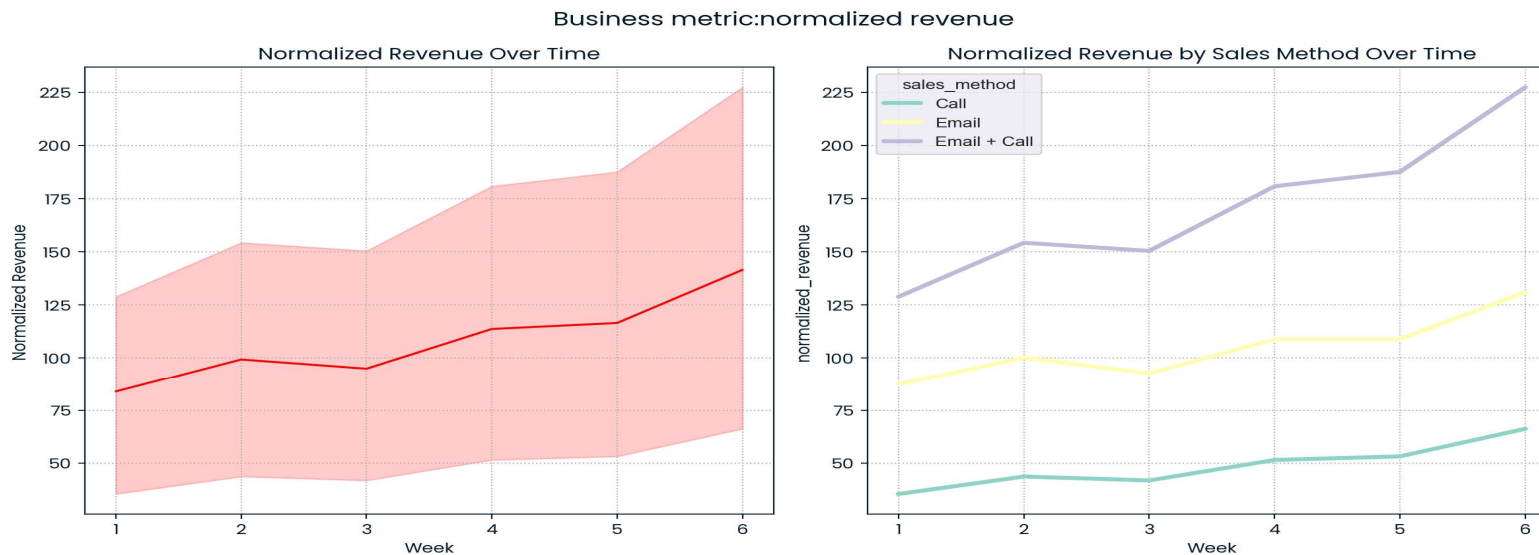
Business recommendations

▶ **Main Recommendations**

  ▶ Sales Method: recommended sales method is the "Email+Call" approach.

  ▶ Business Metric: the suggested business metric is the "Normalized Revenue" ratio.

▶ **Further recommendations (selection):**

  ▶ Lower Revenue Customers: targeted offers to increase their spending.

  ▶ High Revenue Customers: develop retention and loyalty strategies for this segment.

  ▶ Offer customers visiting the website more than 35 times loyalty rewards to deepen their commitment.

  ▶ Develop a loyalty program that rewards long-term customers with exclusive benefits, discounts, or personalized offers. (years as customer).

Technical & Data Recommendations

▶ Conduct A/B testing to isolate the influence of sales methods on revenue.
This should include the random assignment of customers to groups.

▶ Include cost information in order to enable profit calculation, rather than just revenue calculation.

▶ Create a dashboard to monitor revenue fluctuations in real-time and facilitate timely business actions.

▶ Collect more data to make advanced statistical analysis like sampling possible.

Thank you for your attention!

- Feel free to contact me for questions.
- Have a look at my report on the Datacamp workspace!