HealthKart Influencer Campaign Dashboard

Introduction:

This project aims to build a dashboard for HealthKart to analyze the performance of influencer marketing campaigns. The dashboard helps track campaign results, calculate ROAS, and gain insights about top-performing influencers. Using simulated data for influencers, posts, orders, and payouts, the tool provides a clear overview of campaign effectiveness to support better business decisions.

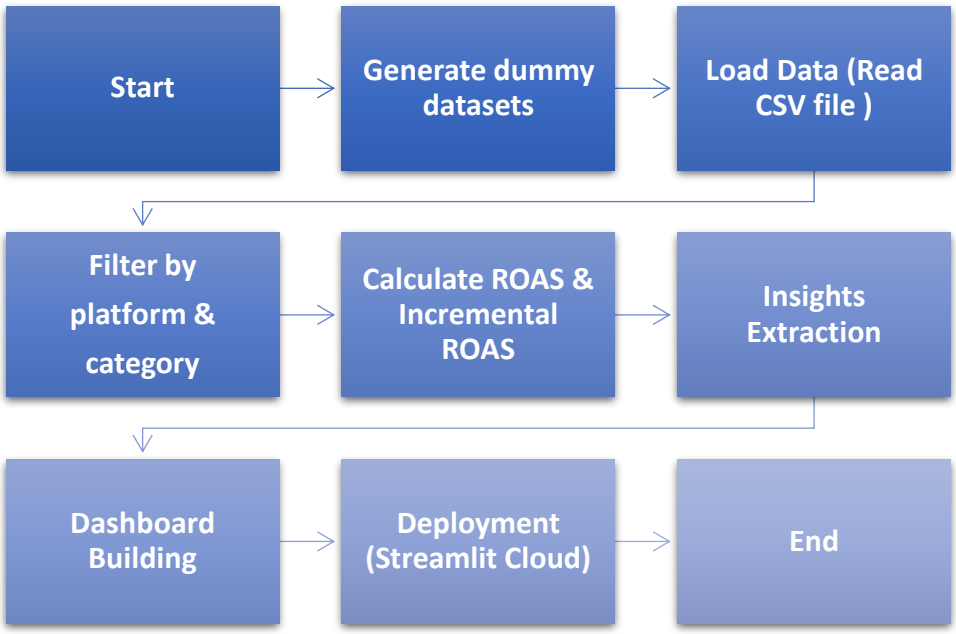
Techniques Used:

1) **Data Simulation:** Generated realistic dummy data using Python (Faker, Pandas).
2) **Data Analysis:** Grouping, aggregations, and ROAS calculations.
3) **Data Visualization:** Interactive tables and charts with Streamlit and Plotly.

Tools & Technologies:

1) **Programming Language:** Python
2) **Libraries:** Pandas, NumPy, Faker, Plotly, Streamlit
3) **IDE:** VS Code
4) **Dashboard:** Streamlit
5) **Export:** PDF for insights summary

Implementation Summary (Work Flow):



Data Simulation:

Created datasets for influencers, posts, tracking data, and payouts with random values.

```python
# 1. Influencers data
influencers = []
platforms = ['Instagram', 'YouTube', 'Twitter']
categories = ['Fitness', 'Nutrition', 'Lifestyle']

for i in range(1, 21):
    influencers.append({
        'ID': i,
        'name': fake.name(),
        'category': random.choice(categories),
        'gender': random.choice(['Male', 'Female']),
        'follower_count': random.randint(5000, 100000),
        'platform': random.choice(platforms)
    })

df_influencers = pd.DataFrame(influencers)
df_influencers.to_csv('influencers.csv', index=False)
```

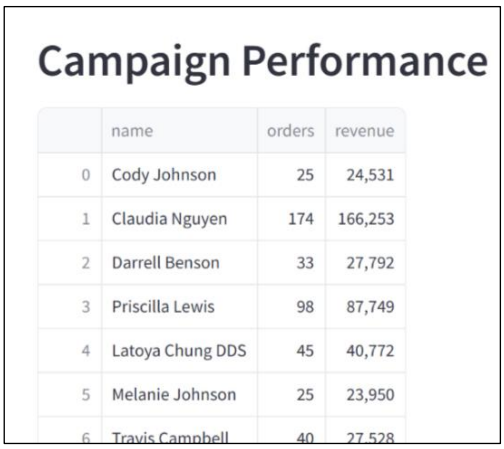
```python
# 2. Posts data
posts = []
for i in range(1, 51):
    influencer_id = random.randint(1, 20)
    posts.append({
        'influencer_id': influencer_id,
        'platform': random.choice(platforms),
        'date': fake.date_between('-60d', 'today'),
        'URL': fake.url(),
        'caption': fake.sentence(),
        'reach': random.randint(1000, 50000),
        'likes': random.randint(100, 10000),
        'comments': random.randint(5, 500)
    })

df_posts = pd.DataFrame(posts)
df_posts.to_csv('posts.csv', index=False)
```

```python
# 3. Tracking data
tracking = []
products = ['Protein Powder', 'Multivitamin', 'Gainer'

for i in range(1, 101):
    influencer_id = random.randint(1, 20)
    orders = random.randint(0, 30)
    revenue = orders * random.randint(500, 1500)
    tracking.append({
        'source': 'influencer_campaign',
        'campaign': 'July_Campaign',
        'influencer_id': influencer_id,
        'user_id': fake.uuid4(),
        'product': random.choice(products),
        'date': fake.date_between('-60d', 'today'),
        'orders': orders,
        'revenue': revenue
    })

df_tracking = pd.DataFrame(tracking)
df_tracking.to_csv('tracking_data.csv', index=False)
```

```python
# 4. Payouts data
payouts = []
for influencer_id in df_influencers['ID']:
    basis = random.choice(['post', 'order'])
    rate = random.randint(1000, 5000) if basis == 'post' else random.randint(100, 500)
    orders = random.randint(0, 30) if basis == 'order' else None
    total_payout = rate * orders if basis == 'order' else rate
    payouts.append({
        'influencer_id': influencer_id,
        'basis': basis,
        'rate': rate,
        'orders': orders,
        'total_payout': total_payout
    })

df_payouts = pd.DataFrame(payouts)
df_payouts.to_csv('payouts.csv', index=False)
```

Dashboard Features:

1) Campaign performance summary



Campaign Performance

	name	orders	revenue
0	Cody Johnson	25	24,531
1	Claudia Nguyen	174	166,253
2	Darrell Benson	33	27,792
3	Priscilla Lewis	98	87,749
4	Latoya Chung DDS	45	40,772
5	Melanie Johnson	25	23,950
6	Travis Campbell	40	27,528

2) ROAS and incremental ROAS calculations

```python
def calculate_roas(revenue, cost):
    if cost == 0:
        return np.nan
    return revenue / cost

def calculate_incremental_roas(campaign_revenue, baseline_revenue, cost):
    incremental_revenue = campaign_revenue - baseline_revenue
    if cost == 0:
        return np.nan
    return incremental_revenue / cost
```

ROAS & Incremental ROAS

	influencer_id	ROAS	Incremental_ROAS
0	1	6.5207	1.3041
1	2	182.295	36.459
2	3	9.1062	1.8212
3	4	8.5078	1.7016
4	5	13.6316	2.7263
5	6	7.1301	1.426

3) Top 3 influencers by ROAS

4) Lowest 3 influencers by ROAS

5) Best persona insights (e.g. male fitness influencers)

6) Payout tracking table

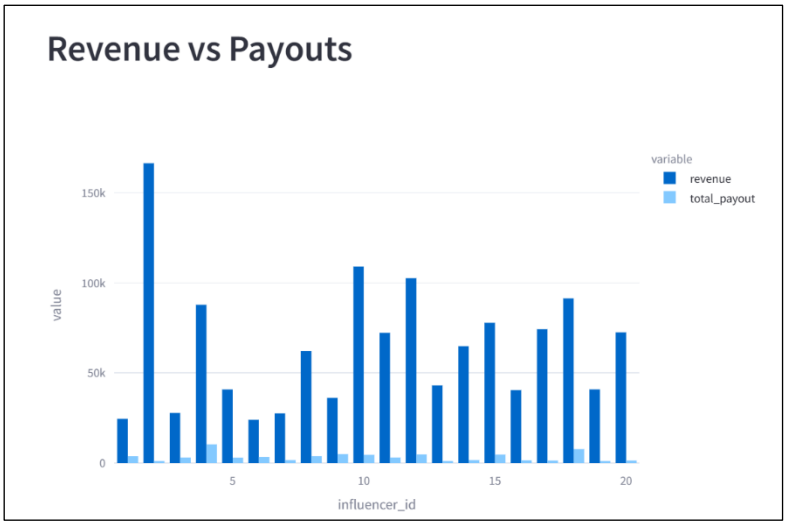
Top Influencers by ROAS

	name	ROAS
0	Claudia Nguyen	182.2950
1	Kevin Cox	52.8902
2	Angela Black	50.8539
3	Courtney Wolf	42.3927
4	Christian Weiss	39.5159

Payout Tracking

	influencer_id	basis	rate	orders	total_payout
0	1	post	3,762	None	3,762
1	2	order	228	4	912
2	3	order	436	7	3,052

7) Revenue vs payout bar chart



8) Data export as CSV (ROI data)

	A	B	C	D	E	F	G
1	influencer_id	orders	revenue	total_payout	ROAS	Incremental_ROAS	
2	1	25	24531	3762	6.520733652	1.30414673	
3	2	174	166253	912	182.2949561	36.45899123	
4	3	33	27792	3052	9.106159895	1.821231979	
5	4	98	87749	10314	8.507756448	1.70155129	
6	5	45	40772	2991	13.63156135	2.72631227	
7	6	25	23950	3359	7.130098244	1.426019649	
8	7	40	27528	1645	16.7343465	3.346869301	
9	8	71	62072	3780	16.42116402	3.284232804	
10	9	51	36146	4966	7.278695127	1.455739025	
11	10	112	108932	4590	23.73246187	4.746492375	
12	11	65	72171	3060	23.58529412	4.717058824	
13	12	117	102483	4799	21.35507397	4.271014795	
14	13	45	43071	1016	42.39271654	8.478543307	
15	14	54	64806	1640	39.51585366	7.903170732	
16	15	98	77788	4718	16.4874947	3.29749894	
17	16	35	40403	1537	26.28692258	5.257384515	
18	17	65	74205	1403	52.89023521	10.57804704	

roi_data

Deployment:

Deploy on **Streamlit Cloud Public Link: https://influencer-dashboard-vwuktmypbancekbkfsfkqx.streamlit.app/**

Final Result:

Built a **fully functional Streamlit dashboard** showing:

1) **Top performing influencers** to maximize ROI
2) **Influencers with poor ROI** for cost optimization
3) **Best persona group** to target for future campaigns
4) **Clear payout tracking** to manage influencer payments effectively

```
Top 3 influencers by ROAS

             name   category platform        ROAS
0  Claudia Nguyen  Nutrition  YouTube  182.294956
1       Kevin Cox    Fitness  YouTube   52.890235
2    Angela Black  Nutrition  Twitter   50.853933

Influencers with lowest ROI

              name   category platform      ROAS
0     Cody Johnson  Nutrition  Twitter  6.520734
1  Melanie Johnson  Nutrition  YouTube  7.130098
2     Derek Thomas  Nutrition  Twitter  7.278695

Group by gender and category to find average ROAS

  gender   category       ROAS
5   Male  Nutrition  54.617329
```

Conclusion:

In this project, I built a dashboard to analyze influencer campaign performance using simulated data. I calculated ROAS and incremental ROAS, identified top and low-performing influencers, and tracked payouts. This dashboard will help businesses make better marketing decisions by focusing on the most effective influencers and optimizing their campaign spending.