Marketing Campaigns Analysis

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Market development (overall)

Entire market has been growing last 30 weeks:
- **Visits** (average **+4.2%** weekly)
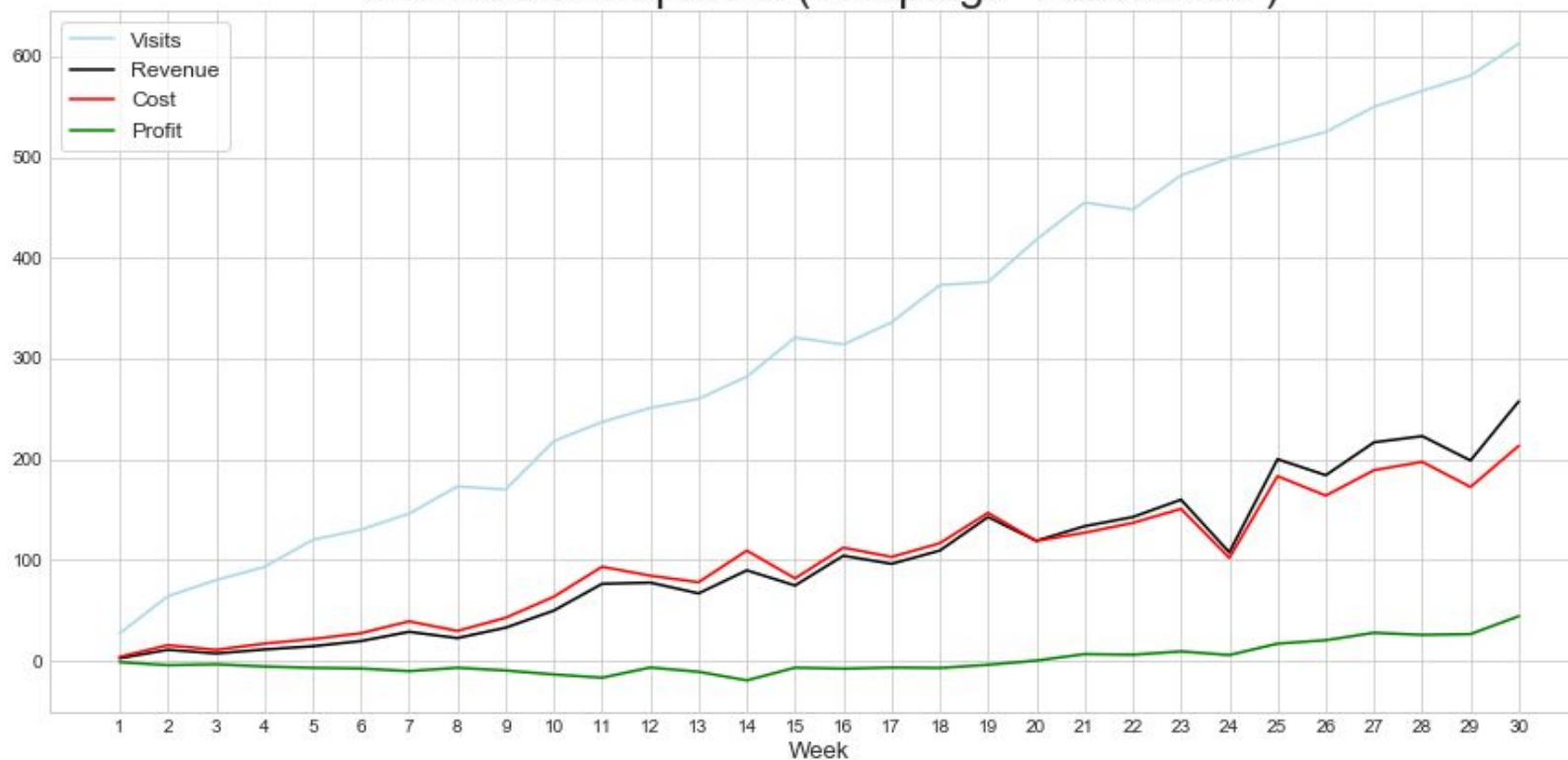- **Revenue** (avg. **+3.2%**)

But it is unprofitable:
- **Profit** (avg. -**84.8%**)

Market Development (overall)

- Revenue is highly correlated with marketing spends (Costs)
- Visits are also correlated with Costs, but with exceptions (weeks 15, 20)
- Profit was positive on first weeks (1-7), but from Week 8 it is negative or close to 0 (weeks 8, 10, 12, 15, 16)

Market Development (campaign "Aldebaran")

"Aldebaran"

- "**Aggressive**" Week-over-Week growth (e.g. Profit +374.9% weekly avg.)
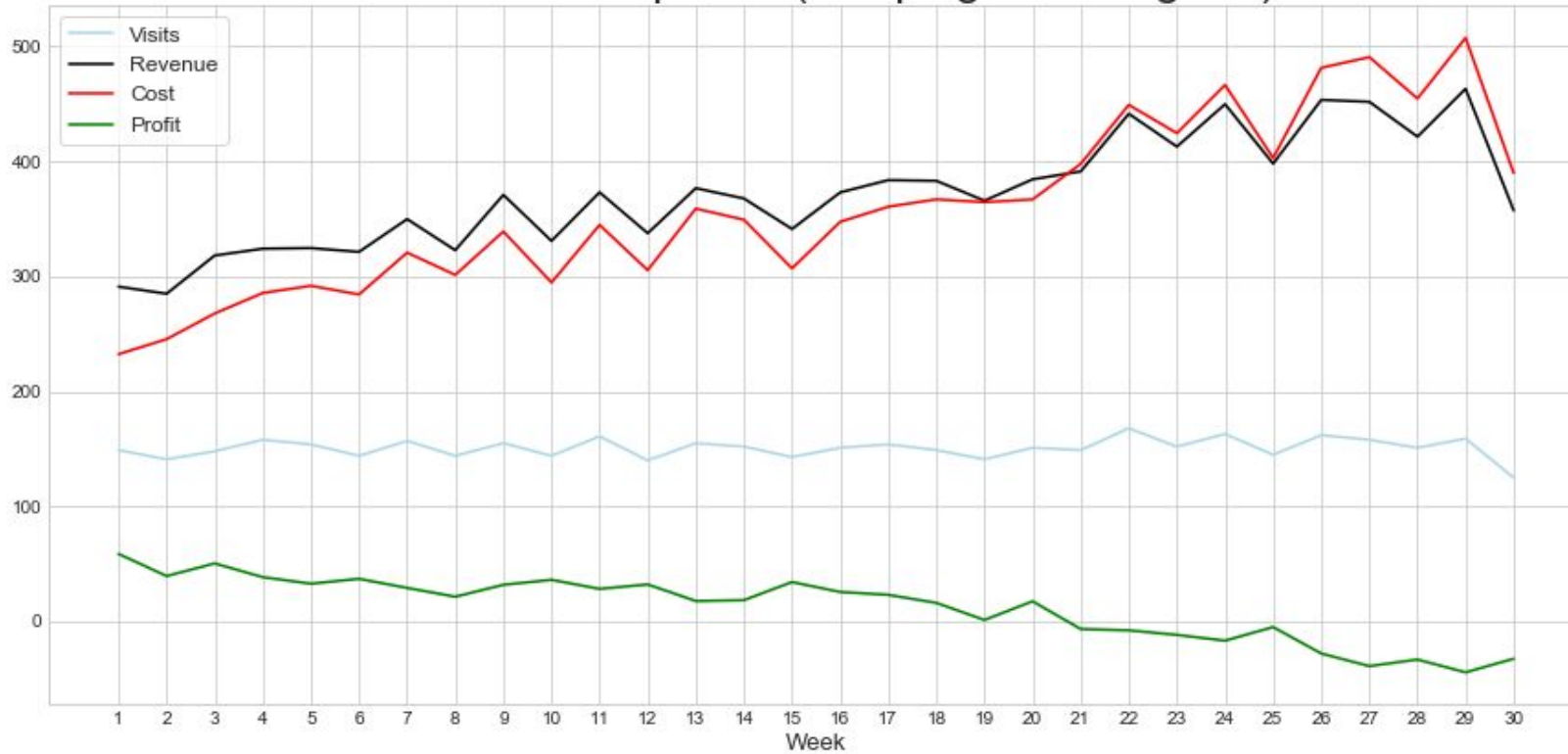- Profit has been increasing from Week 14 until now, and is positive from Week 21

Market Development (campaign "Bartledan")

"Bartledan"

- **Unprofitable** campaign, all weeks Revenue doesn't cover the Costs
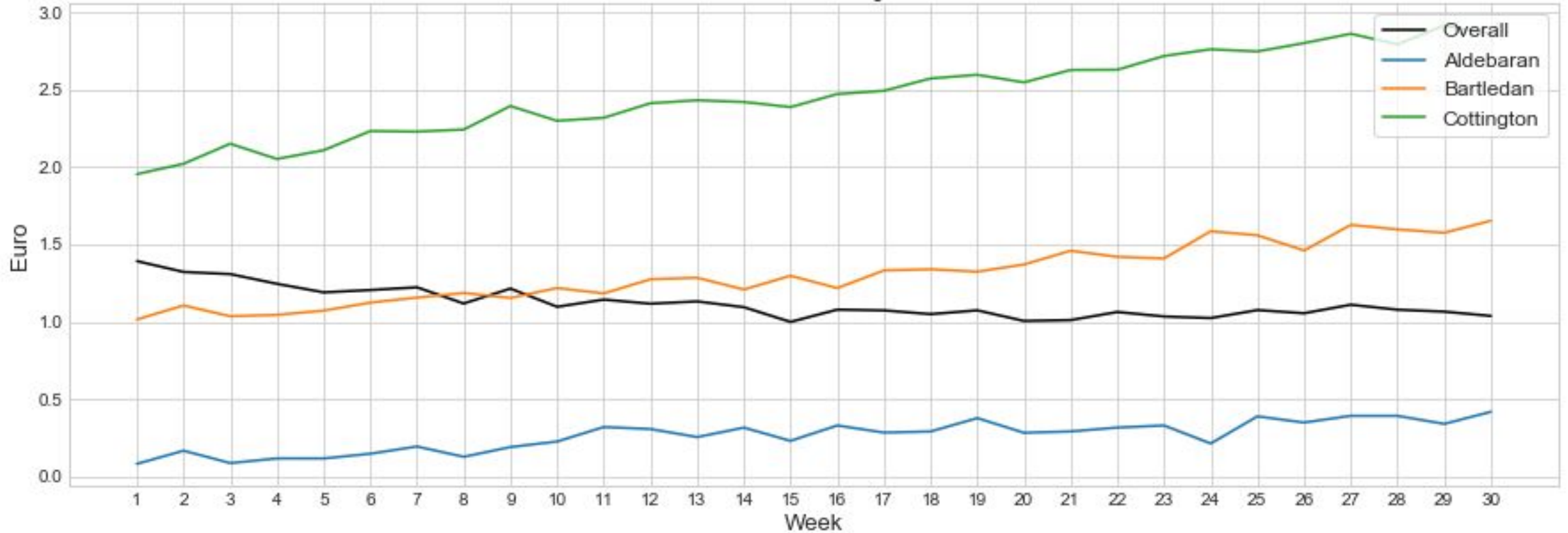- The more Costs are spent, the more loss was generated

Market Development (campaign "Cottington")

"Cottington"

- Unprofitable from Week 21, probably too much Costs were invested

Traffic Quality RPV (Revenue Per Visitor)

- **Overall RPV decreased -25.4%:** from 1.39€ (W1) to 1.04€ (W30) with average growth -0.9% weekly
- **"Aldebaran" RPV increased +399.9%:** from 0.08€ (W1) to 0.42€ (W30) with average growth +10.5% weekly
- **"Bartledan" RPV increased +62.8%:** from 1.02€ (W1) to 1.65€ (W30) with average growth +1.8% weekly
- **"Cottington" RPV increased +46.3%:** from 1.95€ (W1) to 2.86€ (W30) with average growth +1.4% weekly
- **"Cottington" has the highest average RPV (2.47€)** and still the highest on W30 (2.86€), but need to keep in mind: if campaigns will keep the same trend, "Aldebaran" will overtake it after some weeks.

In which campaign invest additional 250 €?
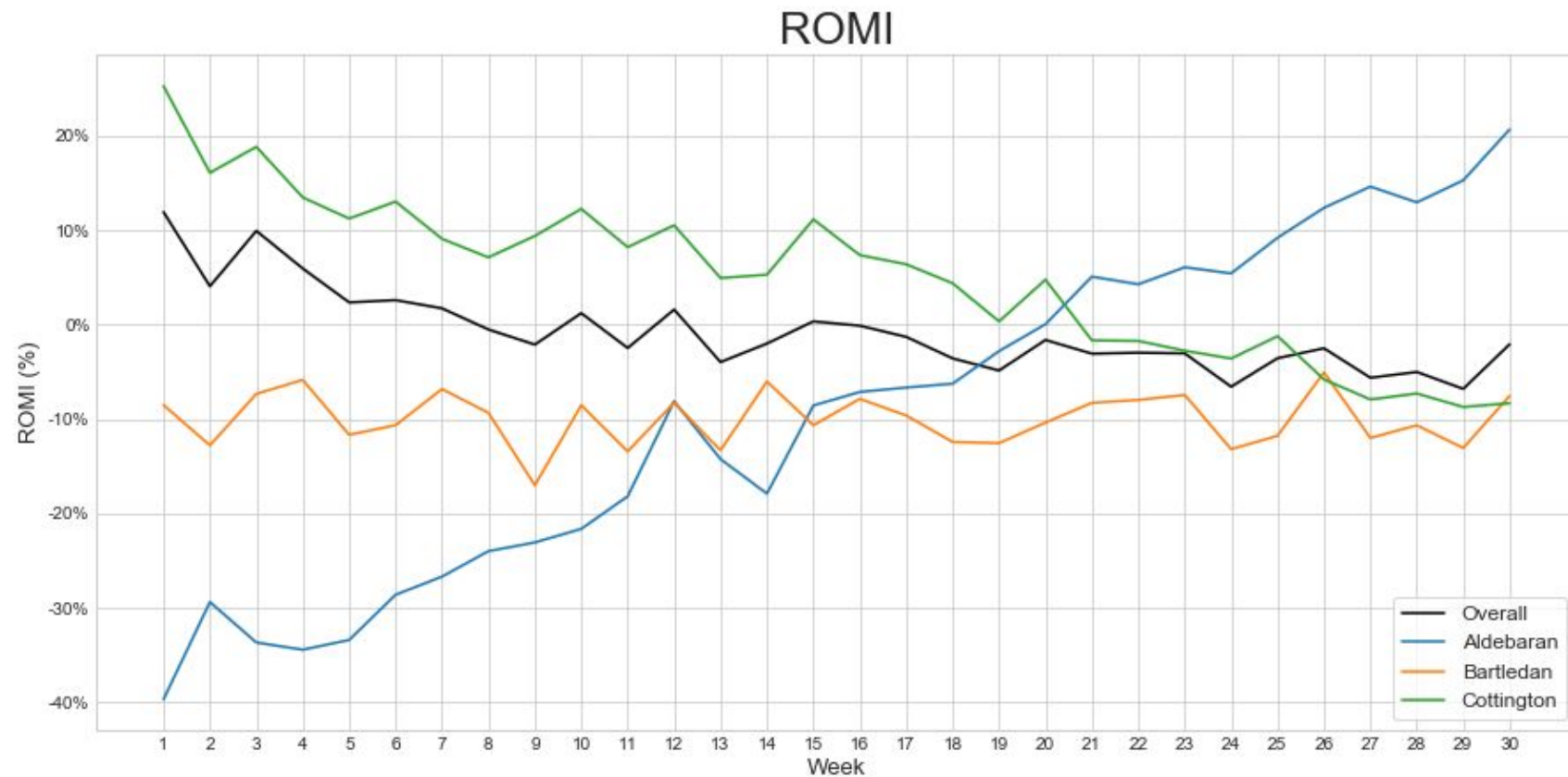
ROMI

I would advice to invest additional 250€ in "**Aldebaran**" campaign due to the following reasons:

- Its **ROMI** is the **highest** since Week 21 and actually the only one which is above 0: 21% on Week 30 vs. -8% both of "Bartledan" and "Cottington"
- Its ROMI **trend** is also **positive** and much higher than others: **+362.8%** weekly average
- It is the **only one** campaign which Profit is also increasing with increased Costs. "Bartledan" had never been profitable and shows decreasing ROMI trend even with additional Costs. "Cottington" was showing better ROMI with Costs around 350€, and became unprofitable after we started to invest more in it from Week 21
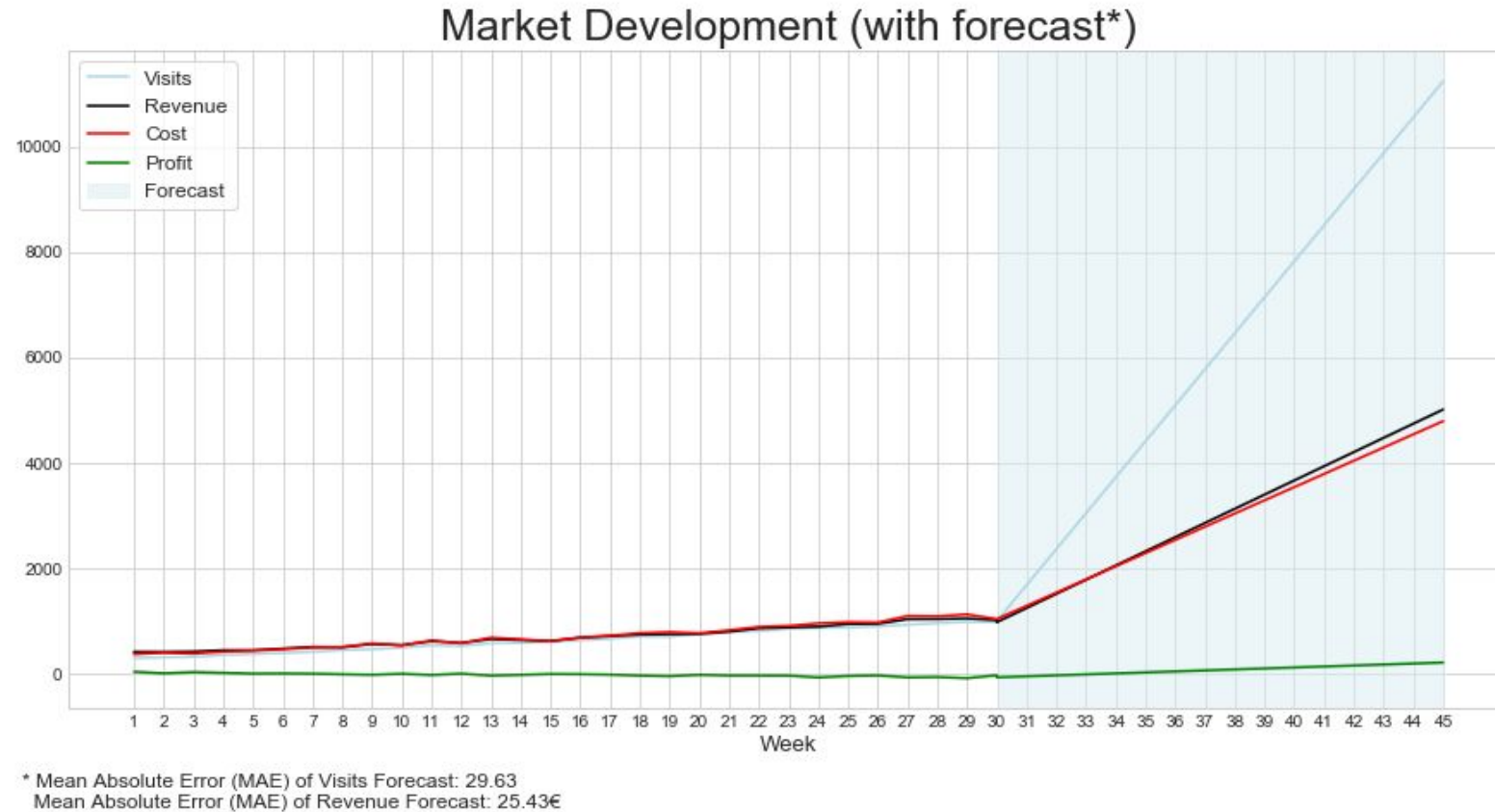
Market development forecast

- If we invest **additional 250€ in "Aldebaran"** campaign each week from Week 31, and freeze the Costs for other campaigns on Week 30 values, overall **market will become profitable from Week 34 (with Profit 14.5€)**

- Average **weekly growth of Profit** from Week 31 to Week 45 will be **65.4%**

Other possible improvements:

- Adjust other campaigns

- Include LTV information for campaigns evaluation

Market Development (with forecast*)

Legend:
- Visits
- Revenue
- Cost
- Profit
- Forecast

* Mean Absolute Error (MAE) of Visits Forecast: 29.63
  Mean Absolute Error (MAE) of Revenue Forecast: 25.43€

# Website Sessions Analysis

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Chi-squared Test

Chi2-test shows the following connections results:

- **Booking** and **Clickouts**: independent
- **Booking** and **Session Duration**: dependent
- **Booking** and **Session Start Hour**: independent
  Probably, sessions are generated by users from cities with different timezones, but the server's timestamps are in UTC

Sessions Duration overview

Sessions Duration overview
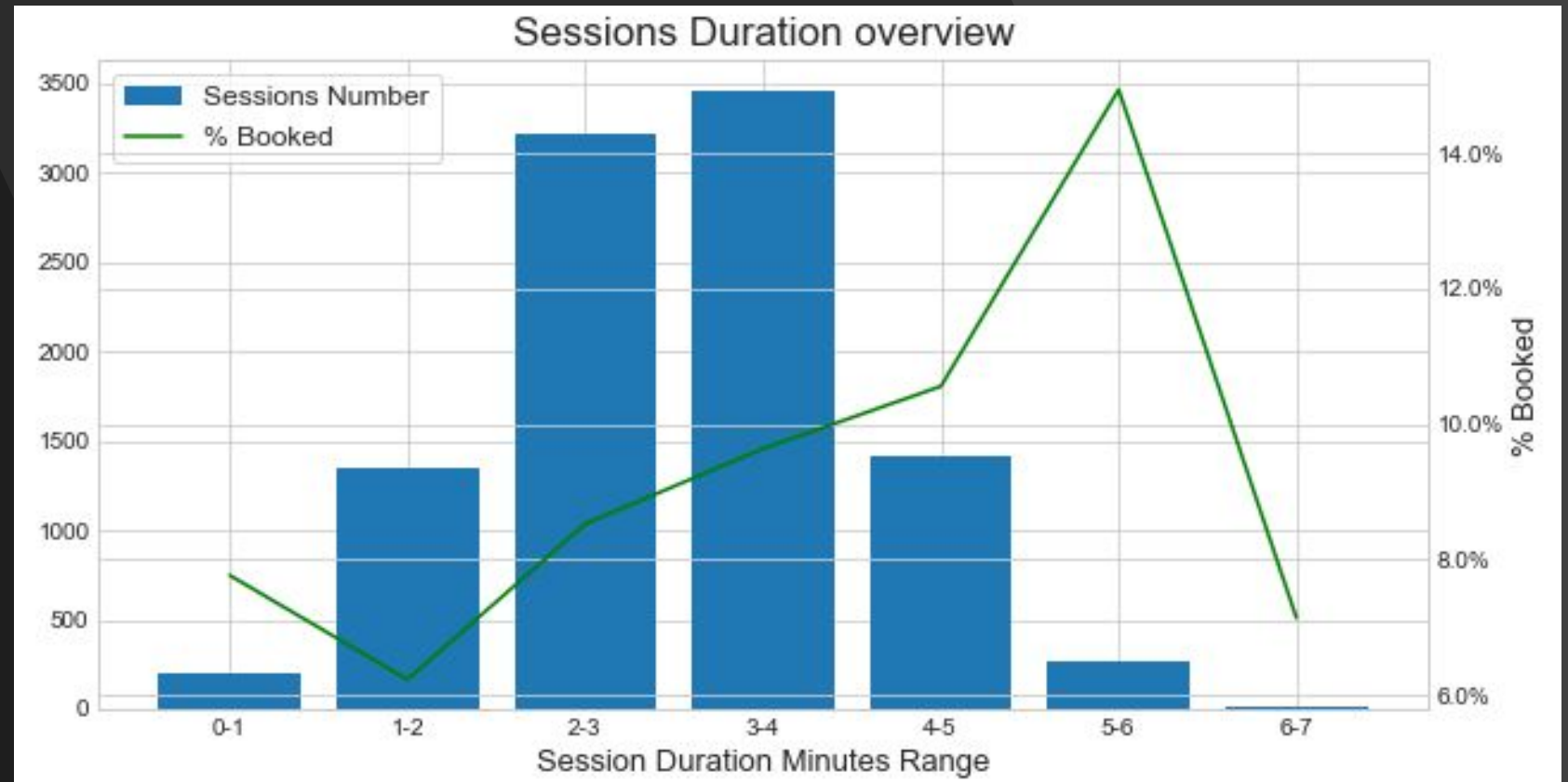
- The more time user spent on the website, the more likely he will book the hotel: group with session duration 1-2 minutes has only 6.23% of bookings, but 5-6 minutes has 14.94%.
- At the same time, group of 0-1 minutes has 7.77%. This probably means that some users know exactly which hotel and dates they need, and visit the website just to find the best price, not spending the time on reading hotels descriptions, comparisons etc.
- Group 6-7 min. has too little data to observe

Clickouts overview
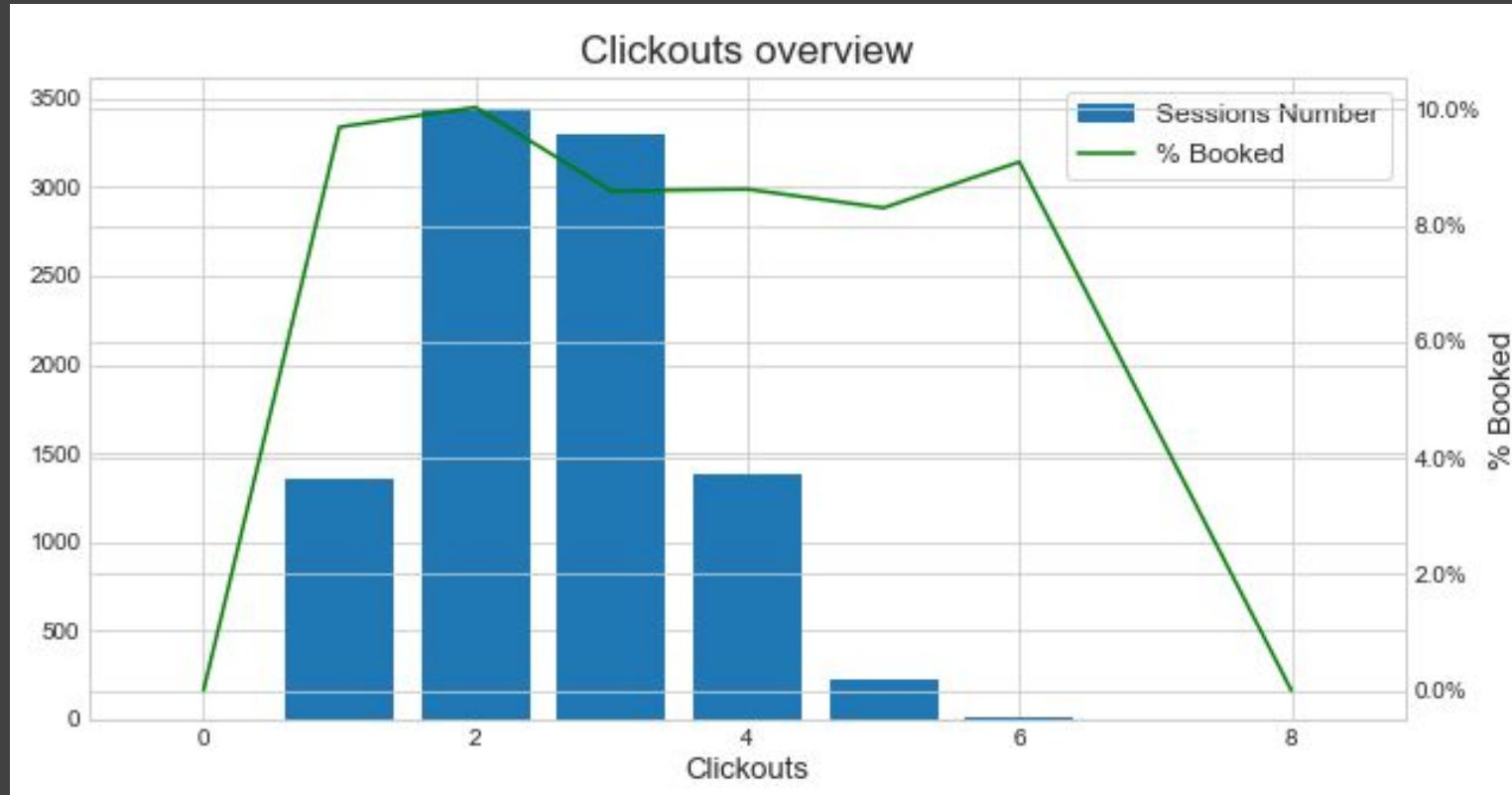
Clickouts **do not show significant impact** on bookings

(the same as we found with Chi2 Test)