ANALYZING VARIOUS CUSTOMER RETENTION INITIATIVES

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Problem Statement

Need to analyze data
Analyze customer data to increase booking reactivations

Find effective methods
Determine the most effective reactivation methods from the data

Focus on recurring bookings
Specifically look at recurring customer bookings that were cancelled

By analyzing booking data we can find the best way to reactivate cancelled recurring customer bookings.

Key Questions

- **How effective are reactivation methods**
  Analyze the performance of different reactivation campaigns and methods.

- **Statistical significance of differences**
  Use statistical tests to determine if observed differences in key metrics between variants are statistically significant or due to random chance.

- **Return on investment**
  Calculate return on investment of experiments and campaigns to understand financial impact.

- **Improving experiment design**
  Identify ways to improve experiment design, statistical power, and guard against biases that could lead to incorrect conclusions.

- **Detecting anomalous or fraudulent data**
  Implement techniques to identify fake, invalid, or anomalous data.

Tools for Data Analysis

- SQL
- Tableau
- Python

POSSIBLE KPI's / METRICS

Overall Reactivation Rate
The percentage of cancelled customers who make a new booking after being targeted by a reactivation initiative

Time to Reactivation
Average number of days between cancellation and successful reactivation per method

Reactivation Rate by Initiative
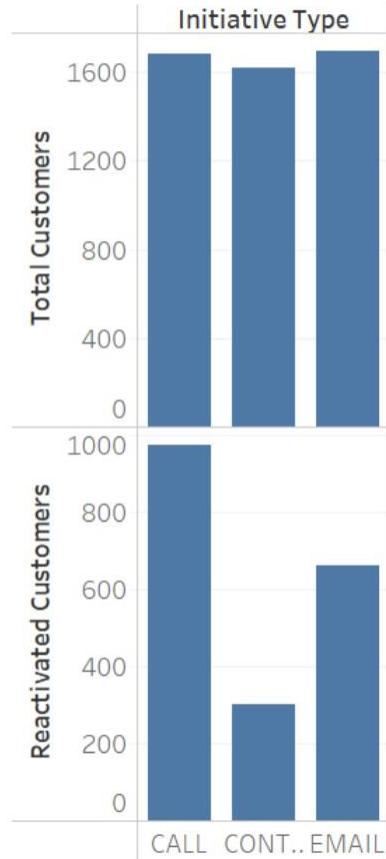Reactivation rate for each method - Control, Email, Call

Revenue from Reactivations
Total revenue from successfully reactivated customers, analyze per method

Analyzing these core metrics will reveal the effectiveness of different reactivation initiatives in recovering churned customers and generating revenue.

Graphical Representation

The Tableau representation shows how each initiative method (Call, Email, Control) compares against each other

Reactivation Success Rates
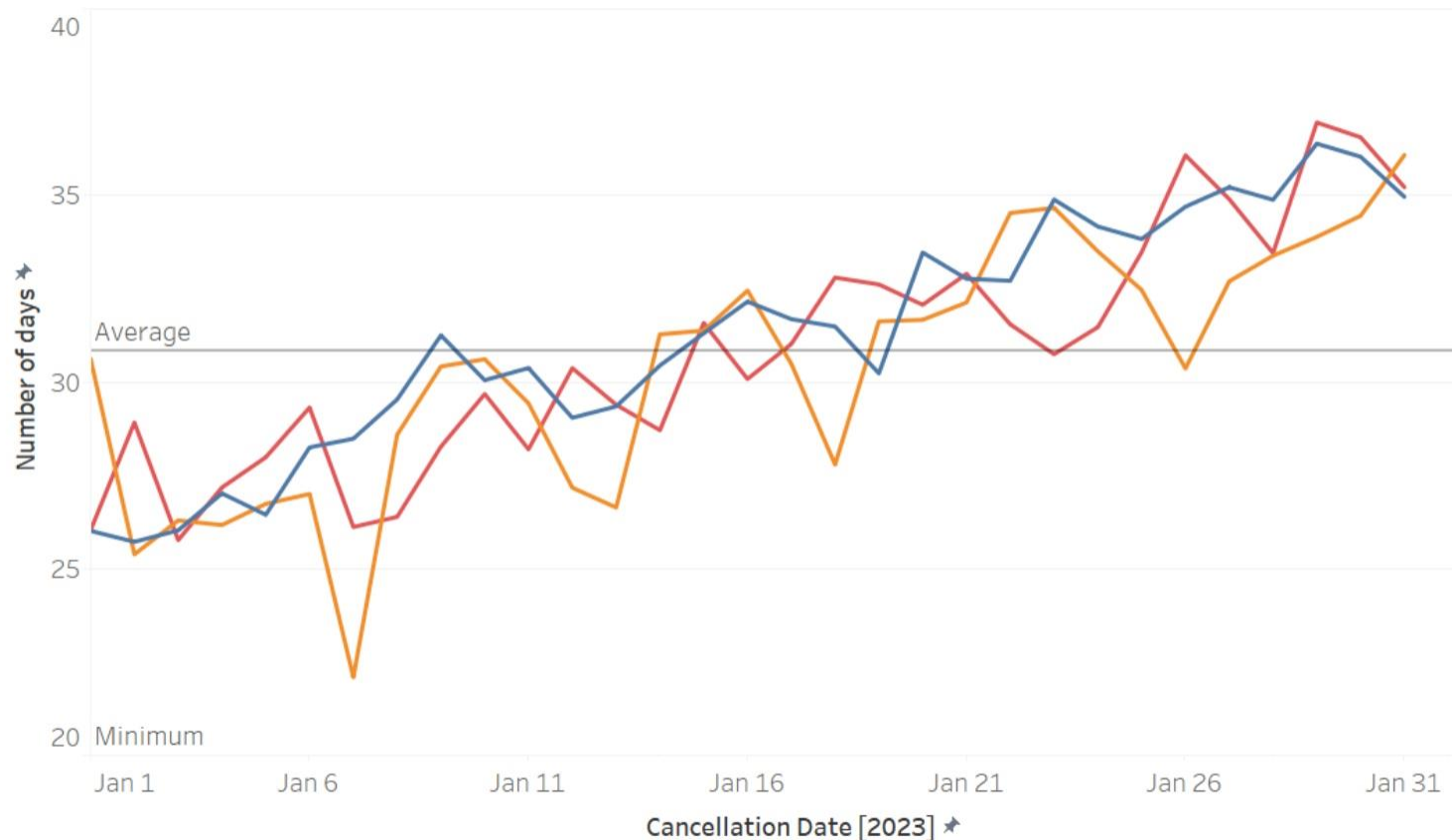
Call Success Rate **(58%)**

Email Success Rate **(39%)**

Control Group Success Rate **(19%)**

ANALYSIS OUTCOME

	Initiative Type		
	CALL	CONTROL	EMAIL
Total number of customers	1,684	1,622	1,694
Reactivated Customers	974	303	663
Reactivation success rate	58	19	39

- Customer count for each initiative method.

- Reactivated customers under each initiative

Statistical Significance

The **chi-square test** showed a strong correlation between the **initiative method** used and the **success rate** achieved.

Specifically, the call method was found to be the most effective at driving reactivation success.

Chi Square Result

```
Chi-Square Statistic: 533.6355724231876
P-value: 1.325890853412438e-116
Degrees of Freedom: 2
A potential association between reactivation initiative and success.
```

- **High Chi - Square Statistic** value indicates a strong relationship between initiative measures and Reactivated customers.

- **Categorical Variables** - initiative method, Reactivated customers.

- Extremely **low p - value** proves that the variables are independent.

Calculating ROI

Costs of Customer Programs

Detail the costs of implementing these initiative measures.

Value of Retained Customers

Analyze historical customer data to quantify the lifetime value of retained customers.

Costs of Acquiring Customers

Research and detail the costs of acquiring customers through marketing, promotions, sales team etc.

Expected Incremental Profit

Estimate the incremental profit expected from retaining customers instead of acquiring new ones.

$$ROI = ((Revenue\,from\,Reactivated\,Customers - Cost\,of\,Reactivation\,Initiatives)/Cost\,of\,Reactivation\,Initiatives) * 100$$

- Exact revenue per customer who reactivates.

- Initiative costs - Cost per mail, Cost per call.

- Other costs related to campaign.

Improving Experiment

Increase sample size
Using a larger sample size reduces sampling error and increases the statistical power of the experiment.

Extend evaluation period
A longer evaluation period captures long-term effects and reduces variability.

Randomize groups
Random assignment evenly distributes factors and allows for valid conclusions.

These methods will improve the reliability and validity of the experiment.

Identifying Fake Data

1

Records
distributed
evenly

2

Records where
cancellation date
precedes
appointment
date

3

Customer
booking an
appointment
data before
reactivation

Key Takeaways

Call reactivation is most effective

The data analysis showed that reactivating calls is the most effective tactic for increasing conversions.

Differences are statistically significant

The lift in conversions from call reactivation compared to other tactics is statistically significant based on hypothesis testing.

Focus marketing budget on call reactivation

Marketers should allocate the largest portion of budget to call reactivation campaigns due to the significant impact shown.

Test call reactivation across other segments

Additional testing of call reactivation should be done for other customer segments to validate broader impact.

Thank You