

FUTURENSE

ANALYZING FUTURENSE US PATHWAY

Analysis by Revanth Kumar Golagani



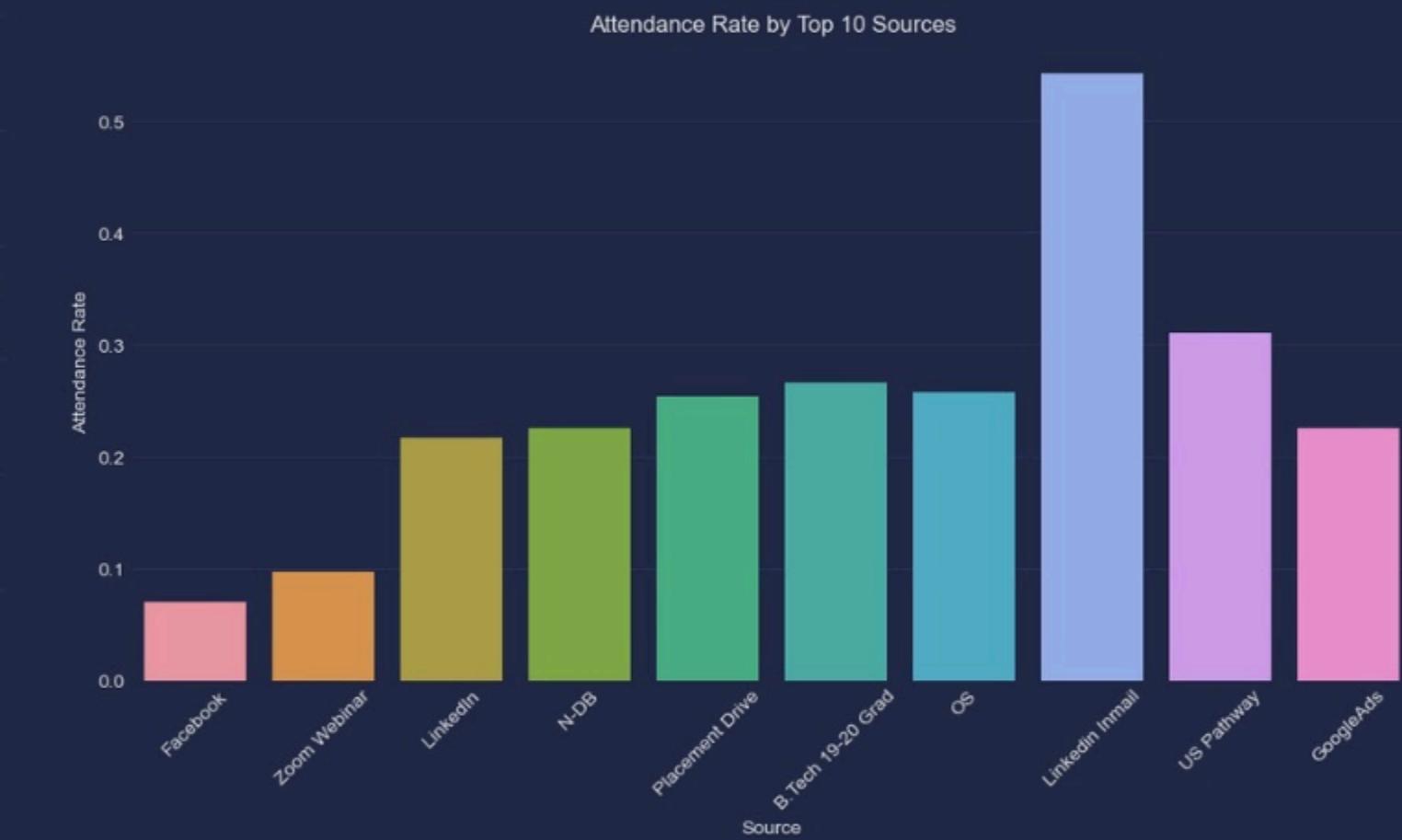
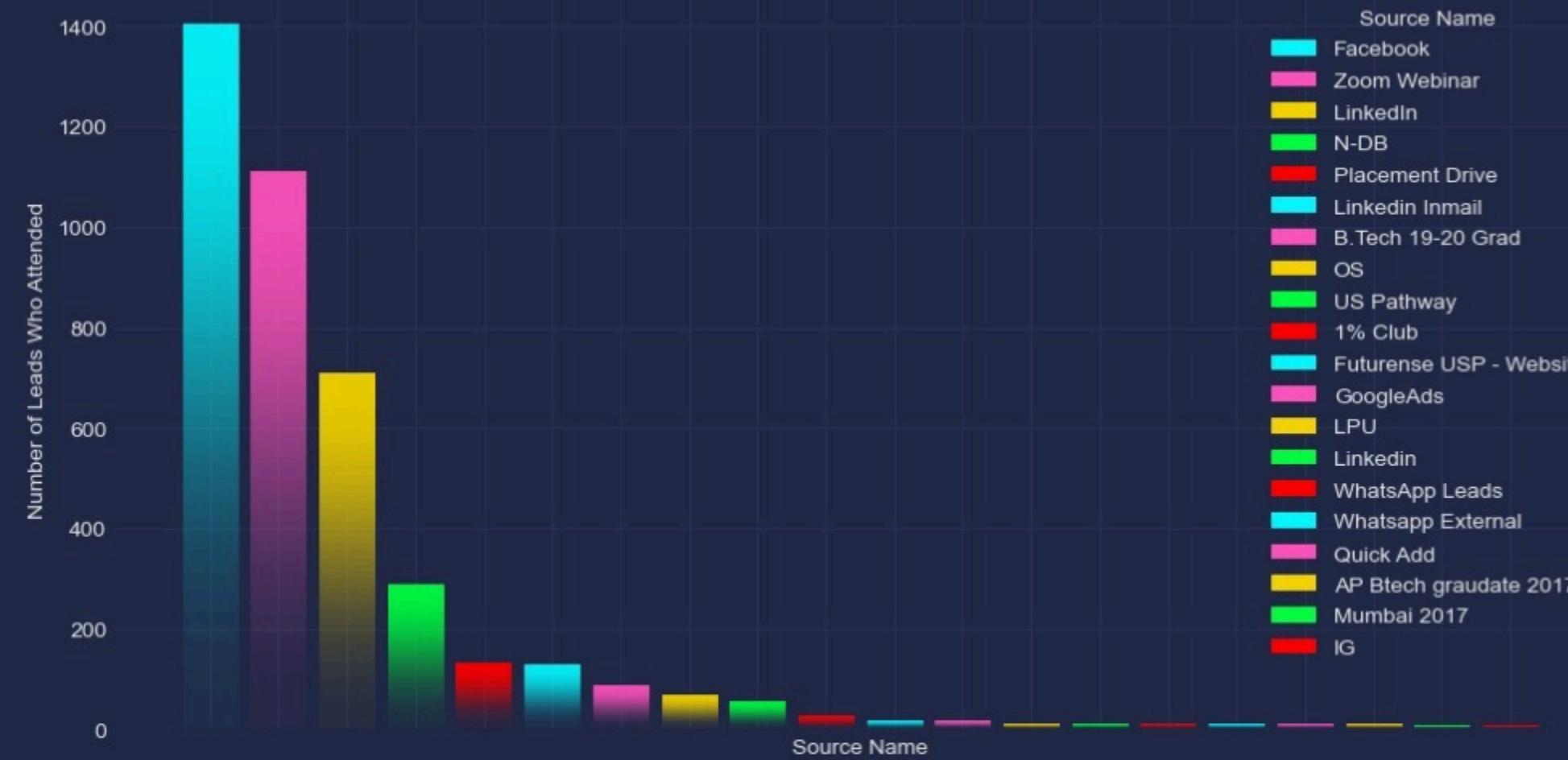
TOKENS PAID

VARIOUS SOURCES



WEBINAR LEADS

Identifying the best original sources

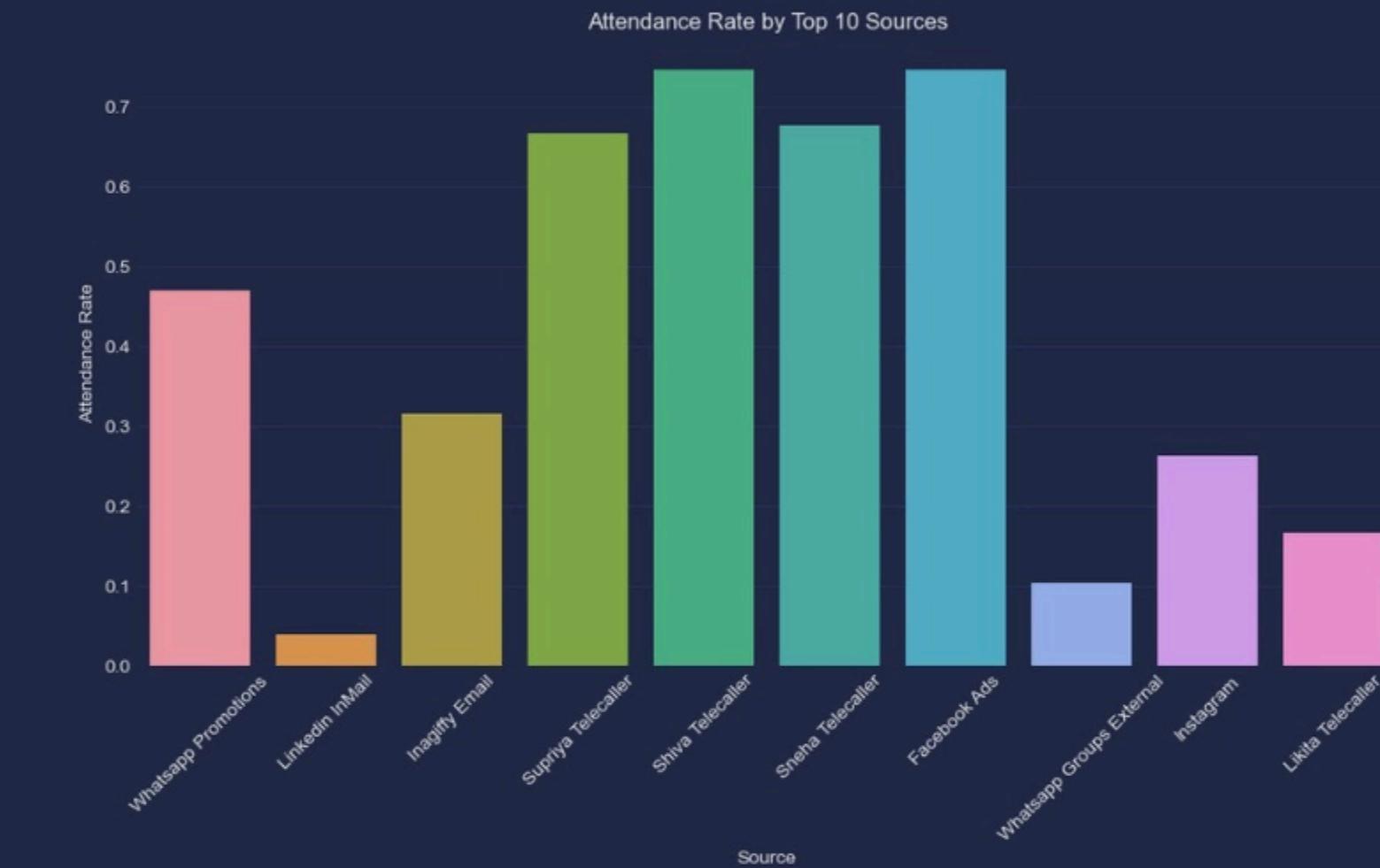
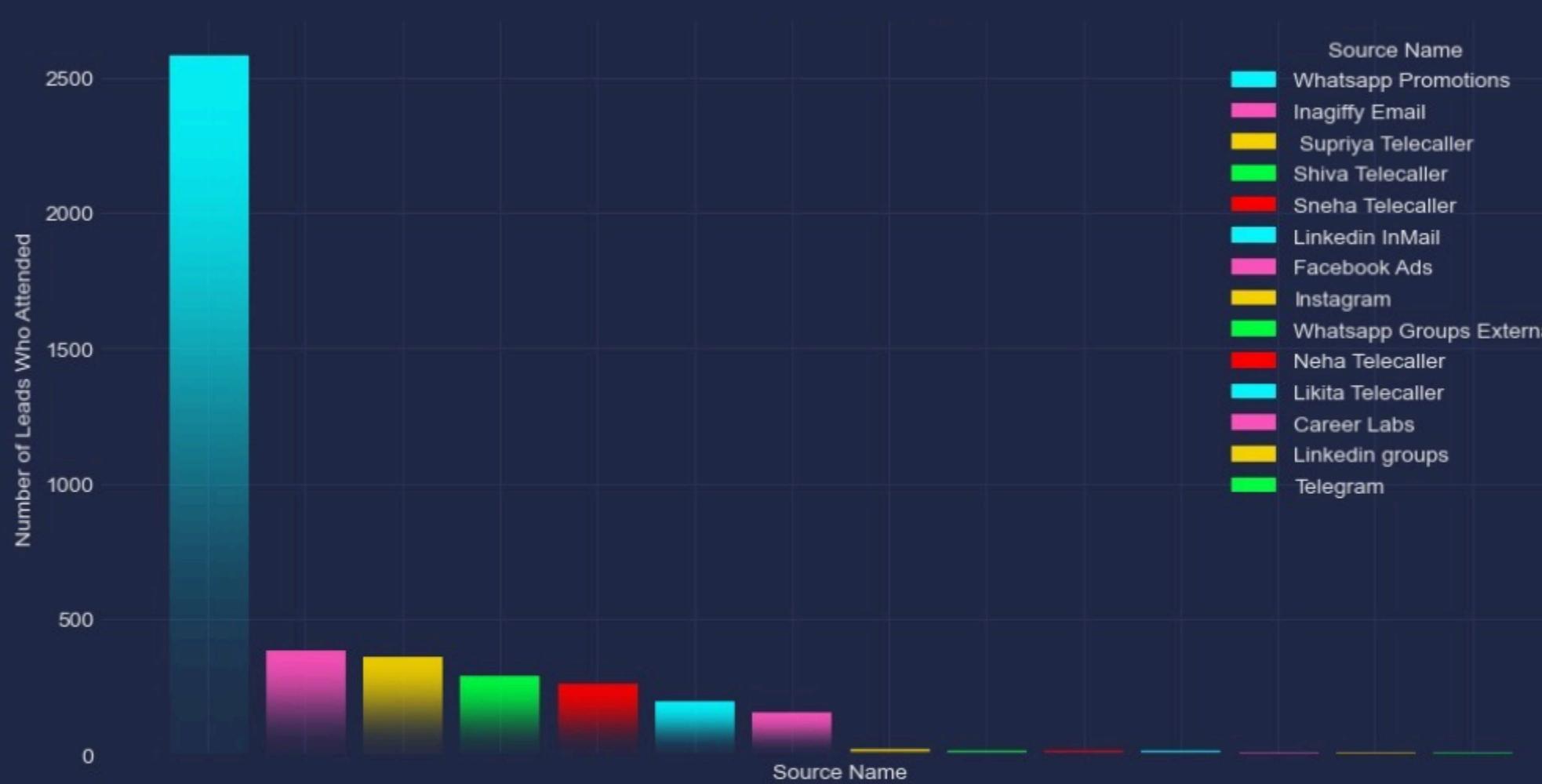


We counted the number of leads who **actually attended the webinars** over the sources which promoted the campaigns

- We can see here that Facebook, Zoom Webinars and LinkedIn brought us the most leads who attended our campaigns
- But, the success rate remains highest with LinkedIn Inmail

WEBINAR LEADS

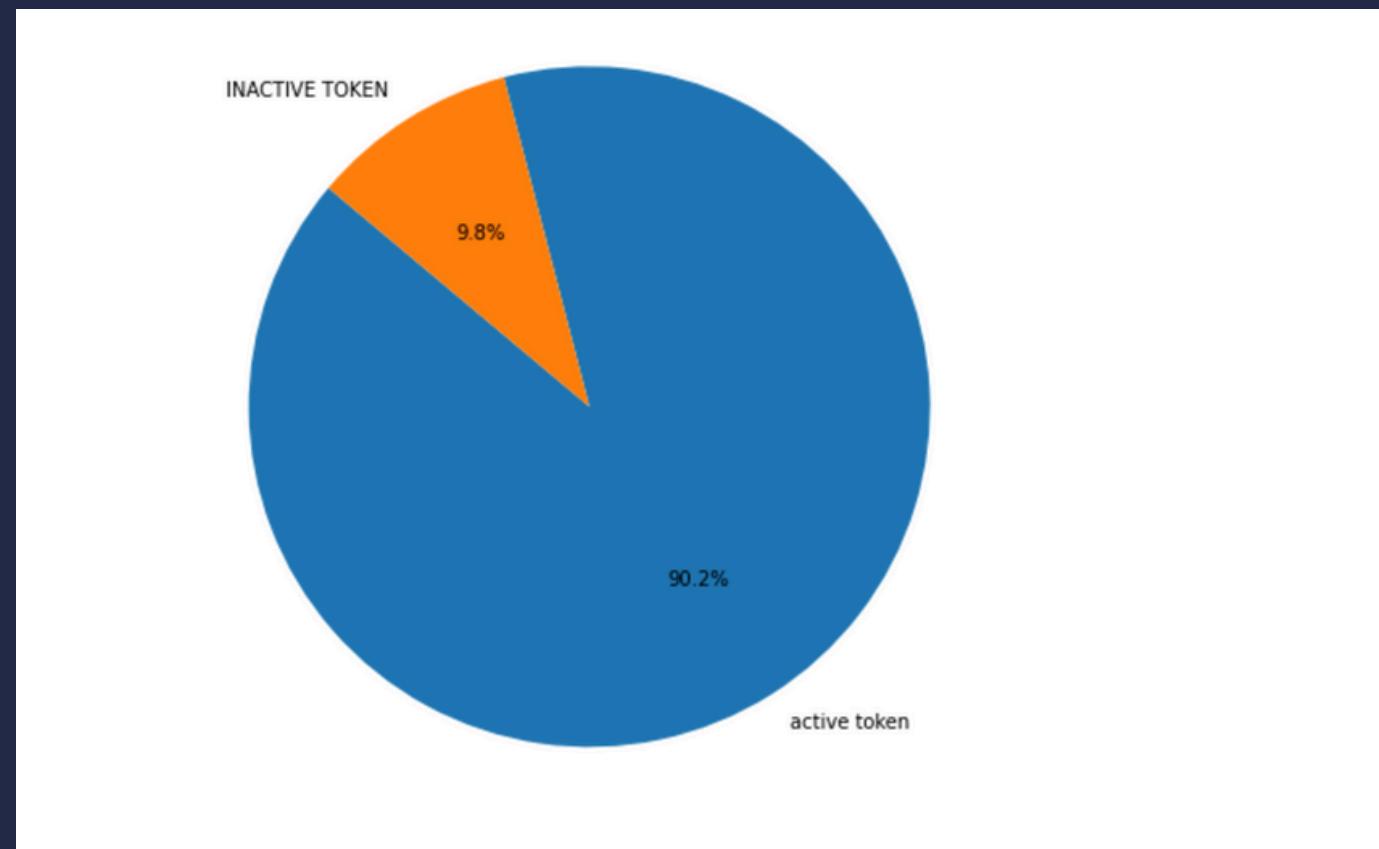
Identifying the best promoting sources



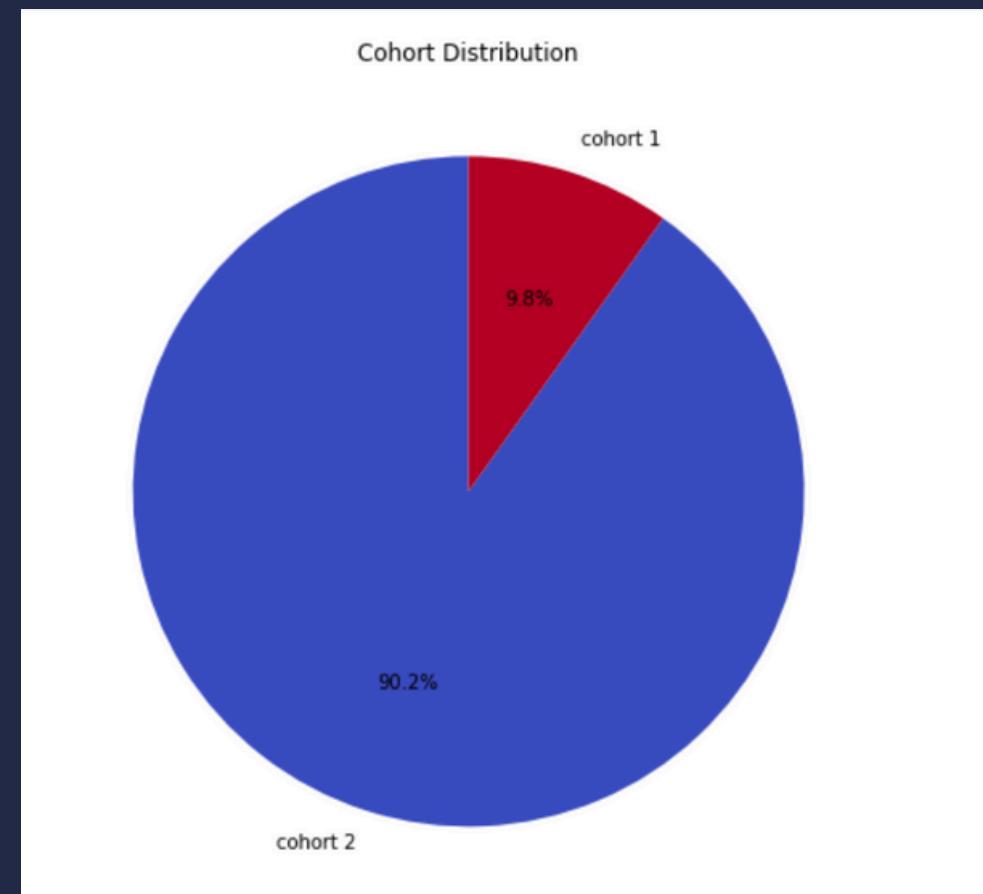
We counted the number of leads who **actually attended the webinars** over the sources which promoted the campaigns

- We can clearly see that, Whatsapp promotions (sources) are an high by a huge margin,
- But on the other side, it didn't have a high attendance rate, meaning, not everyone who saw it on a whatsapp message attended the webinar.
- Most of them who attended the webinar, got calls from the Telecallers, thus, indicating a better success rate here.

STATUS & COHORTS OF TOKENS



STAUS OF TOKENS

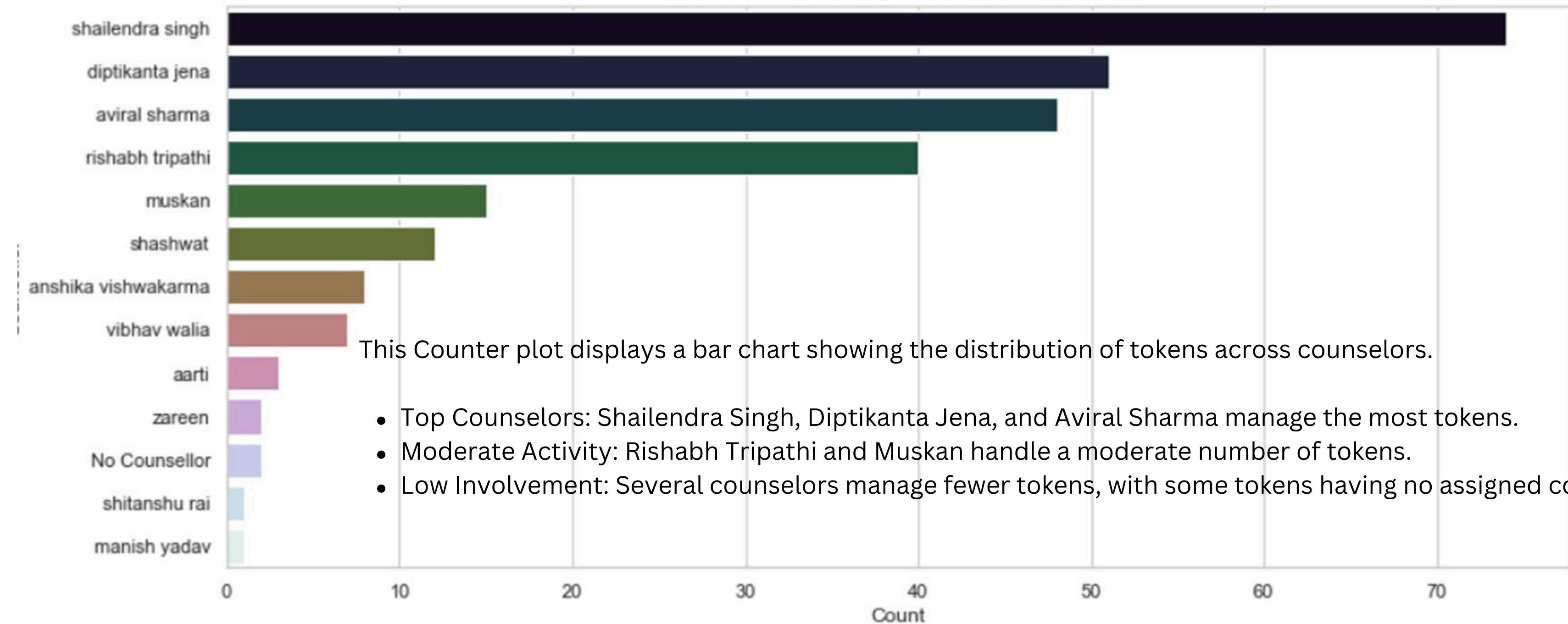


COHORTS OF TOKENS

A LOOK AT OUR COUNSELLORS

TOKENS PAID

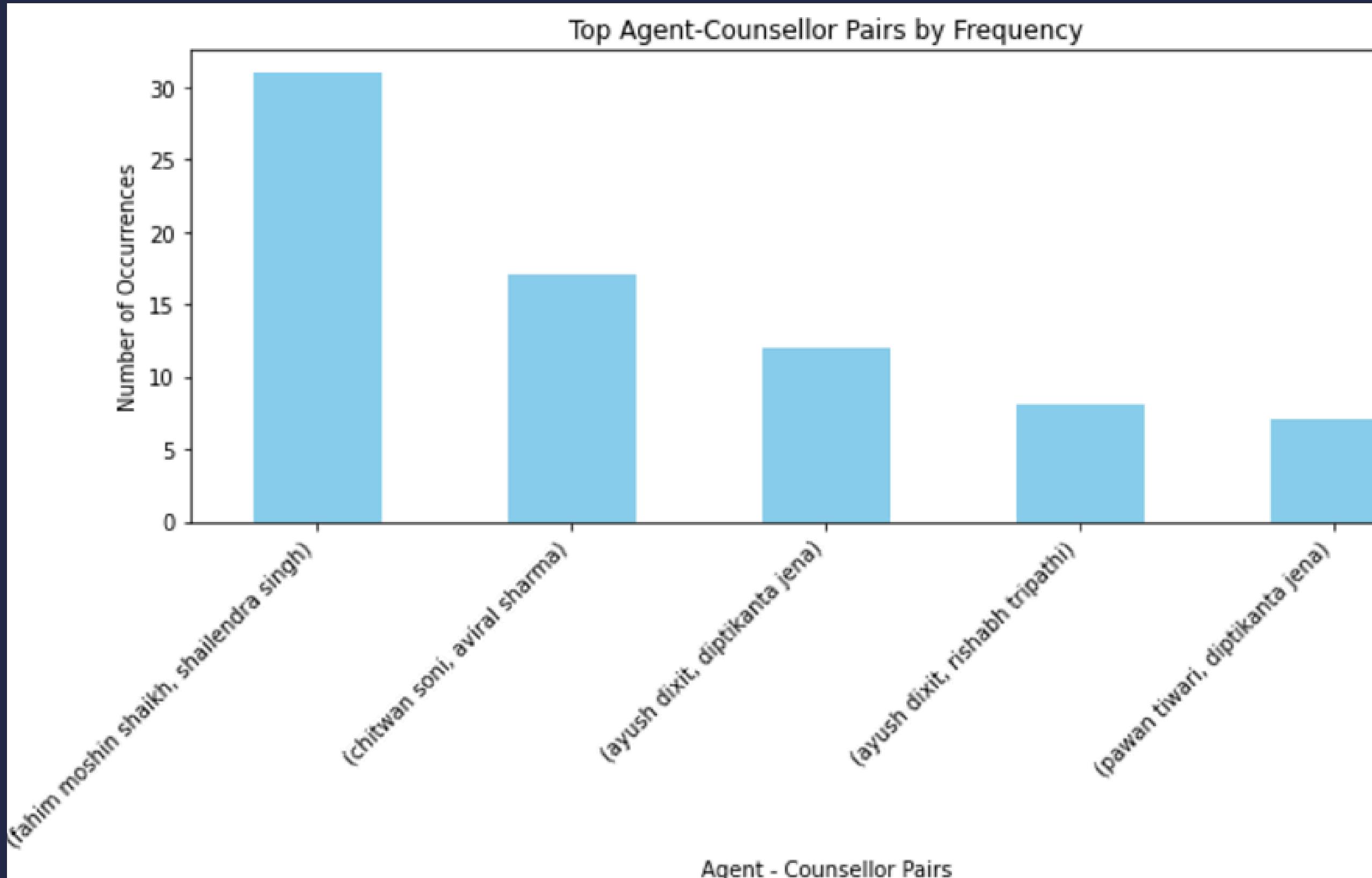
Breakdown of Tokens by Counsellor (With Lead ID)



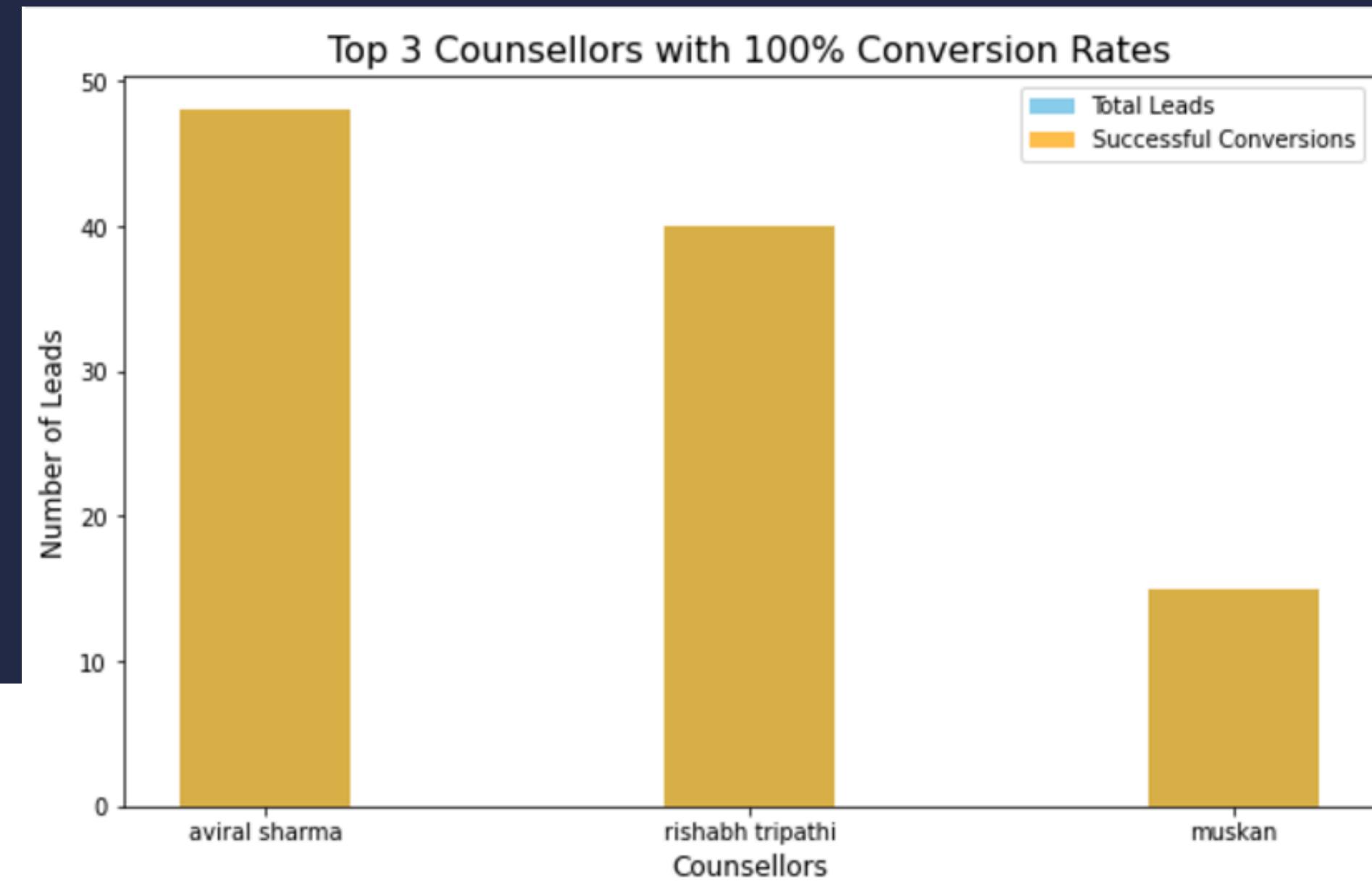
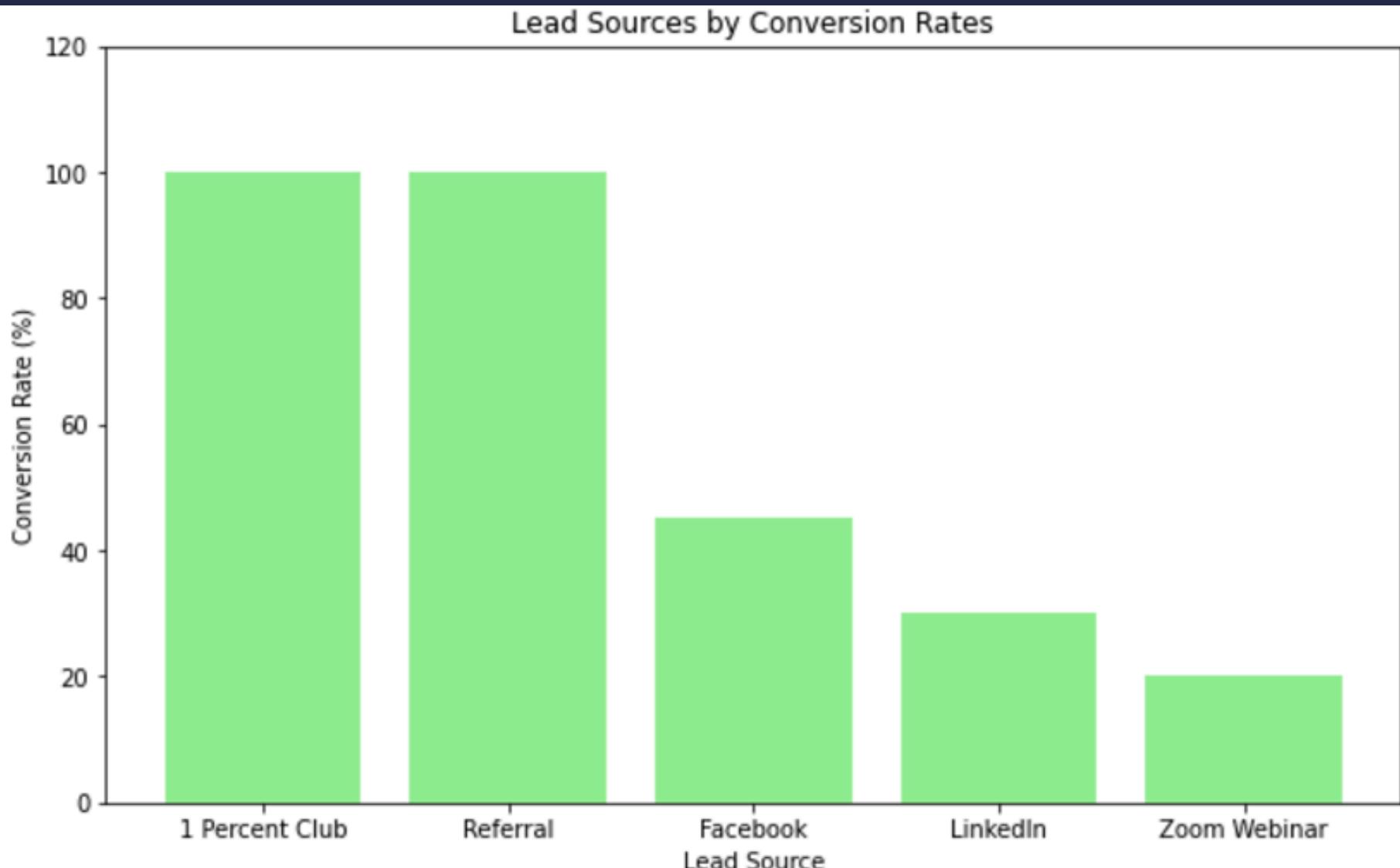
A LOOK AT OUR AGENTS



A LOOK AT OUR AGENTS & COUNSELLORS DUO

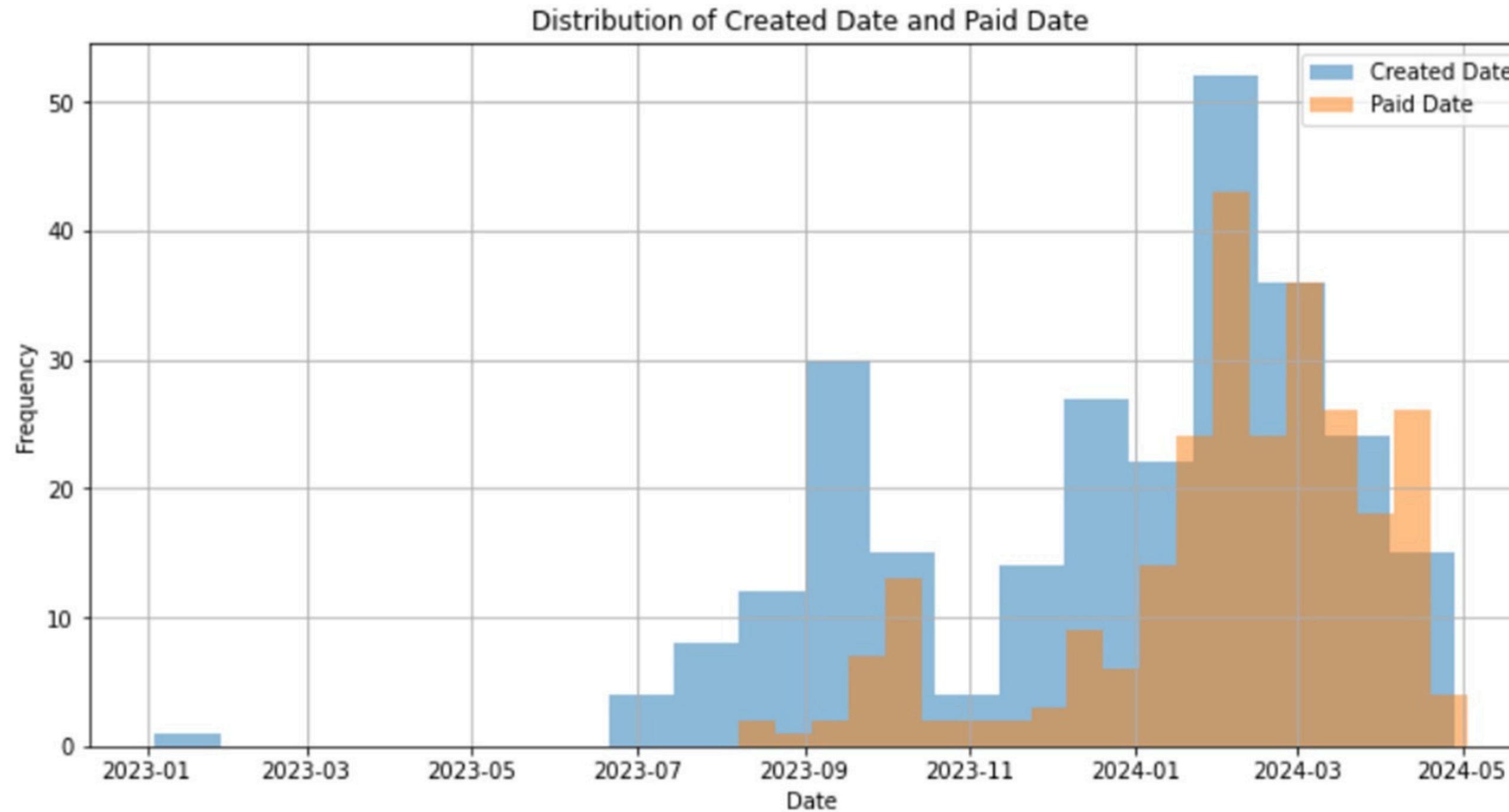


100 % CONVERSIONS



Sources with 100% conversions and counsellors with 100% conversion rates which are our profitable investments and our best counsellors

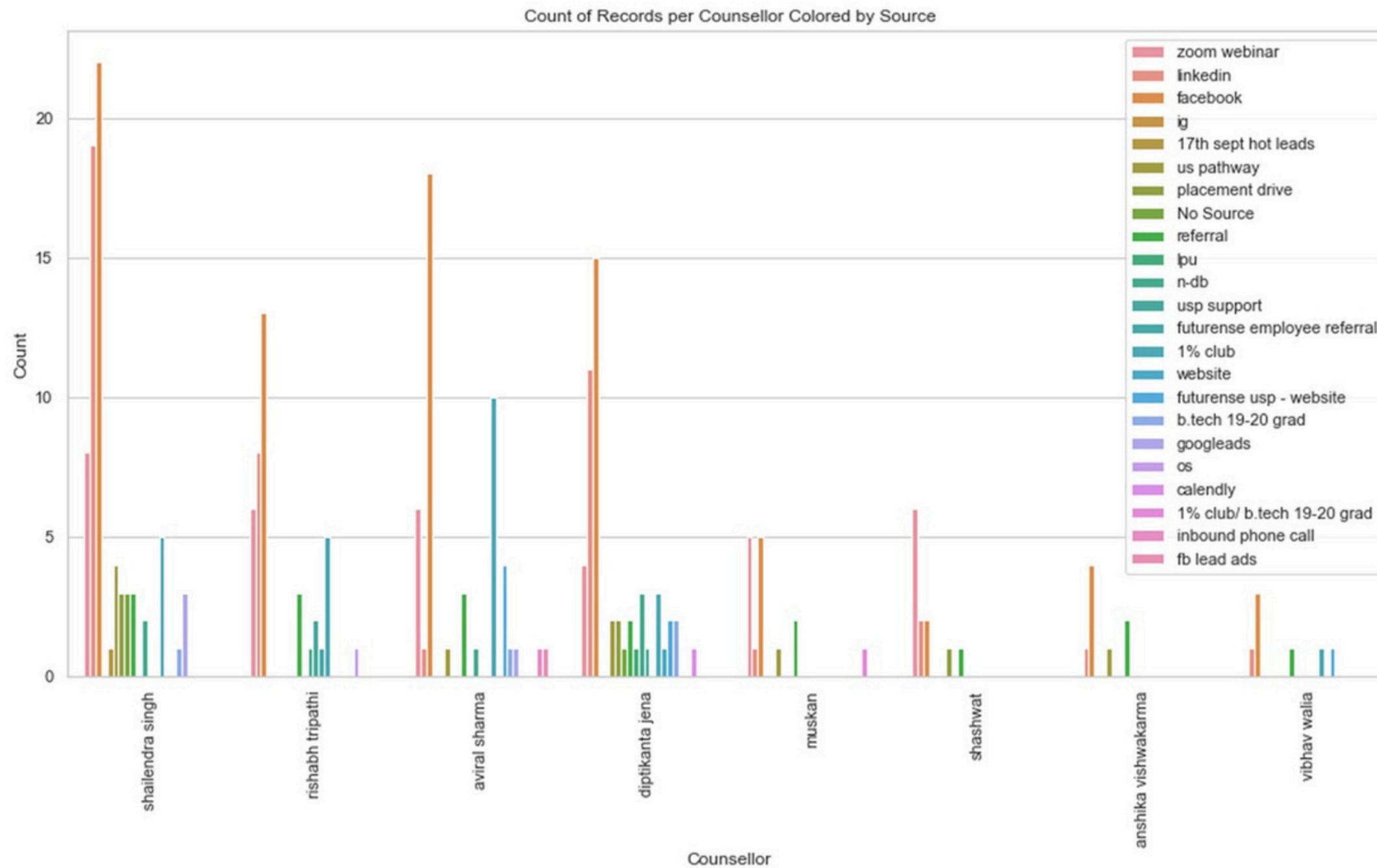
CREATED VS PAID



It compares the frequency of records by their creation and paid dates.

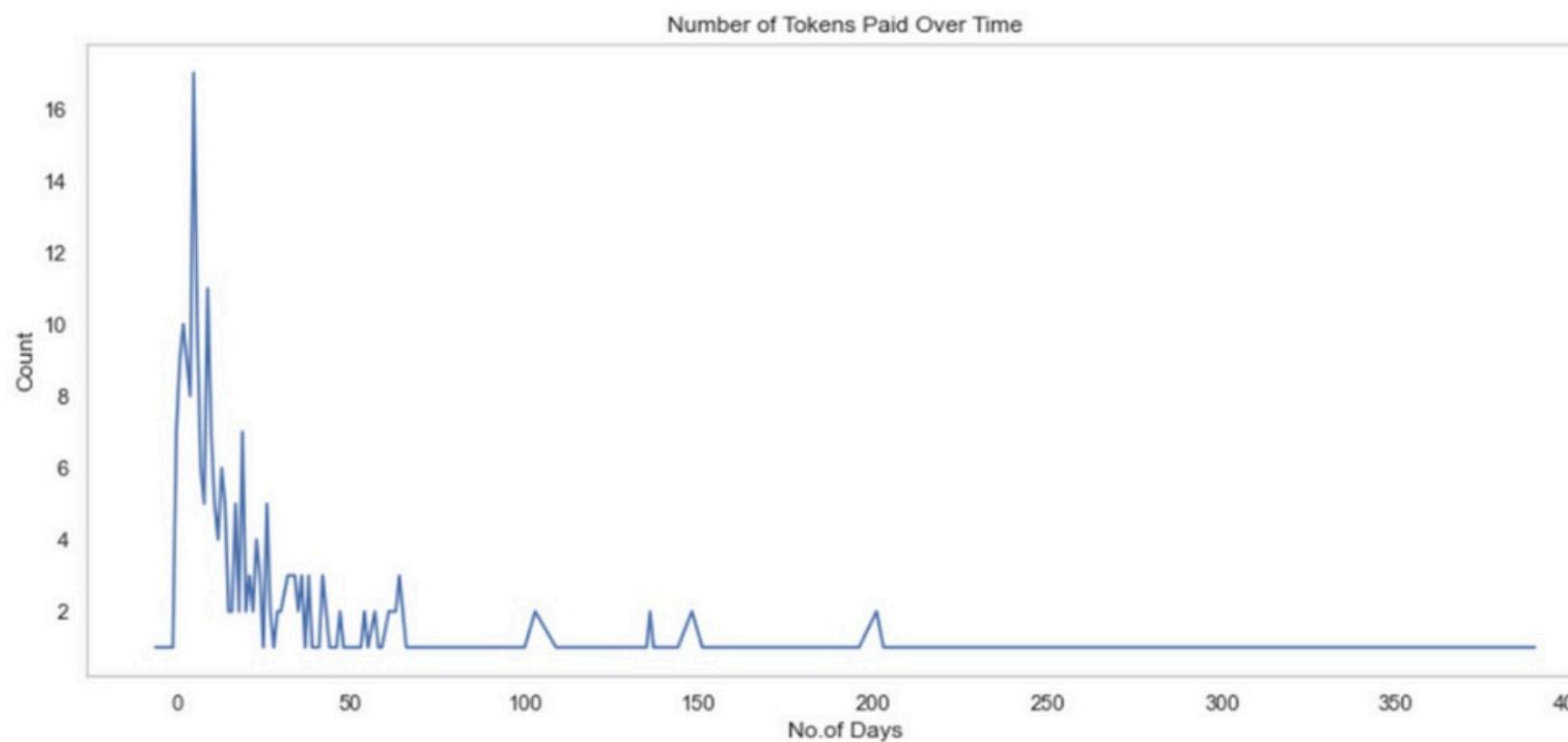
- Blue bars indicate record creation, with a sharp rise in early 2024.
- Orange bars represent paid dates, showing a slight lag behind creation dates.
- Peaks in January to March 2024 suggest a seasonal surge in both creation and payment activity.

COUNSELLOR ENGAGEMENT



- The bar chart visualizes the distribution of leads handled by each counsellor, categorized by different lead sources. It highlights which counsellors are engaging the most and identifies the top-performing sources of leads.
- Counsellor Performance: Shailendra Singh and Avnraj Sharma handle the most leads, with Facebook being a major contributor.
- Source Effectiveness: Facebook is the dominant source, with Zoom webinars and LinkedIn also contributing notably.

TOKEN DISTRIBUTION DYNAMICS

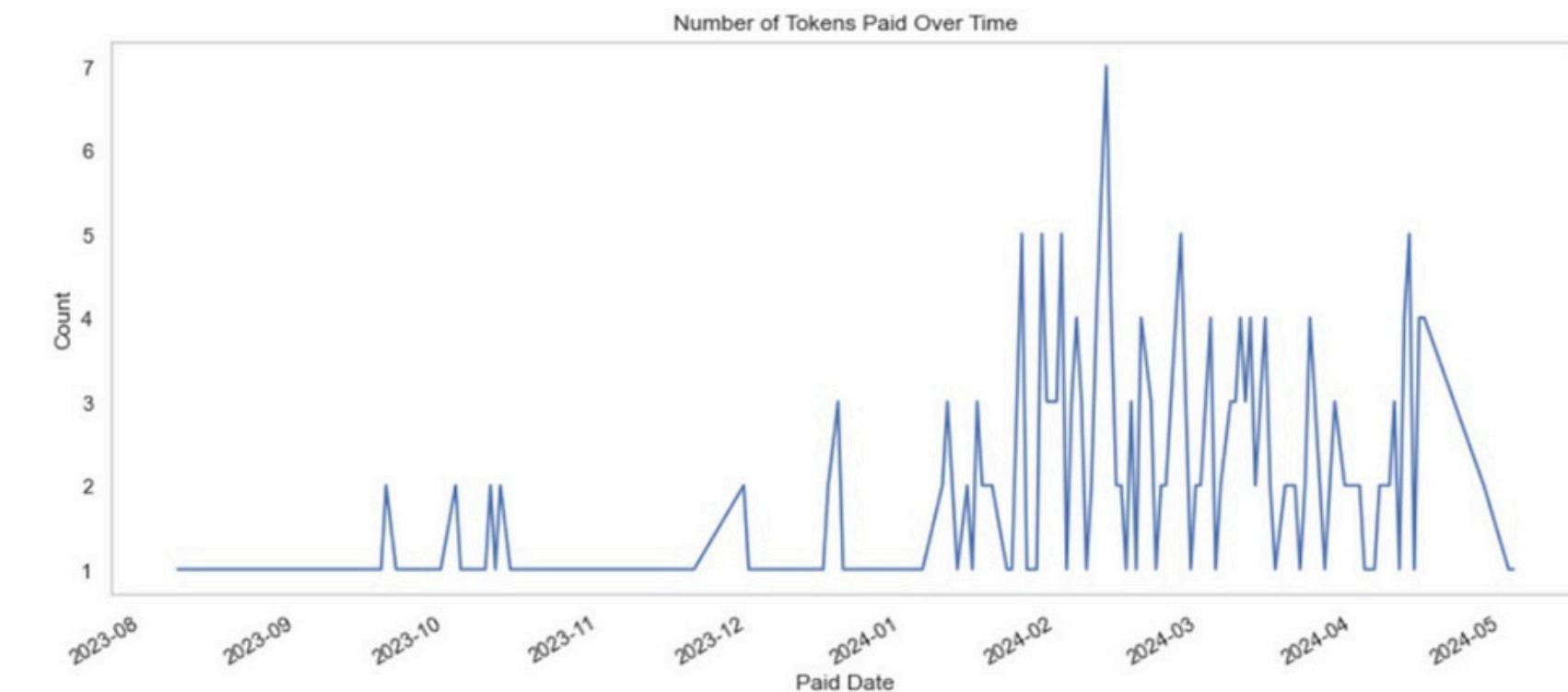


This line chart visualizes the time difference between record creation and payment, showing how quickly tokens are paid over time.

- A significant spike in payments occurs within the first 50 days after record creation, with a steep decline afterward.
- Delays beyond this period are rare, indicating that most payments happen promptly.
- This insight suggests opportunities for process improvements to reduce occasional long delays and enhance efficiency.

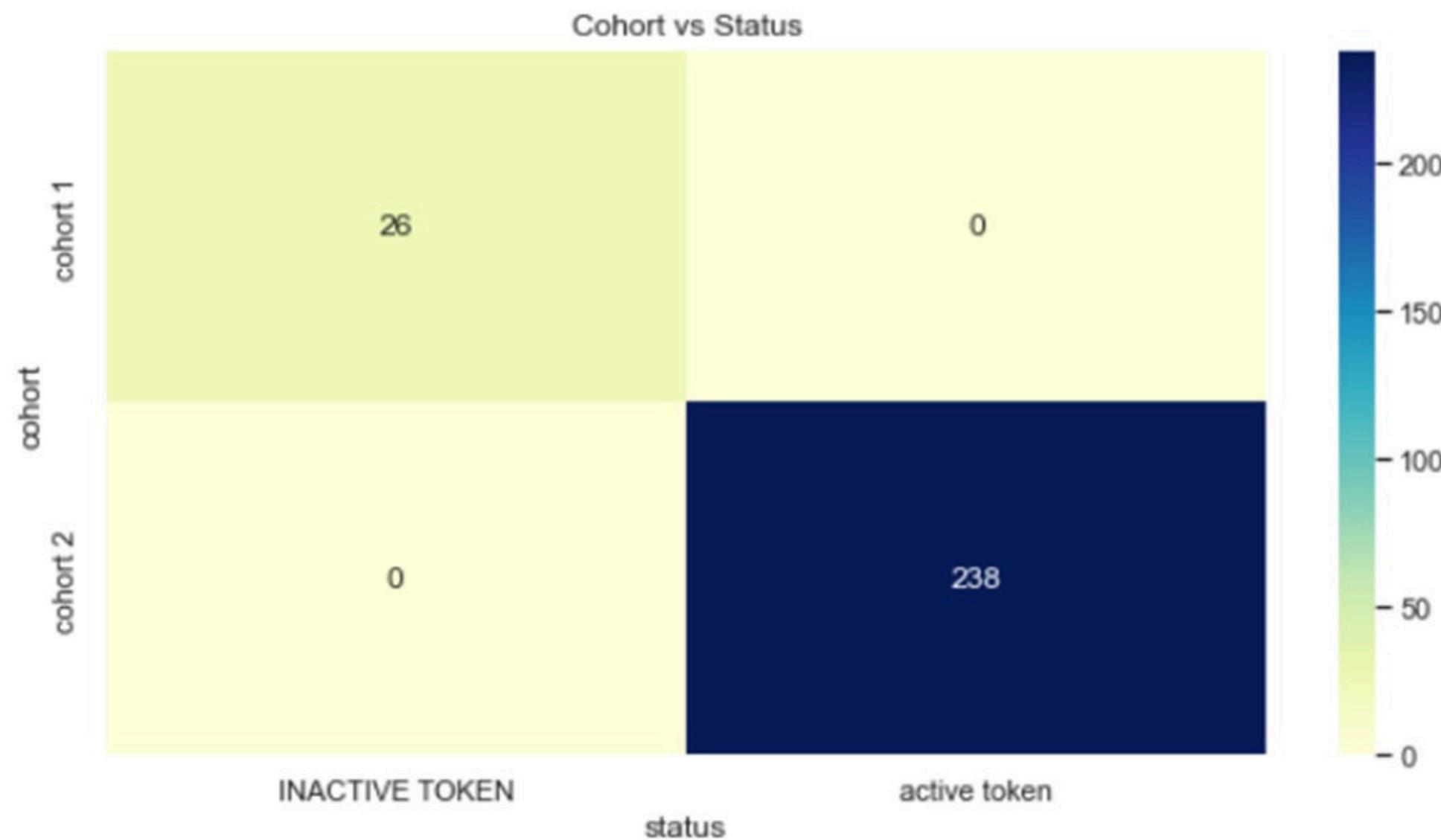
This line chart illustrates token payments over time, from mid-2023 to mid-2024, providing a trend analysis of payment activity.

- Payment activity is irregular until late 2023, becoming more consistent and peaking in early 2024.
- The highest payment volume occurred between February and April 2024, marking a particularly active transaction period.
- Analyzing these trends helps predict future payment cycles and prepares for potential surges in activity.



MAPPING THE CONNECTION

Chi-square: 252.8570400662875, p-value: 6.188608944220951e-57



This heatmap presents a Chi-square test comparing "Token Status" (active vs. inactive) across two cohorts, visualized as a heatmap. The Chi-square statistic and p-value are provided to show the association between cohort and token status.

- Chi-Square Statistic: 252.857, indicating a strong association between cohort and token status.
- P-Value: 6.19e-57, suggesting the association is statistically significant, with virtually no chance of being random.
- Contingency Table:
 - Cohort 1: 26 inactive, 0 active tokens.
 - Cohort 2: 0 inactive, 238 active tokens.

KEY TAKE AWAYS

oShilender Singh's Exceptional Performance: Shilender Singh has proven to be not just a top performer but a pivotal force in driving success across multiple fronts. His unparalleled ability to convert tokens is matched by his leadership skills. In the phone metrics category, Shilender led his squad to outperform every other group, demonstrating his exceptional capability as a team leader. Additionally, Shilender played a key role in the high-volume student campaign, where his counseling skills directly impacted the large influx of leads. His influence spans both strategy and execution, solidifying his position as the top agent.

1 Percent Club and Referrals - The Gold Standard for Quality Leads:

When we look at the sources of our leads, the 1 Percent Club and Referrals have emerged as the true gold standards. With a 100% active rate, these sources are consistently delivering high-quality leads that are guaranteed to convert. This consistency highlights the strength of our referral network and the effectiveness of our premium clubs in attracting serious, conversion-ready prospects.

The Ultimate Duo: Fahim Moshin & Shilender Singh:

In the realm of collaboration, the dynamic duo of Fahim Moshin and Shilender Singh has proven to be an unstoppable force. Their combined efforts have led to exceptional results, positioning them as the highest-performing agent-counsellor pair. Fahim's sales acumen, paired with Shilender's strategic guidance, has created a partnership that excels in converting leads and ensuring a seamless client experience.

BUDGET OPTIMIZATION MODEL

Our Budget Optimization Model aims at allocating a total budget across various campaigns in a way that maximizes the ROAS.

We use a Random Forest Regressor, for his.

We hypertuned its parameters to optimize the outcomes using Optuna. The optimal budget function calculates the optimal budget allocation for each campaign based on the predicted ROAS.

$$\text{optimal budgets} = (\text{total roas} / \text{predicted roas}) \times \text{total budget}$$

```
rf = RandomForestRegressor(random_state=42)
```

```
import optuna
from sklearn.model_selection import cross_val_score
from sklearn.ensemble import RandomForestRegressor
import numpy as np

def objective(trial):
    rf_params = {
        'n_estimators': trial.suggest_int('n_estimators', 50, 200),
        'max_depth': trial.suggest_int('max_depth', 5, 30),
        'min_samples_split': trial.suggest_int('min_samples_split', 2, 8),
        'min_samples_leaf': trial.suggest_int('min_samples_leaf', 1, 4),
        'max_features': trial.suggest_categorical('max_features', ['auto', 'sqrt'])
    }
    rf = RandomForestRegressor(**rf_params, random_state=42, n_jobs=-1)

    X_sample, y_sample = X_train[:1000], y_train[:1000]

    return -np.mean(cross_val_score(rf, X_sample, y_sample, cv=3, scoring='neg_mean_absolute_error', n_jobs=-1))

study = optuna.create_study(direction='minimize')
study.optimize(objective, n_trials=30, timeout=300)
best_params = study.best_params
best_model = RandomForestRegressor(**best_params, random_state=42, n_jobs=-1)
best_model.fit(X_train, y_train)

print("Best parameters:", best_params)
print("Best score:", -study.best_value)
```

```

def optimize_budget(df, model, total_budget, min_budget_per_campaign=100):

    X_pred = df[features]
    X_pred_scaled = scaler.transform(X_pred)

    predicted_roas = model.predict(X_pred_scaled)

    total_roas = predicted_roas.sum()
    optimal_budgets = (predicted_roas / total_roas) * total_budget

    while np.any(optimal_budgets < min_budget_per_campaign):
        mask = optimal_budgets < min_budget_per_campaign
        excess = np.sum(optimal_budgets[mask] - min_budget_per_campaign)
        optimal_budgets[mask] = min_budget_per_campaign
        optimal_budgets[~mask] -= excess / np.sum(~mask)

    return optimal_budgets

```

```

total_budget = data['total_spent'].sum() # Use the same total budget as before
optimal_budgets = optimize_budget(df_encoded, best_model, total_budget)

data['optimal_budget'] = optimal_budgets

```

We can use this model for the following reasons:

- Maximize ROI
- Improve Campaign Performance
- Minimize Waste

Thus we have hosted our Budget Allocation Prediction Model

Top 10 Campaigns by Optimal Budget:

campaign_name	
usp_study_abroad_generic_240224	2.540618e+06
usp_video_more_volume_no_logic_india_new_link	1.395916e+06
cbo - usp_masterclass_cold [23rd nov] - higher intent - no logic new- india	1.392348e+06
usp_masterclass_cold [31st oct] - higher intent - no logic	1.346710e+06
usp_2_lead-gen-1_220124	1.085181e+06
usp_ms + coop_campaign_240224	8.638539e+05
usp_coop-drexel_more_volume_no_logic_india_240124	8.315446e+05
usp_masterclass_cold [31st oct] - more volume - no logic	8.006338e+05
cbo - usp_masterclass_cold [15th dec] - more volume - no logic - india â- new link	7.567189e+05
usp_program_lead-gen_2_generic_140223	5.482460e+05

Name: optimal_budget, dtype: float64

THANK YOU





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Studying B. Tech in Computer Science Engineering
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