**Analysis of Sentiment Analysis Results**

**Insights**

**Class Imbalance Observed:**

- The dataset is significantly imbalanced, as evidenced by the support values:

- Class 0 (63 samples) represents only about 10% of the dataset.

- Class 1 (567 samples) constitutes the majority with about 90% of the dataset.

- This imbalance leads to a high performance for Class 1 but poor results for Class 0.

2. **Performance Metrics Breakdown:**

**Precision:**

- Class 1: 90% precision indicates the model is good at identifying relevant positive reviews.

- Class 0: 100% precision, but this is misleading since recall for this class is 0%. The model essentially avoids predicting Class 0.

**Recall:**

- Class 1: Perfect recall (100%), meaning all actual positive reviews are correctly identified.

- Class 0: Zero recall implies the model never correctly identifies negative reviews.

**F1-Score:**

- The weighted F1-score (0.85) shows a moderately balanced performance for the dominant class but fails to account for the minority class.

3**. Training and Validation:**

- The training loss decreased consistently across epochs, and the validation accuracy remained stable around 94.8%.

- Despite good validation metrics, the poor recall for Class 0 indicates the model struggles with generalizing across all classes.

**Conclusion**

Class Imbalance Issues: The high accuracy (93.4%) and validation accuracy (94.8%) are driven primarily by the model's ability to correctly predict the dominant Class 1. This masks the poor performance for Class 0, highlighting the need to address class imbalance.