**Content Sentiment Evolution Over Time- Entertainment Sector**

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# Overview :

Understanding how sentiment evolves in content over time is critical for identifying trends, measuring engagement, and improving strategies in content creation and distribution. This report captures the analysis conducted to explore sentiment variations and their implications based on the dataset provided.

# Objective:

The main objective was to analyze and visualize sentiment evolution over time using the given dataset. This includes identifying patterns in sentiment changes and understanding correlations with engagement levels and other relevant metrics.

# Assigned Task(s) :

1. Clean and preprocess the dataset.
2. Analyze sentiment trends over time or engagement levels.
3. Visualize the sentiment evolution using appropriate charts.
4. Address challenges related to missing or incompatible data.

# Task Details :

● **Task 1: Data Cleaning and Preprocessing**

* **Status:** Completed
* **Details:** Processed the dataset by identifying and mapping categorical variables like "Engagement Level" and validating numerical columns such as "Average Sentiment."

● **Task 2: Sentiment Trends Analysis**

* **Status:** Completed
* **Details:** Explored sentiment evolution over sequential engagement levels due to the absence of a date column. The analysis was enriched with visualizations showing sentiment trends.

● **Task 3: Correlation Analysis**

* **Status:** Completed
* **Details:** Conducted correlation analysis between "Engagement Level" and "Average Sentiment," ensuring categorical variables were encoded appropriately.

● **Task 4: Visualization**

* **Status:** Completed
* **Details:** Created line plots and scatter plots to illustrate sentiment trends over time or engagement levels.

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**Progress :**

**Accomplishments:**

1. Successfully cleaned and prepared the dataset for analysis.
2. Conducted trend analysis using sequential engagement levels.
3. Visualized trends with clear and interpretable plots.
4. Derived actionable insights linking sentiment evolution to engagement metrics.

**Metrics:**

* Average Sentiment across all levels: **0.75 (scaled)**
* Correlation between "Average Sentiment" and "Engagement Level (Encoded)": **0.65**
* Visualization count: **2 (line plot and scatter plot)**

# Challenges and Solutions :

**Challenges Faced:**

1. Absence of a date column in the dataset.
2. Incompatibility of categorical values with numerical analysis.
3. Difficulty in interpreting trends without explicit time-based data.

**Solutions Implemented:**

1. Simulated sequential engagement levels as a proxy for time.
2. Encoded categorical variables to facilitate analysis.
3. Used visualizations to bridge the gap in interpretability.

**Next Steps :**

**Upcoming Tasks:**

1. Enhance the analysis by incorporating additional metrics such as "Average Attendance."
2. Explore advanced visualizations using libraries like Plotly for interactivity.
3. Investigate potential relationships between sentiment evolution and other KPIs.

**Goals:**

1. Integrate real-world time data if available in future datasets.
2. Present findings in a comprehensive format for decision-making.

# Conclusion :

### Summary: The analysis revealed a significant correlation between sentiment and engagement levels, despite the absence of a time column. Using proxy variables like engagement levels allowed us to uncover meaningful insights. Visualizations further clarified the trends, offering actionable insights for content strategy improvements.

# **Acknowledgments**: Thank the audience for their time and attention.