```python
# STEP 1: Install Required Libraries
!pip install pandas openpyxl matplotlib seaborn wordcloud

# STEP 2: Import Libraries
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
from wordcloud import WordCloud
from google.colab import files

# STEP 3: Upload the Excel File
uploaded = files.upload()

# STEP 4: Load the Excel File
df = pd.read_excel("task3.xlsx")  # Change filename if different

# STEP 5: Preview Data
df.head()
# Check for missing data
print("Missing values:\n", df.isnull().sum())

# Summary statistics
df.describe()
sns.countplot(x='Overall Satisfaction (1-5)', data=df)
plt.title("Overall Satisfaction Distribution")
plt.xlabel("Satisfaction Rating")
plt.ylabel("Number of Students")
plt.show()
recommend_counts = df['Would Recommend (Yes/No)'].value_counts()
recommend_counts.plot.pie(autopct='%1.1f%%', startangle=90, colors=['lightgreen',
'salmon'])
plt.title("Would Recommend to Others")
plt.ylabel("")
plt.show()
rating_columns = ['Overall Satisfaction (1-5)', 'Organization Rating (1-5)',
                  'Content Rating (1-5)', 'Speaker/Host Rating (1-5)']

df.groupby('Event Attended')[rating_columns].mean().plot(kind='bar',
figsize=(12,6))
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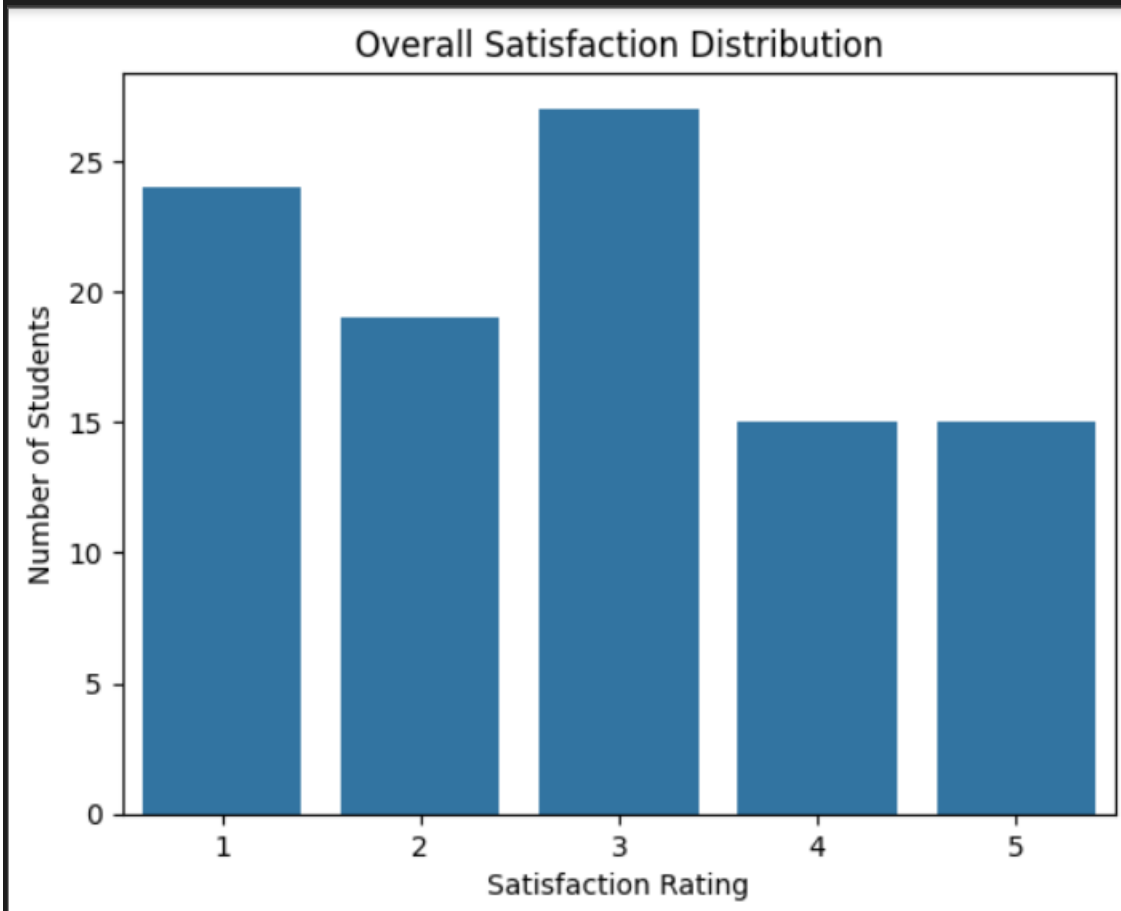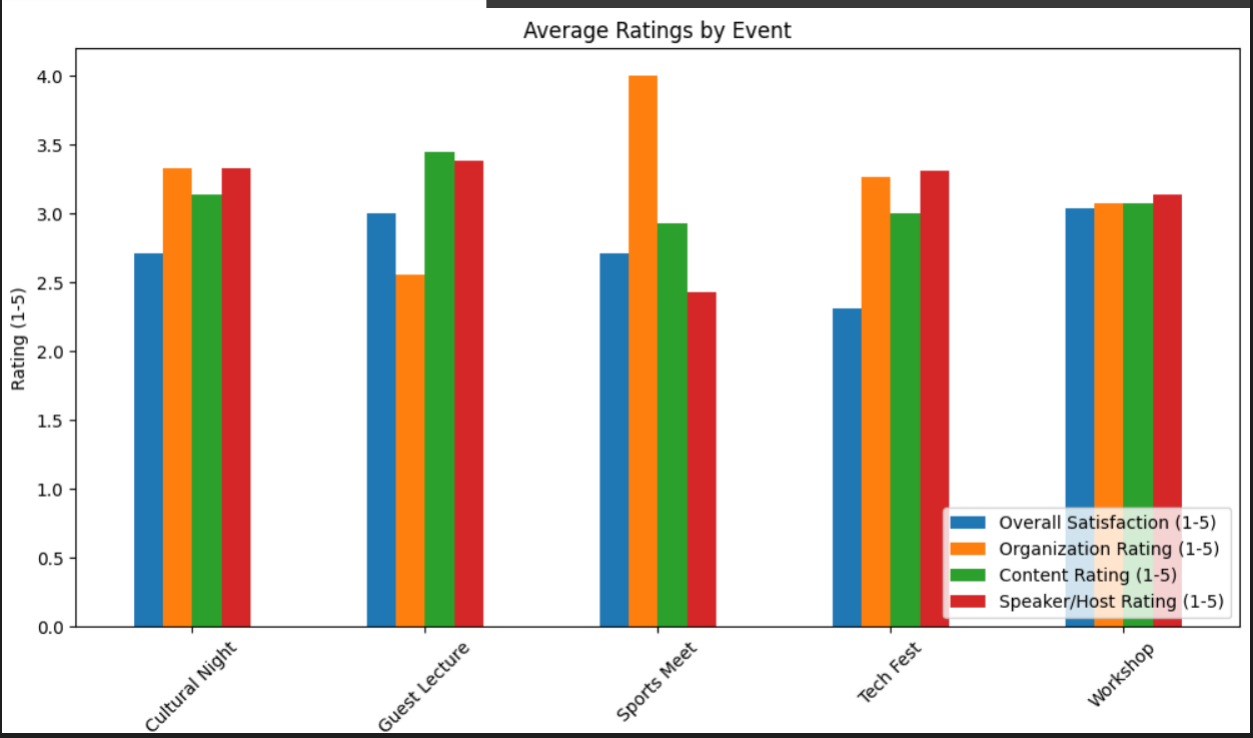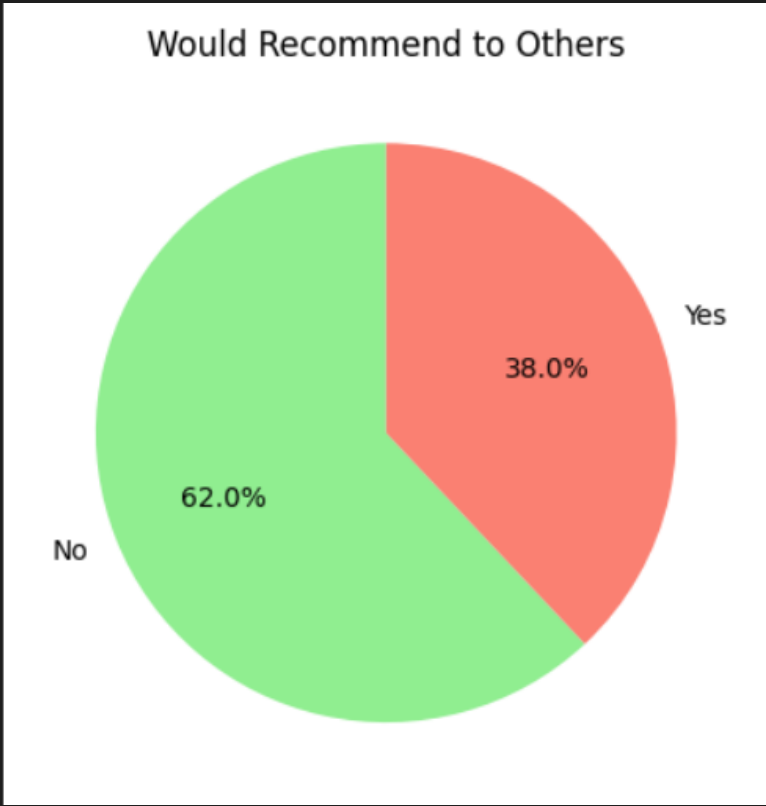
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plt.title("Average Ratings by Event")
plt.ylabel("Rating (1-5)")
plt.xticks(rotation=45)
plt.legend(loc='lower right')
plt.show()
text = " ".join(comment for comment in df['Additional Comments'].astype(str))

wordcloud = WordCloud(width=800, height=400,
background_color='white').generate(text)

plt.figure(figsize=(10, 5))
plt.imshow(wordcloud, interpolation='bilinear')
plt.axis('off')
plt.title("Word Cloud of Student Comments")
Plt.show()
```

Would Recommend to Others

Yes 38.0%

No 62.0%

Average Ratings by Event

- Overall Satisfaction (1-5)
- Organization Rating (1-5)
- Content Rating (1-5)
- Speaker/Host Rating (1-5)

Word Cloud of Student Comments

speaker

Great event informative

better organized

Average experience

Loved

crowded satisfied