ENIAC
To discount or not to discount?

Agenda

- Disclaimer
- Two Opposing Opinions
- The Big Picture
- A Look into Categories, Brands, and Products
- Conclusion

Disclaimer:

Products table: starting with **19.325** rows. Due to duplicates, NaN values and price format problems à **9.940** rows left. Also the column "promo_price" has been dropped because of around 90% of corrupted data in it. **Data used: 52%**

Orderlines table: starting with **293.983** rows. Due to 2 dot problem and 3 digits after decimal point, and known skus and status "completed" **54.301** rows left. **Data used: 18%**

Orders table: starting with **226.908** rows. Due to NaN values, 2 dot and 3 digits problem, keeping only known skus, and status "completed" down to **41.685** rows. **Data used: 18%**
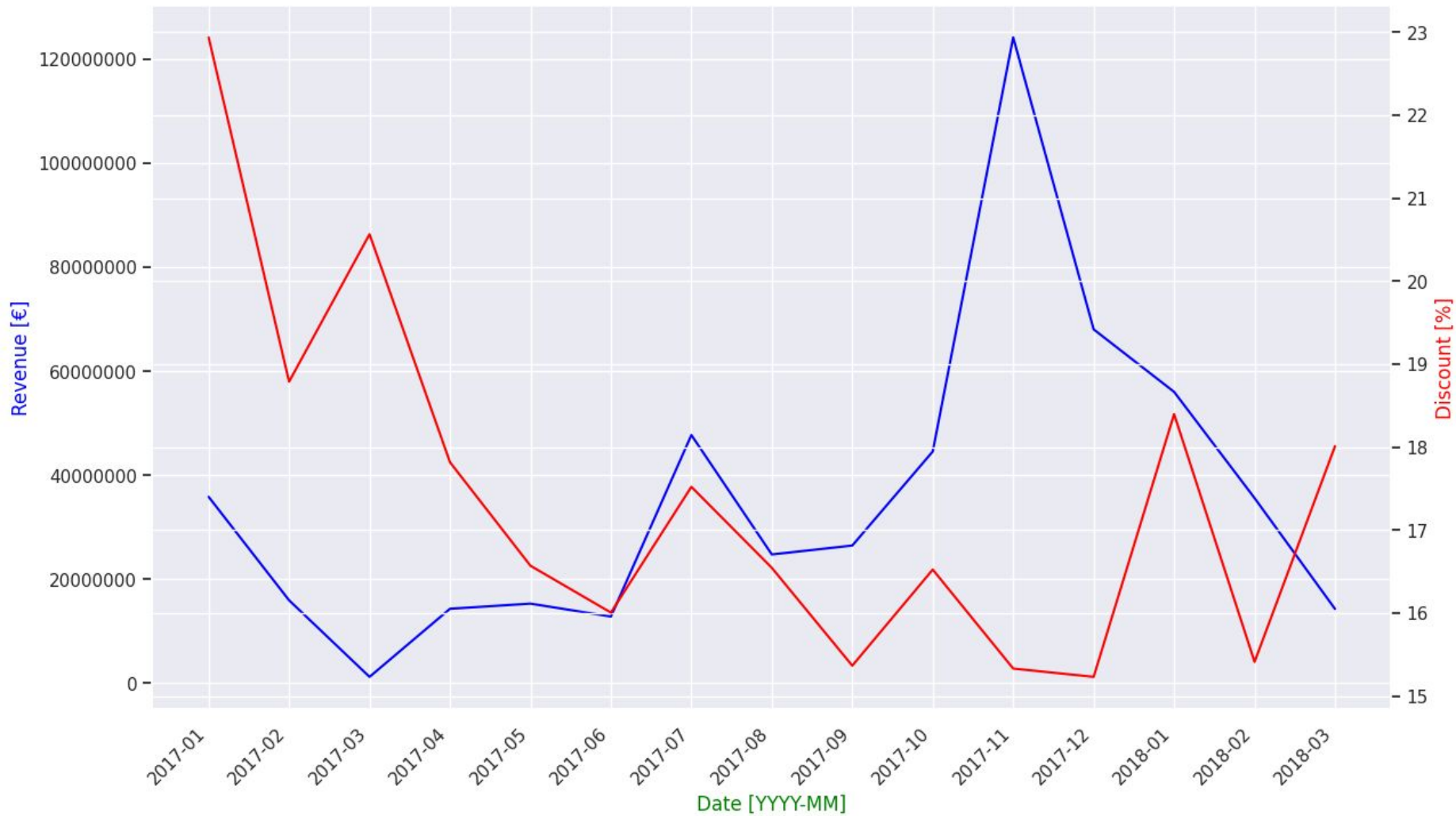
Two Opposing Opinions
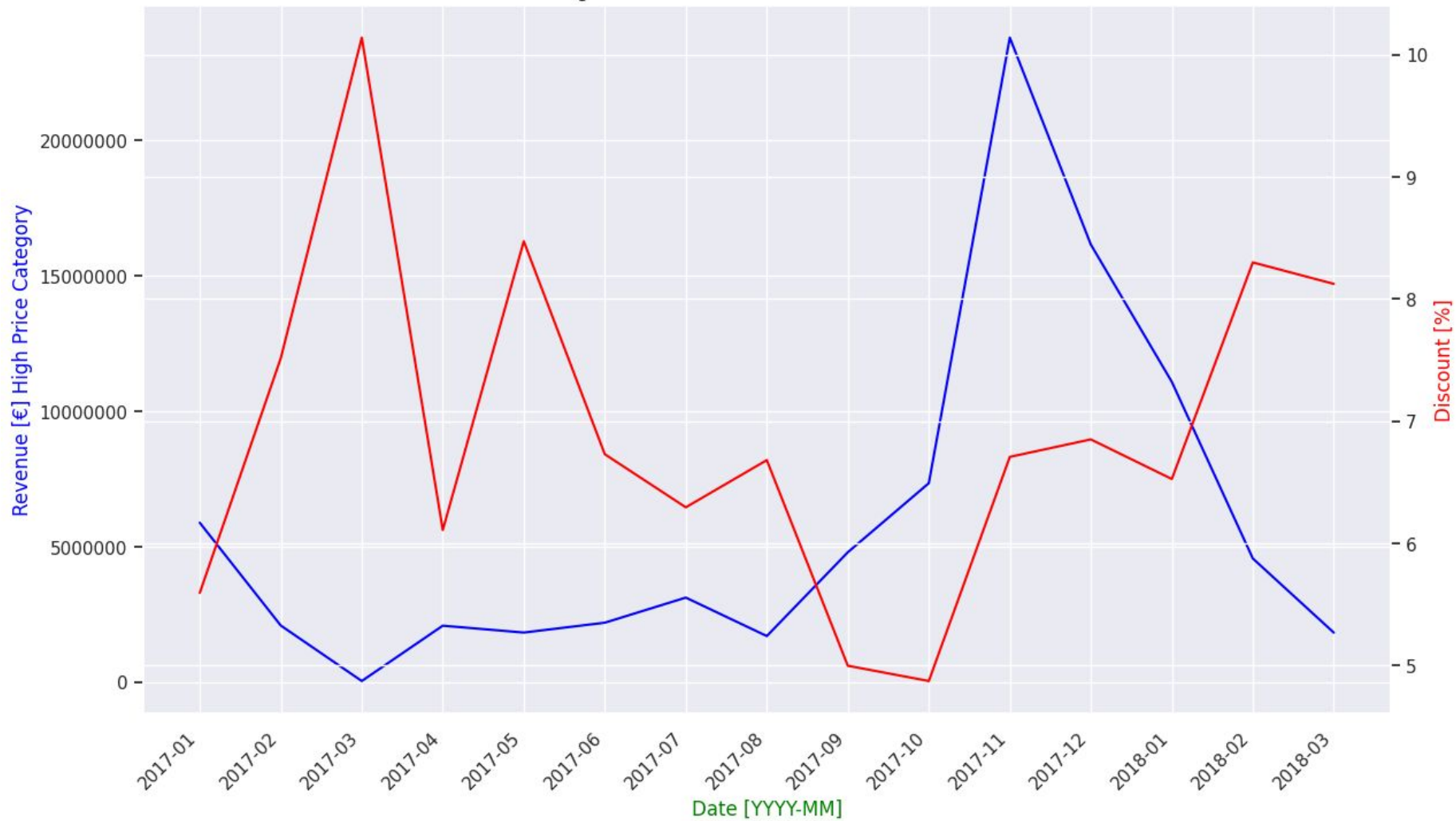
Marketing Lead
- discounts are beneficial

Main Investors
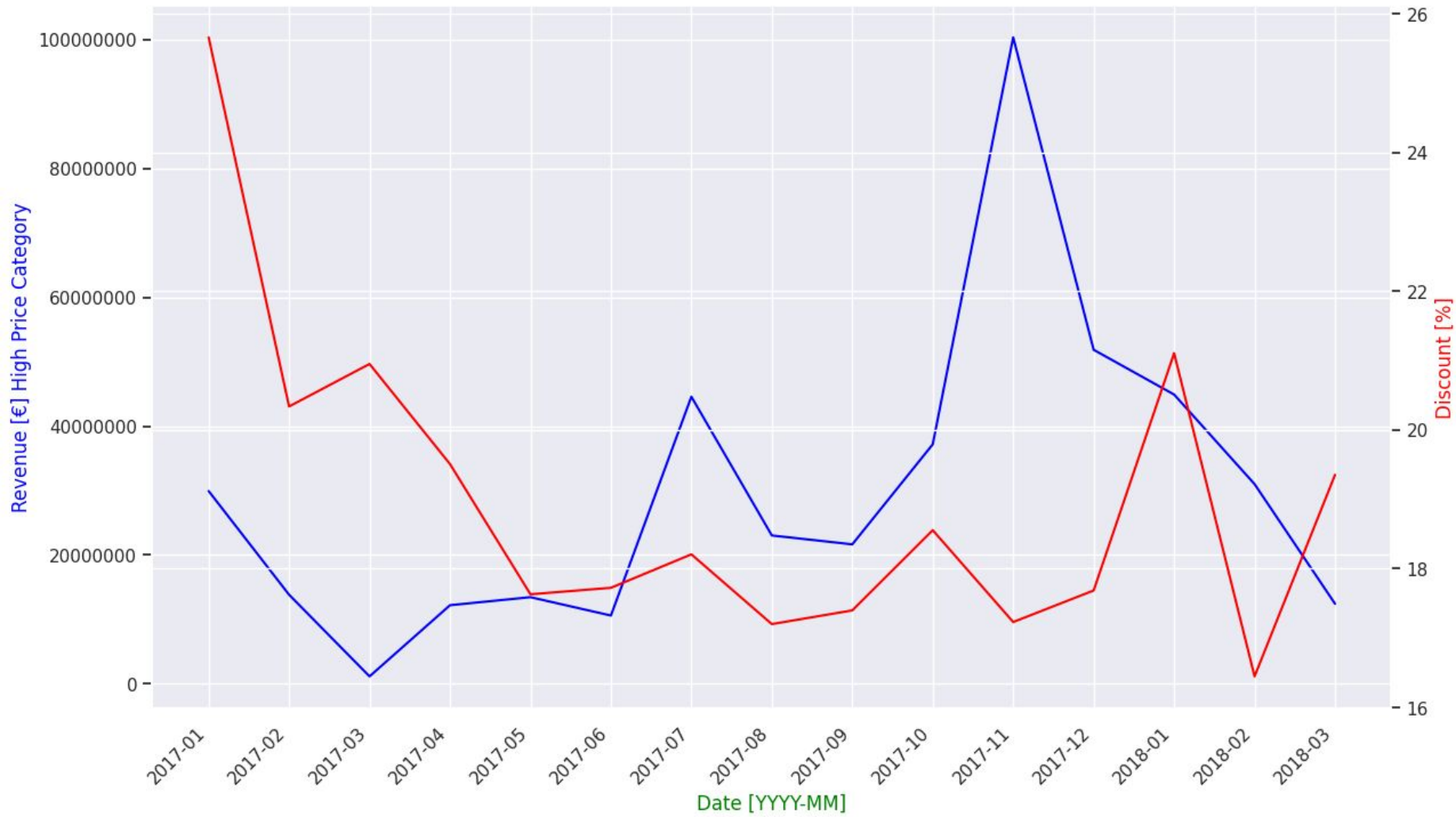- increase in orders, but decrease in revenue

Total Revenue and Discount over Time

High Price Revenue and Discount over Time

Low Price Revenue and Discount over Time

Rev. (of Cat. "Sleeve Cases") and Disc. over Time

Rev. (of Brand "Pack") and Disc. over Time

Conclusion : Two Opposing Opinions

Marketing Lead
- discounts are beneficial
  → not in general only in certain cases (low price products, 5 out 30 categories, bundles (Pack))

Main Investors
- increase in orders, but decrease in revenue
  → no decrease in revenue due to discounts
  → high price quality products have low discounts
  → only low price products are heavily discounted

Recommendation
- data on customers (satisfaction and retention)
- data on the purchase prices

Conclusion : Two Opposing Opinions

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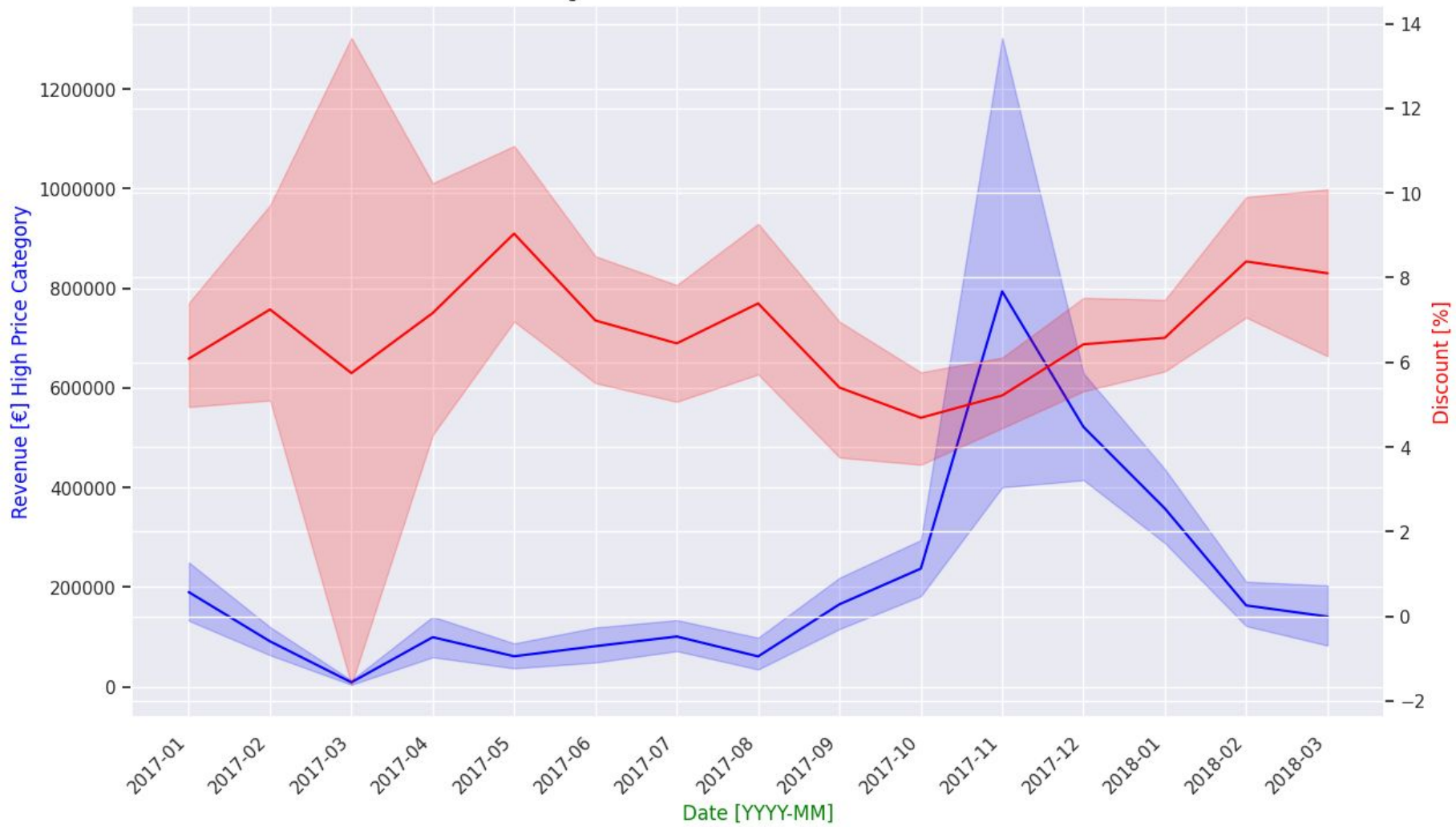- data on the purchase prices

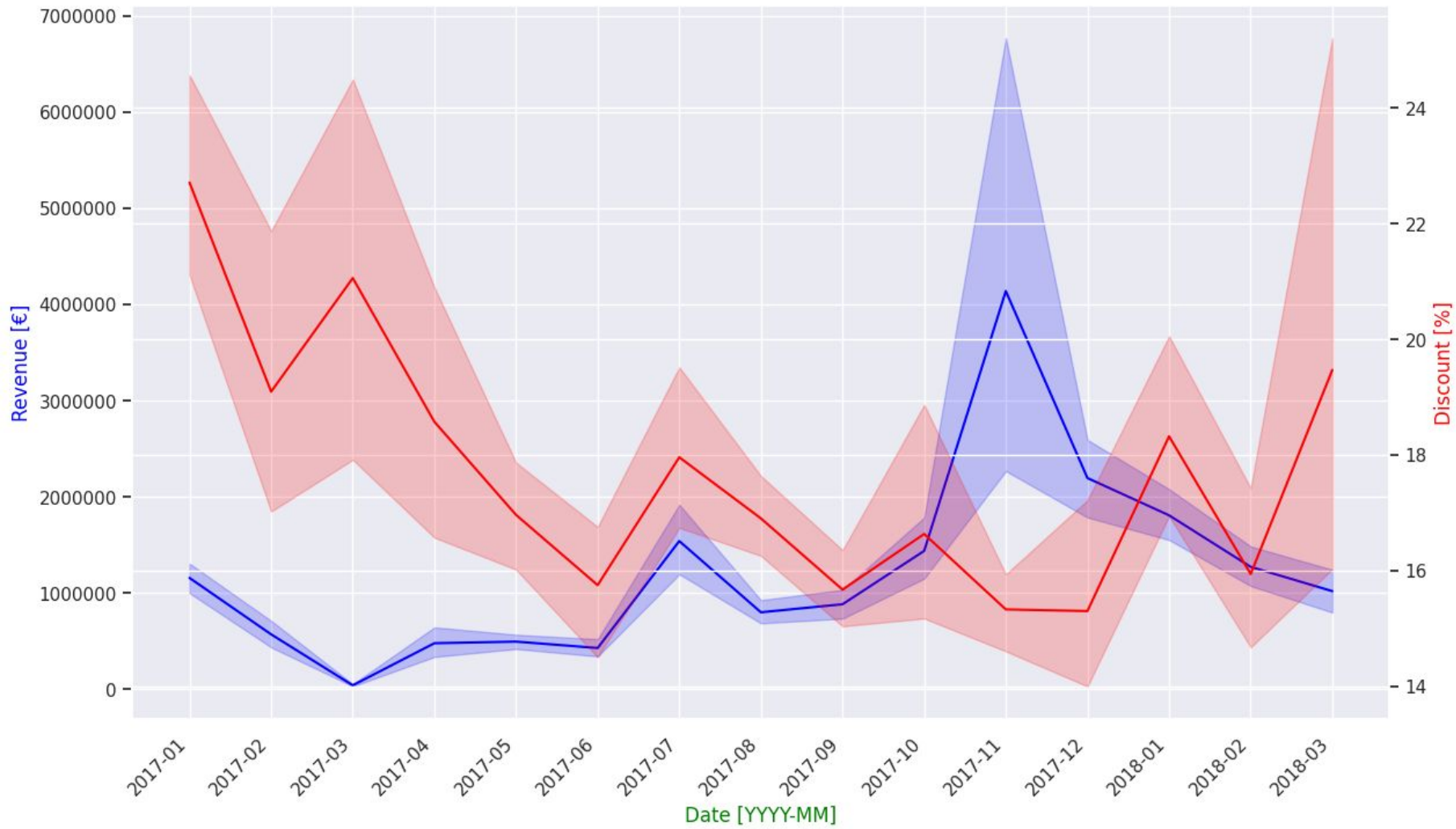Thank you very much!

I'm also deeply
indebted to
my teammates

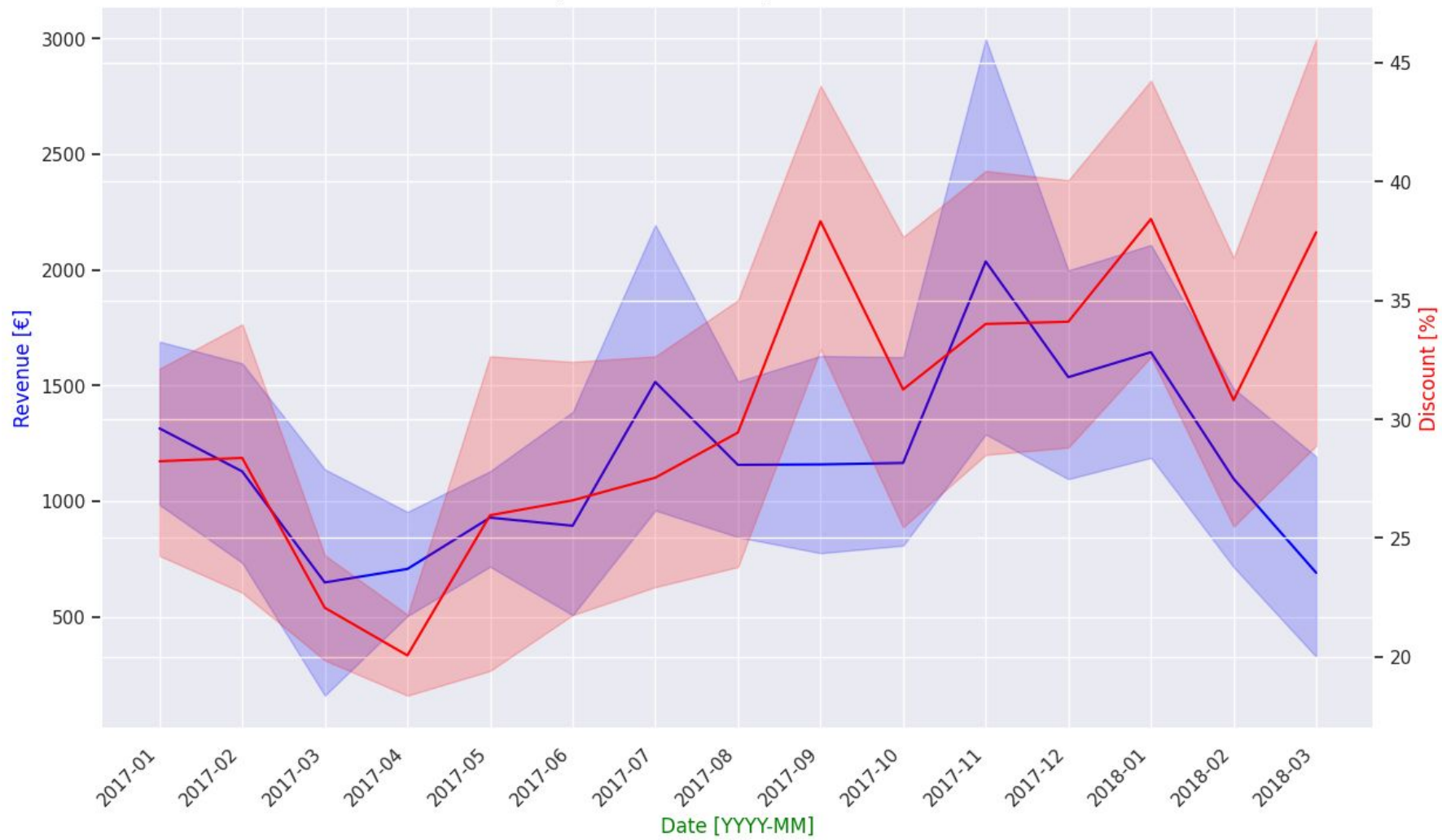Dolphin
Wolverine
&
Giraffe

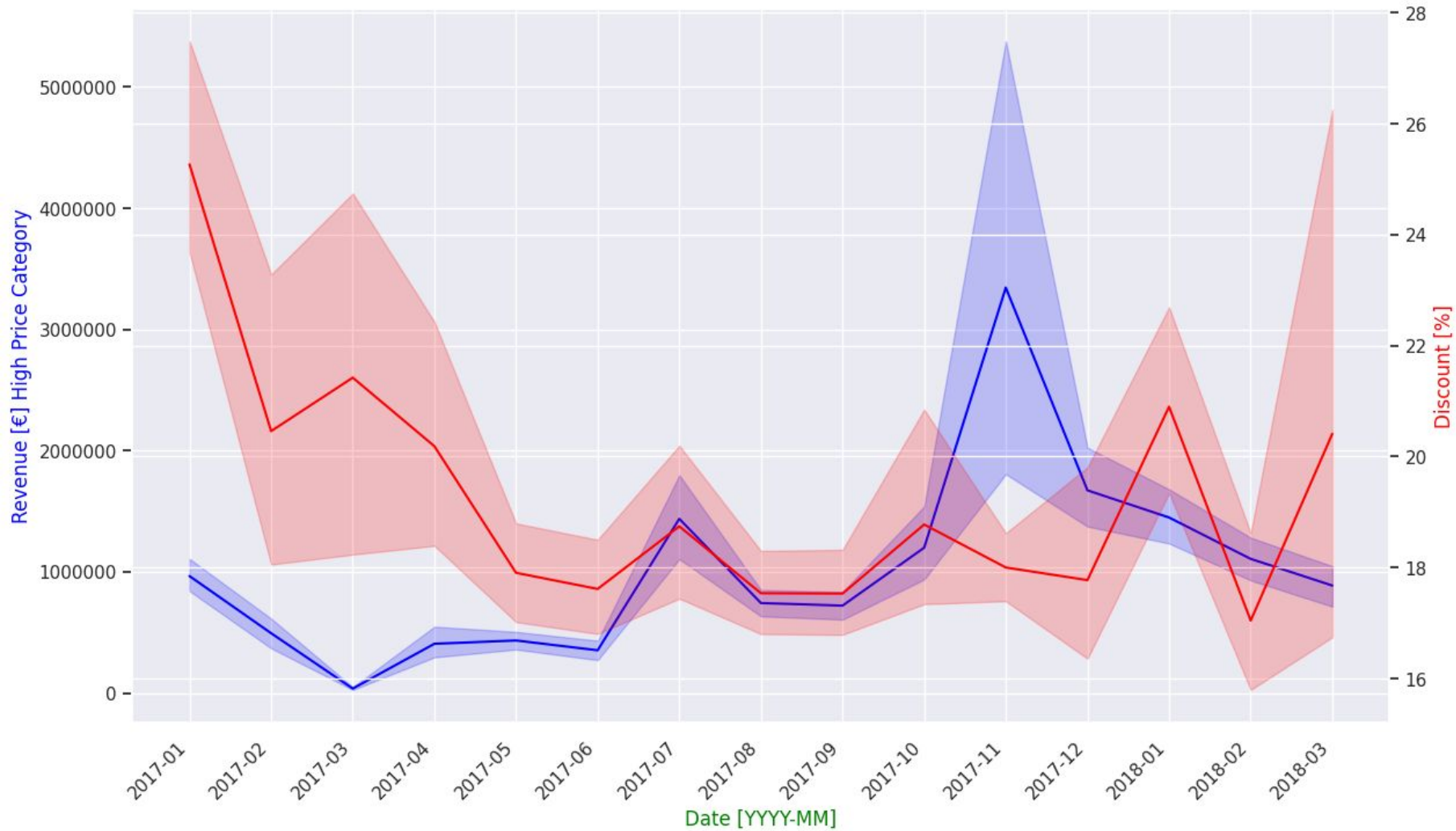# Appendix

High Price Revenue and Discount over Time

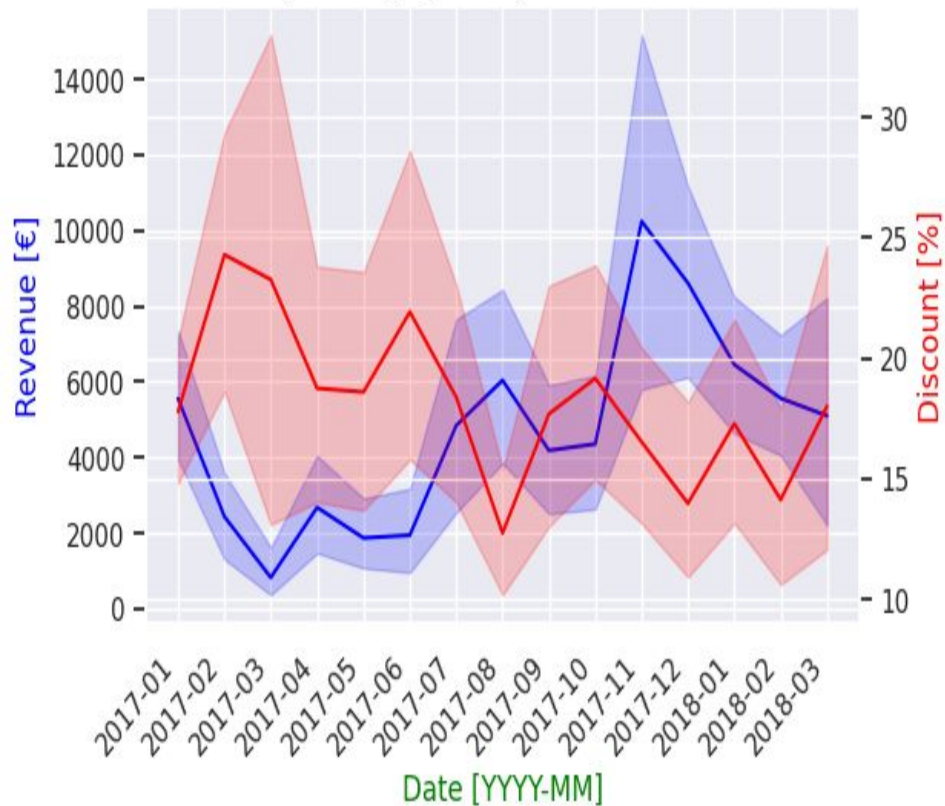Total Revenue and Discount over Time

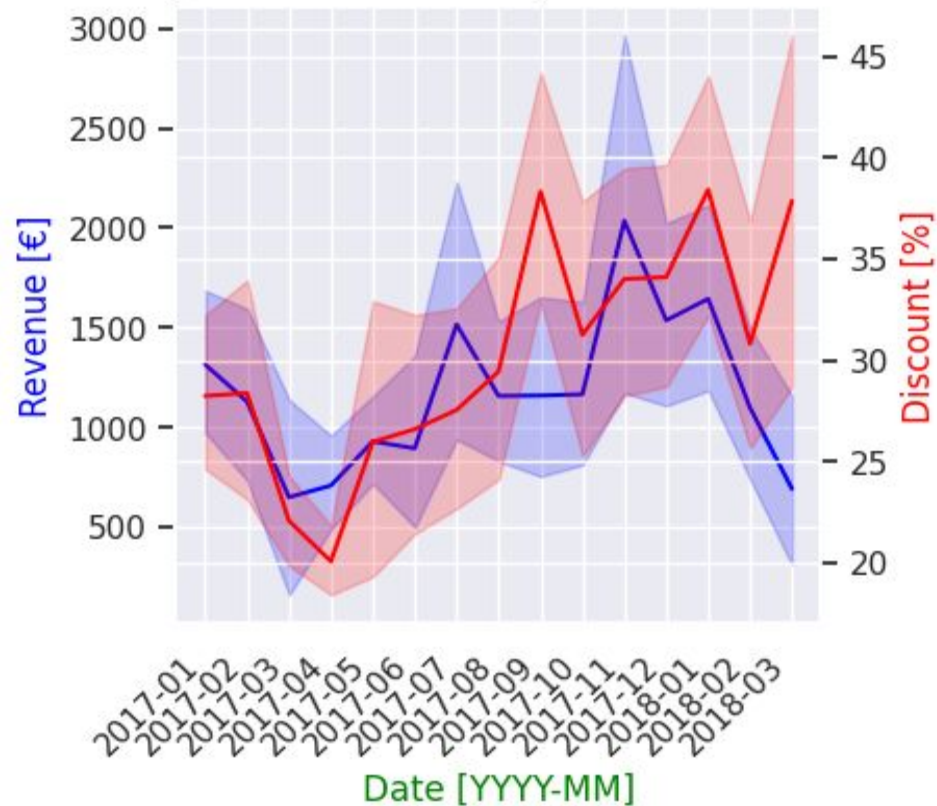Rev. (of Cat. Sleeve Cases) and Disc. over Time

Low Price Revenue and Discount over Time

Revenue (of Category Cable) and Discount over Time

Rev. (of Cat. Sleeve Cases) and Disc. over Time

How should products be classified into categories to simplify reports and analysis?

- on the basis of the column "type"
- but also did price categories

How many products are being discounted?

Nursah bar chart

(here it says 50k products are discounted,

but we only have 9940 different products)

it is orders with discounted products

we also need the absolut figures here

count "product_quantity" for products sold

```python
import matplotlib.pyplot as plt

# Calculate the total quantity of products sold before and after discounts
before_discounts = p_ol_o[p_ol_o['discount'] <= 0]['sku'].count()
after_discounts = p_ol_o[p_ol_o['discount'] > 0]['sku'].count()

# Create a bar chart to compare the quantities
quantities = [before_discounts, after_discounts]
labels = ['Before Discounts', 'After Discounts']

plt.bar(labels, quantities)
plt.title('Quantity of Products Sold Before and After Discounts')
plt.xlabel('Discounts')
plt.ylabel('Quantity')
plt.grid(True)
plt.show()
```


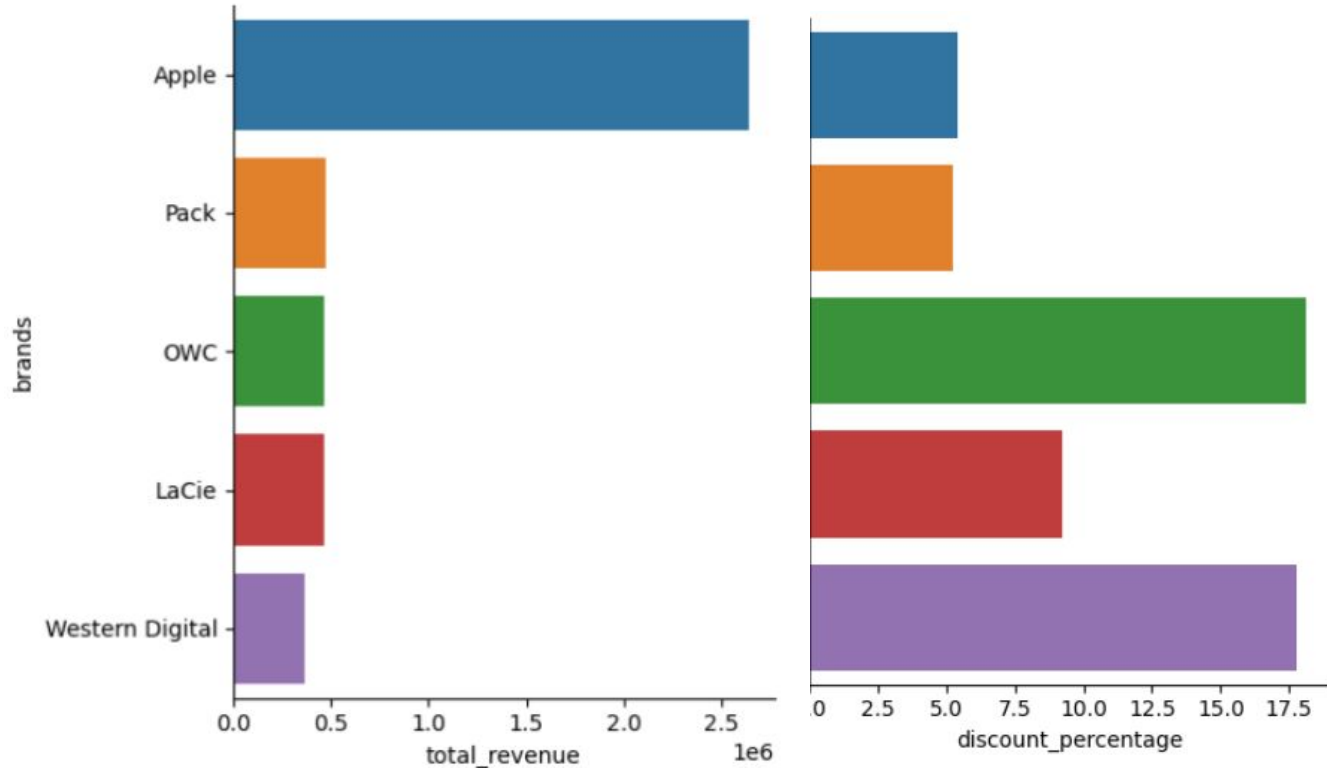Quantity of Products Sold Before and After Discounts
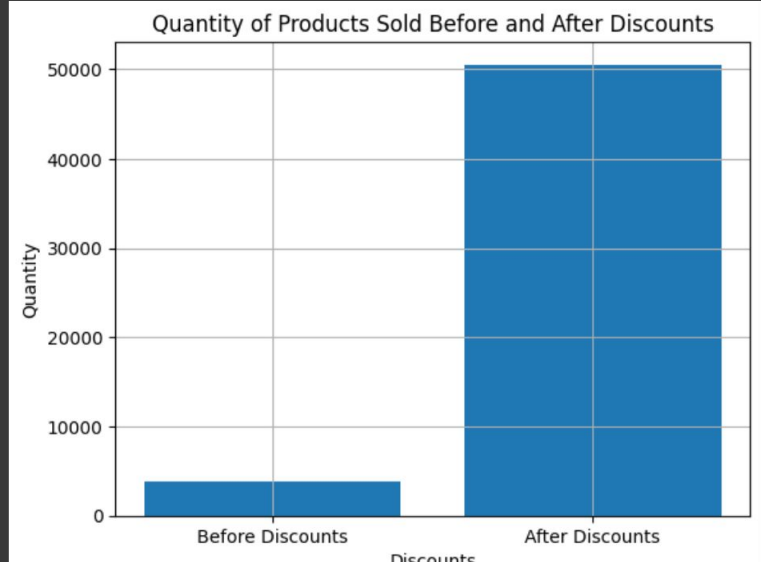
top selling products per revenue
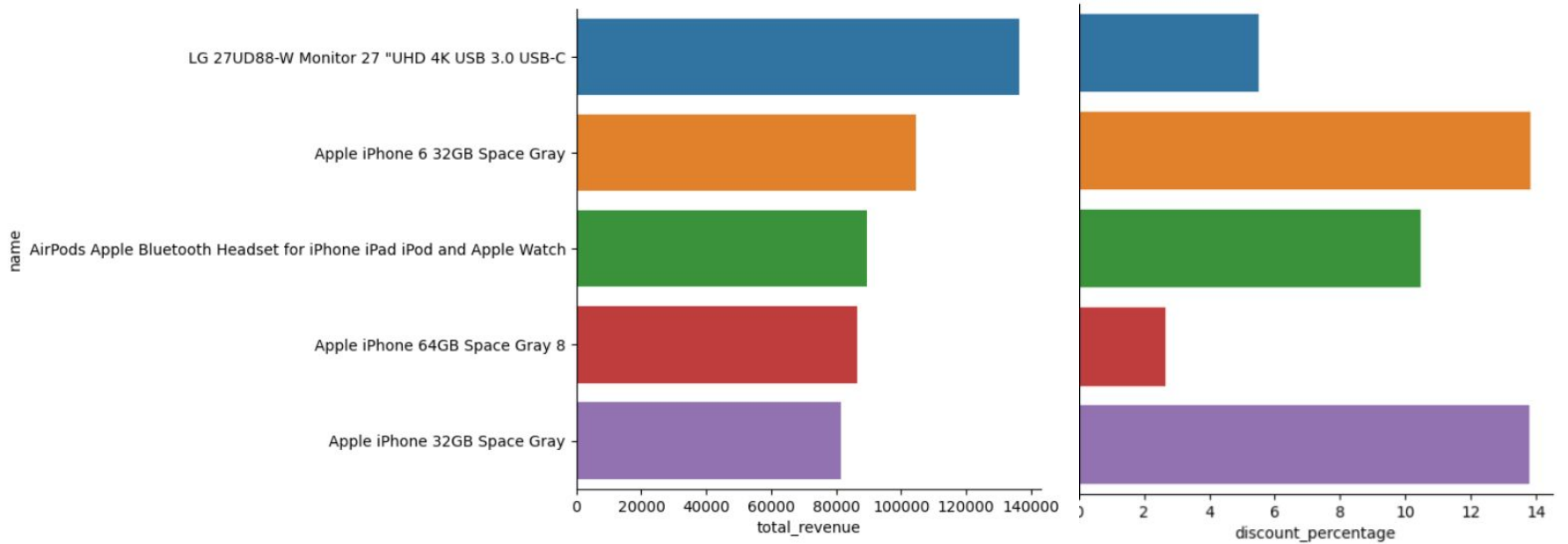
products by quantity*
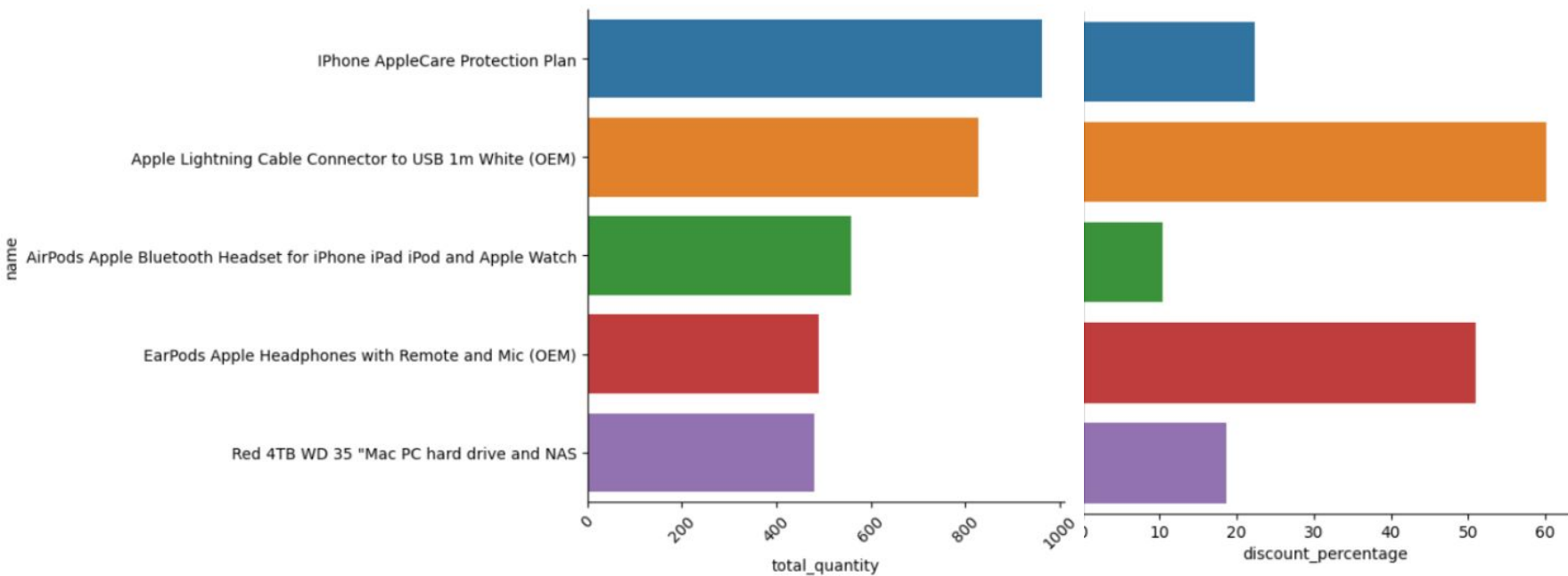
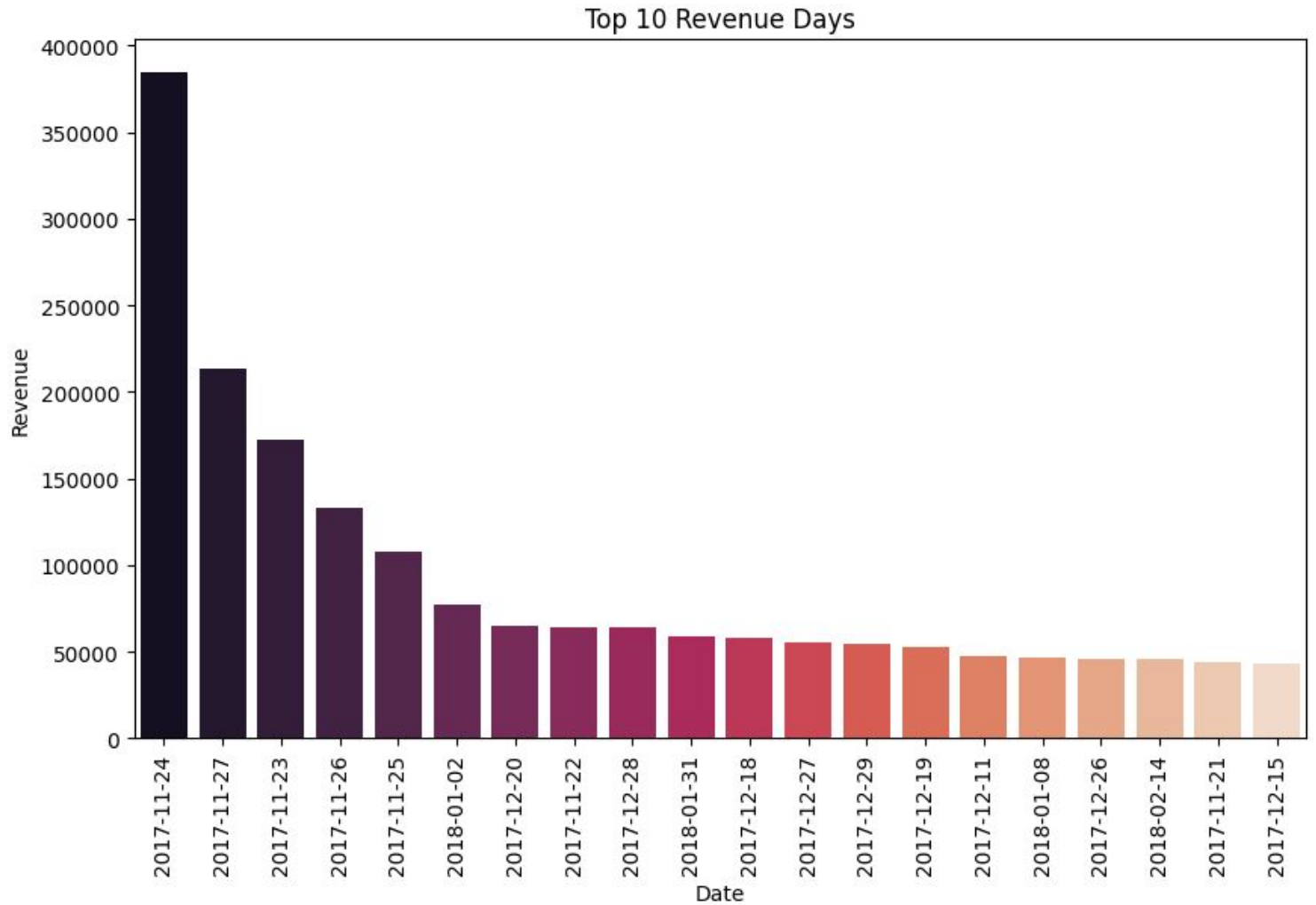# highest selling brands and their percentage of discount

Discounts over price categories

work in progress

How big are the offered discounts as a percentage of the product price?

- average over all prices and categories
- (perhaps the also on a product / categories level) Jenny

How do se
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Nursah bar cha

Top 10 Revenue Days

Explore if discounts work:

● during specific times,
● for certain product categories
● at particular price points
● if they are effective for specific brands ← *make a calculation based on Jenny's calculations with the revenue of products and categories against the percentage of discount for the top 5 / 10 products categories*