Smarten
Augmented Analytics

Smarten Working with Sentiment Analysis

Document Version: 1.0
Product Version: 5.3 and above

Document Information	
Document ID	Smarten-Working-with-Sentiment-Analysis
Document Version	1.0
Product Version	5.3 and above
Date	07-March-2022
Recipient	NA
Author	EMTPL

Statement of Confidentiality, Disclaimer and Copyright

This document contains information that is proprietary and confidential to EMTPL, which shall not be disclosed, transmitted, or duplicated, used in whole or in part for any purpose other than its intended purpose. Any use or disclosure in whole or in part of this information without the express written permission of EMTPL is prohibited.

Any other company and product names mentioned are used for identification purpose only, may be trademarks of their respective owners and are duly acknowledged.

Disclaimer

This document is intended to support administrators, technology managers or developers using and implementing Smarten. The business needs of each organization will vary and this document is expected to provide guidelines and not rules for making any decisions related to Smarten. The overall performance of Smarten depends on many factors, including but not limited to hardware configuration and network throughput.

Contents

1 Introduction

Sentiment Analysis helps users understand the underlying sentiment (positive, negative, or neutral) for the target textual data and obtain beneficial information about the overall sentiment for the relevant data as well as provide insight into context-based sentiment and variation in sentiment over a period of time.

For example, by analyzing sentiment for a product based upon reviews by its users, one can identify the overall sentiment considering all relevant factors and analyze whether the user reviews are positive or negative about the product. Moreover, we can also perform contextual sentiment analysis for this use case, which has an important role while recognizing target text sentiment based upon some specific context. For instance, if you only want to analyze product reviews for a particular category, e.g., mobile devices, you can use context filters to filter and analyze feedback for only this particular context. Additionally, analyzing how the trend varies for user sentiment over a period of time provides noteworthy insights upon time-based sentiment analysis and henceforth predicts future trends in user sentiment.

2 How it can help

From understanding users' sentiment for a product or a brand to extracting sentiment and review reputation from social media posts, such as tweets and comments; from recognizing movie reviews from the box office to understanding sentiment from news headlines or inshorts news; from tracking customer sentiment over time to evaluating employee surveys to discover their feedback for the company, sentiment analysis has shown its utility over a wide range of domains and industries.

SENTIMENT ANALYSIS—OBTAIN OVERALL DISTRIBUTION OF SENTIMENT FOR FINANCIAL NEWS DATA

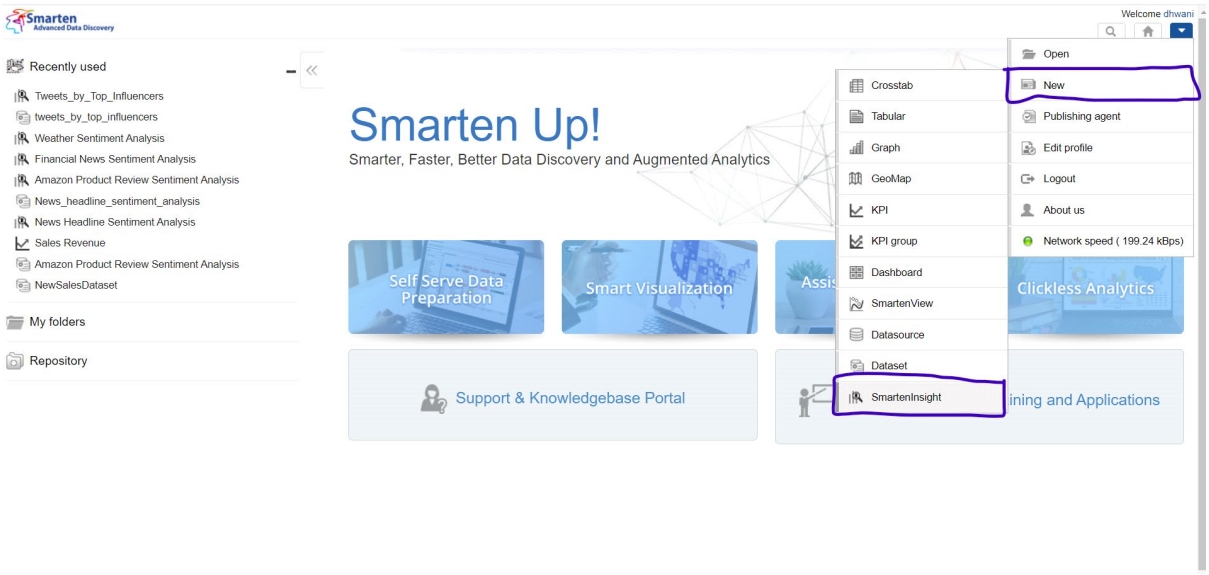
SENTIMENT ANALYSIS—OBTAIN SENTIMENT DISTRIBUTION FOR TWEETS CORRESPONDING TO EVERY AUTHOR

SENTIMENT ANALYSIS—OBTAIN A WORD CLOUD EXPRESSING TOP KEYWORDS INDICATING WEATHER DATA SENTIMENT

3 Creating Sentiment Analysis using Smarten

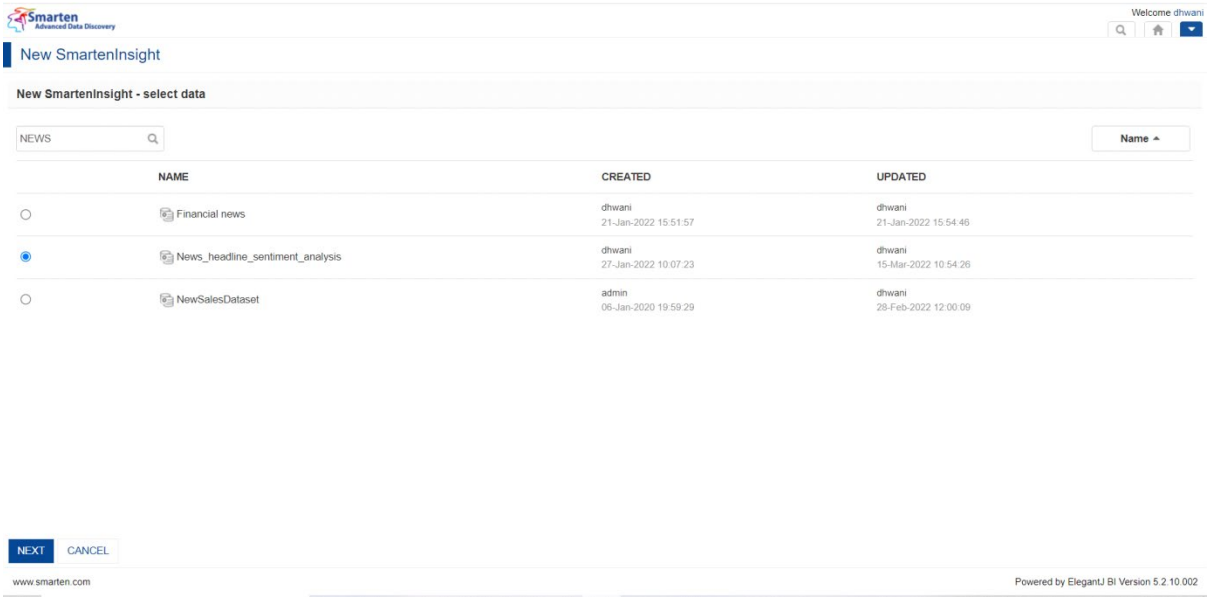
For an overview and an easy-to-grasp interpretation of Sentiment Analysis using Smarten Insight, only a few simple steps are required, as follows:

3.1 Create a new Smarten Insight



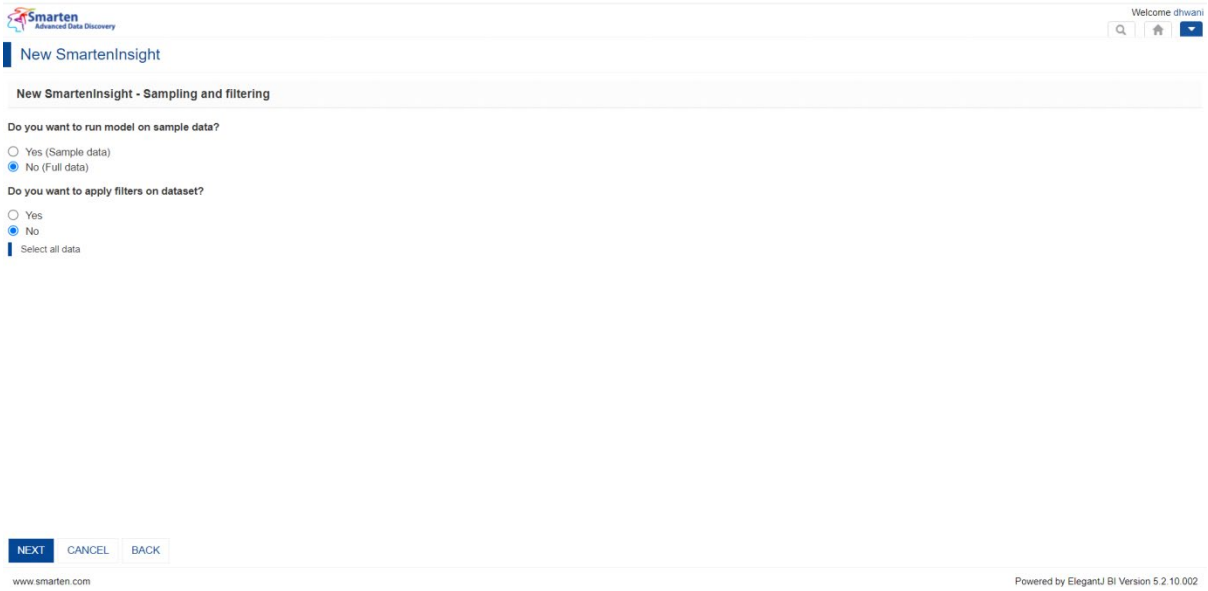
SENTIMENT ANALYSIS—CREATING A FRESH, NEW SMARTEN INSIGHT

3.2 Select Dataset to analyze sentiment



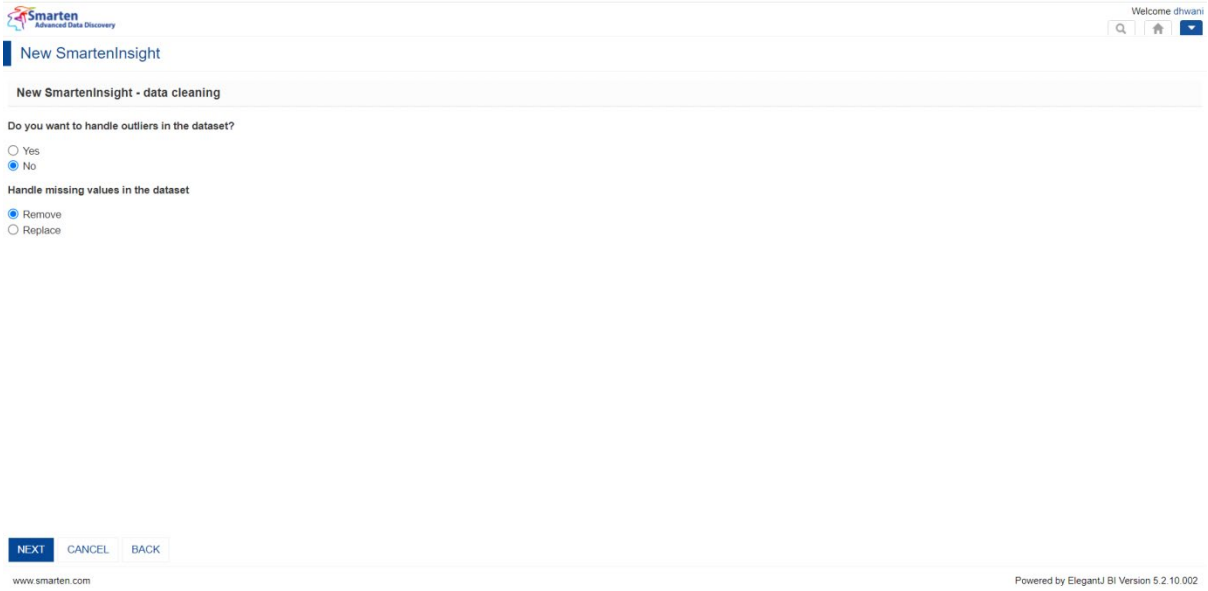
SENTIMENT ANALYSIS—SELECT DATASET TO ANALYZE SENTIMENT AND CLICK "NEXT"

3.3 Perform sampling and filtering if required



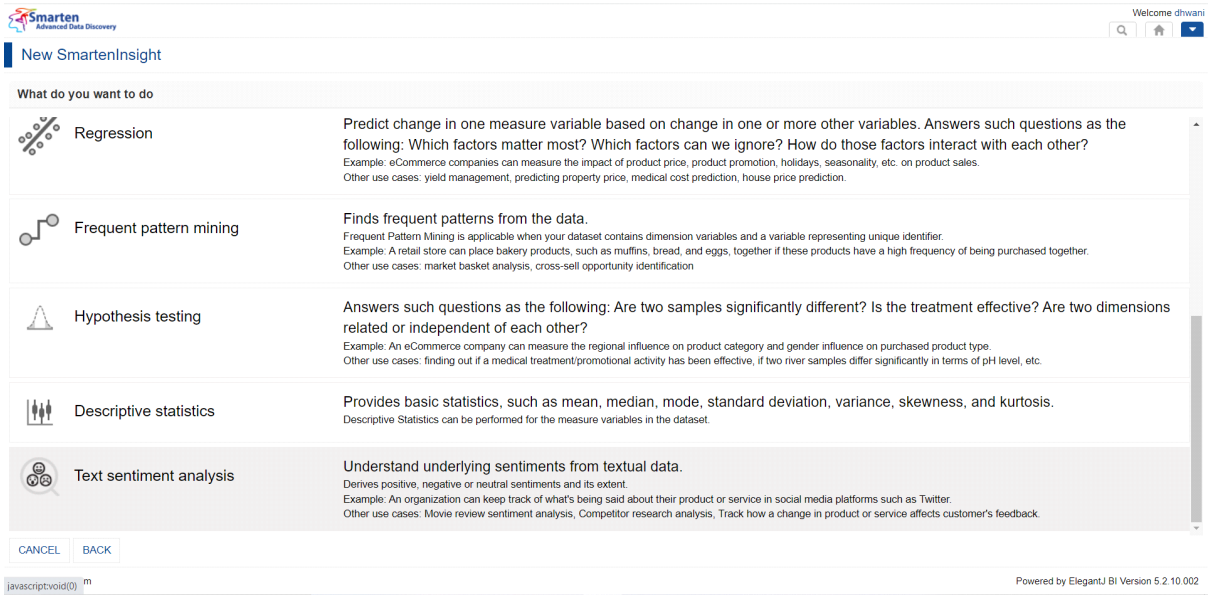
SENTIMENT ANALYSIS—PERFORM SAMPLING AND FILTERING OPTIONS AND CLICK "NEXT"

3.4 Handle Outliers and Missing Values if required



SENTIMENT ANALYSIS—HANDLE OUTLIERS AND MISSING VALUES IF NEEDED AND CLICK "NEXT"

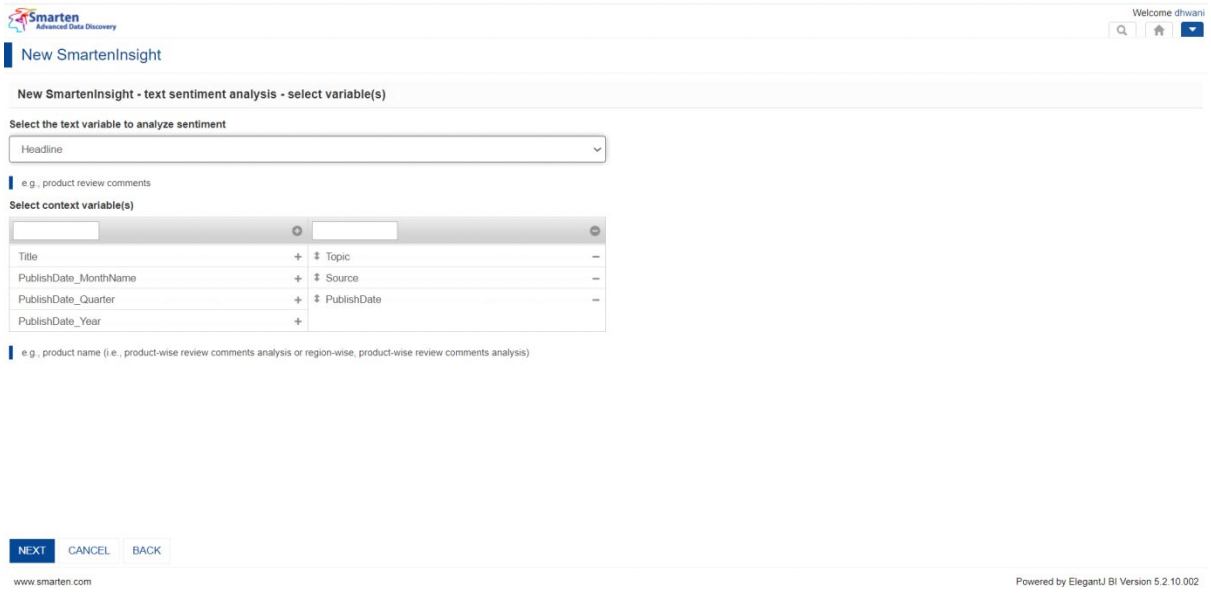
3.5 Perform Text Sentiment Analysis to understand underlying sentiment from textual data



SENTIMENT ANALYSIS—CHOOSE TEXT SENTIMENT ANALYSIS OPTION

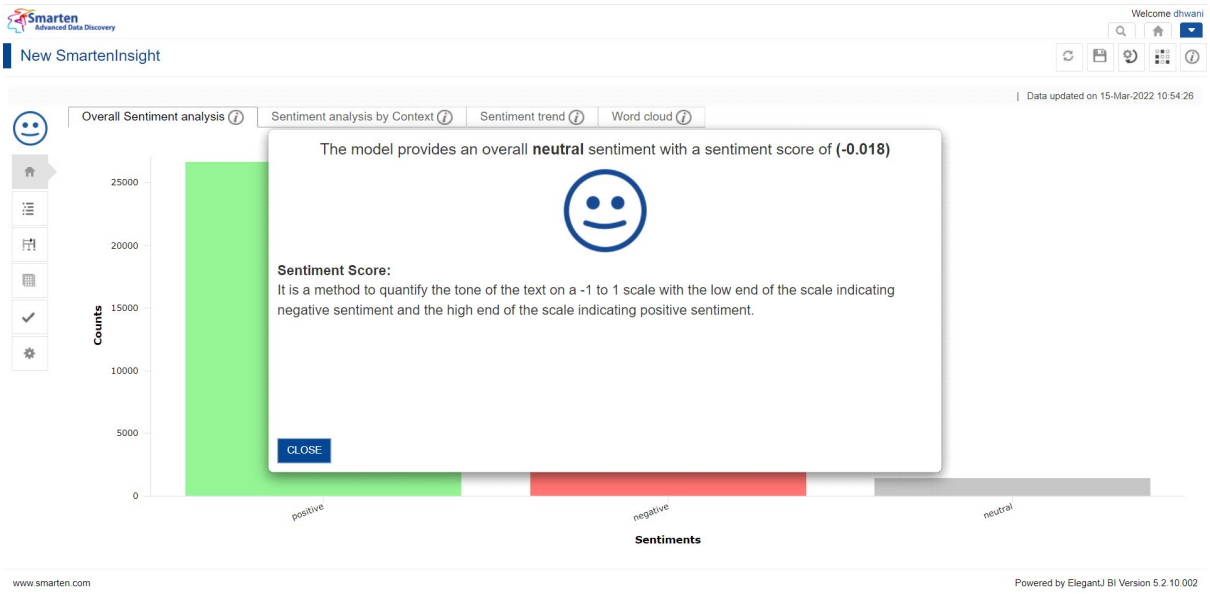
3.6 Select variables to perform sentiment analysis

This step might take some time until you land on the sentiment analysis model hence created!



SENTIMENT ANALYSIS—SELECT VARIABLES FOR TEXT SENTIMENT ANALYSIS AND CLICK "NEXT"

3.7 Sentiment analysis model is ready to use



SENTIMENT ANALYSIS—MODEL GENERATED AND READY TO USE

4 Sentiment Analysis Components

4.1 Overall Sentiment Analysis

This plot is used to visually analyze how the frequency of each sentiment response, i.e., positive, negative, or neutral, is distributed. For instance, the plot below shows how the sentiment values, i.e., positive, negative, or neutral, are distributed across the overall news headlines dataset.

SENTIMENT ANALYSIS—OVERALL SENTIMENT ANALYSIS CONSIDERING ENTIRE DATASET

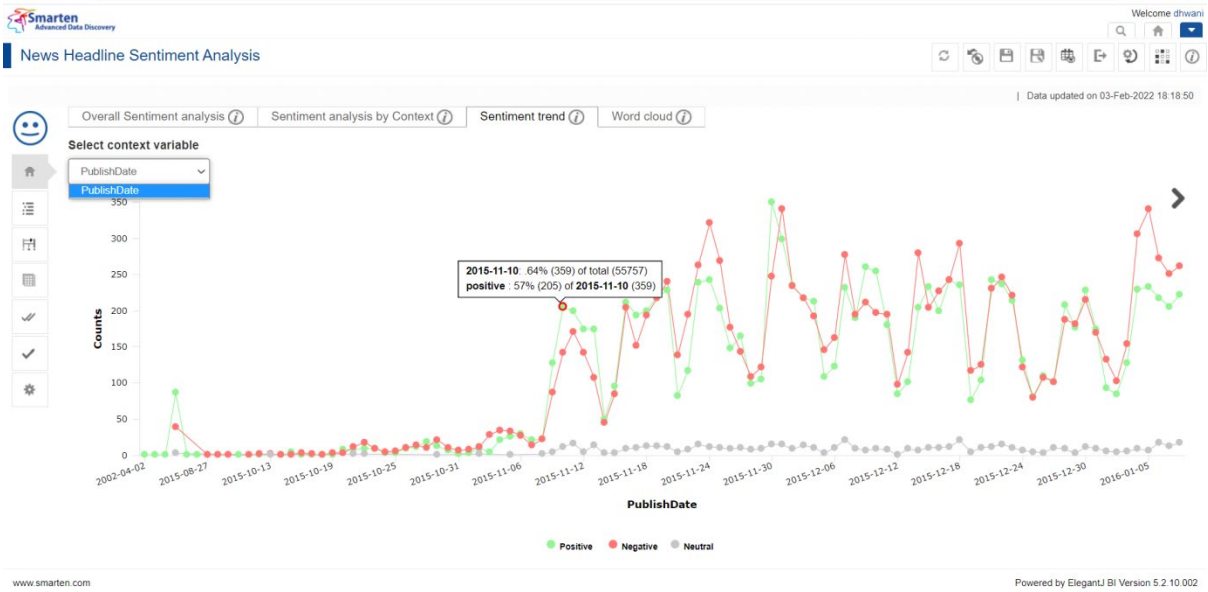
4.2 Sentiment Analysis by Context

This plot is used to visually analyze how the frequency of each sentiment response, i.e., positive, negative, or neutral, is distributed based upon the context variable(s). For instance, the plot below shows how the sentiment values, i.e., positive, negative, or neutral, for news headlines are distributed based upon the Topic.

SENTIMENT ANALYSIS—SENTIMENT ANALYSIS BASED UPON SELECTED CONTEXT VARIABLE

4.3 Sentiment Trend

This plot is used to visually analyze the sentiment trend based upon the selected time dimension. For instance, the plot below shows how the trend for sentiment values, i.e., positive, negative, or neutral, for news headlines varied over the news published date.



SENTIMENT ANALYSIS—SENTIMENT TREND FOR POSITIVE, NEGATIVE, AND NEUTRAL SENTIMENT OVER A PERIOD OF TIME

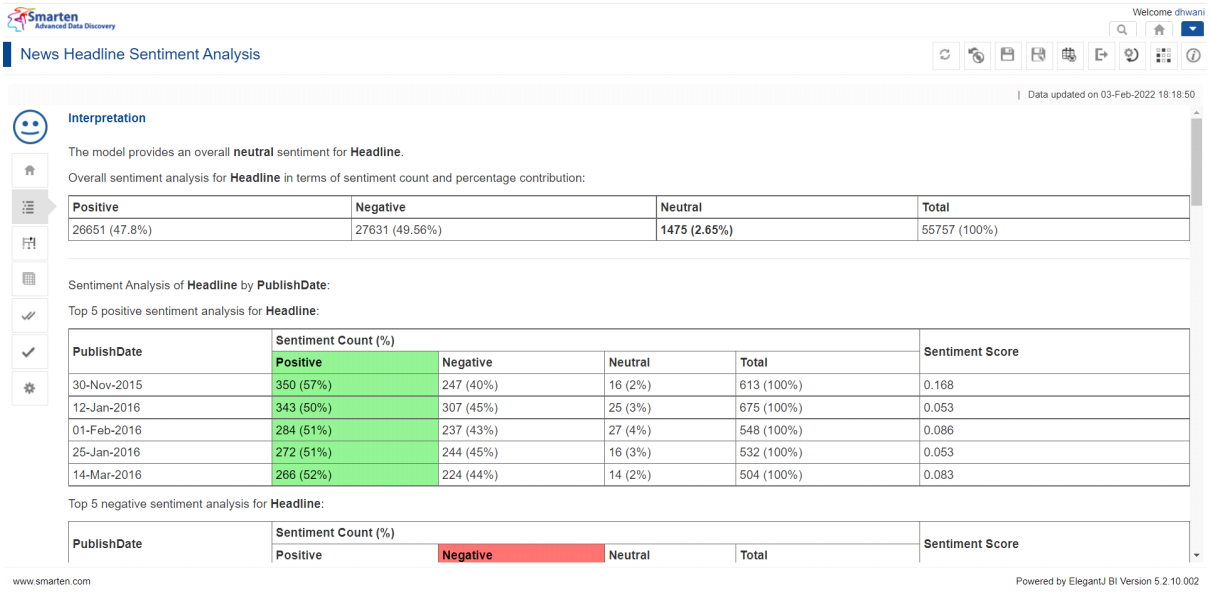
4.4 Word Cloud

The word cloud displays the top keywords with positive and negative sentiment, with the color representing the nature of sentiment and word size representing its weight.

SENTIMENT ANALYSIS—SENTIMENT WORD CLOUD

4.5 Interpretation

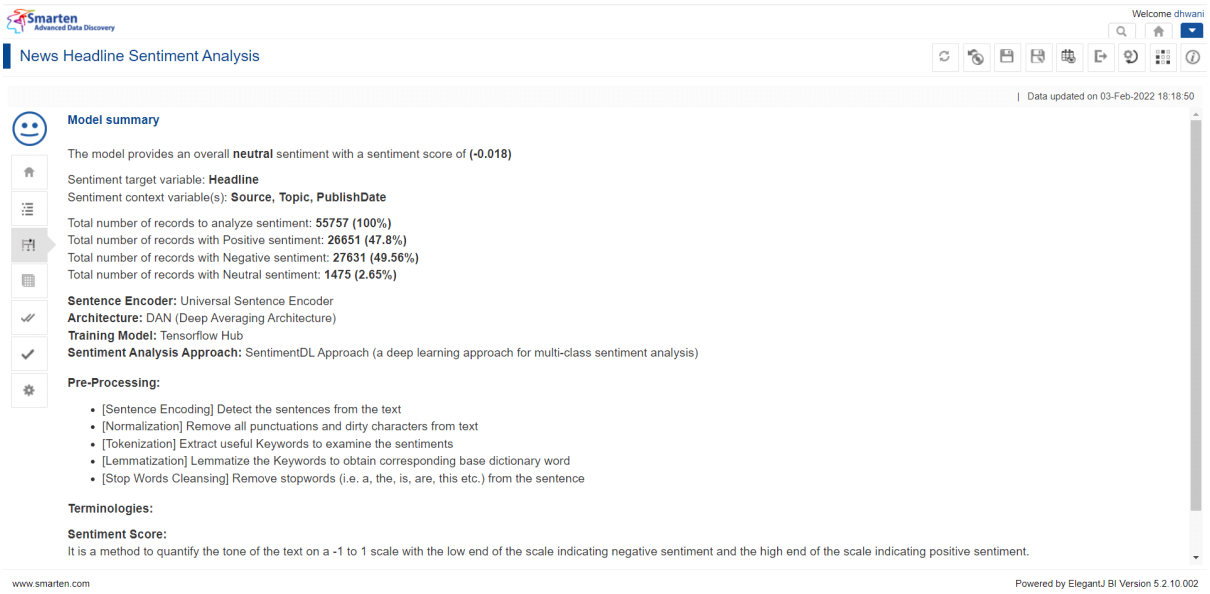
This component provides interpretation of sentiment insights in simple natural language.



SENTIMENT ANALYSIS—INTERPRETATION FROM INPUT DATA

4.6 Model Summary

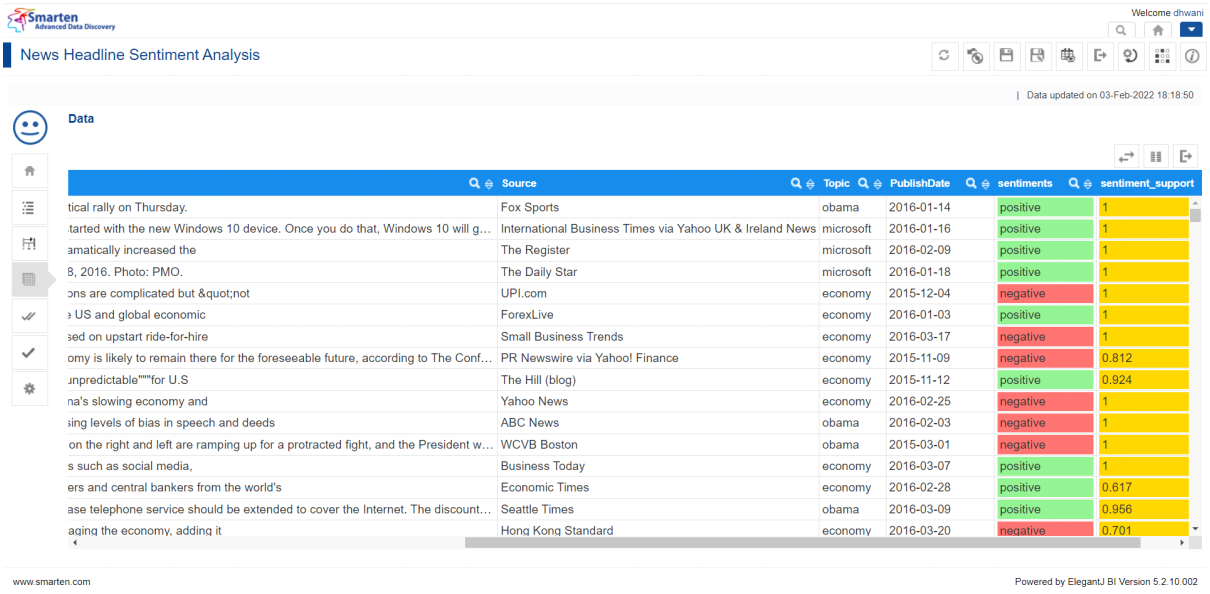
This component provides a technical model summary to analyze the sentiment for news headlines.



SENTIMENT ANALYSIS—MODEL SUMMARY

4.7 Data

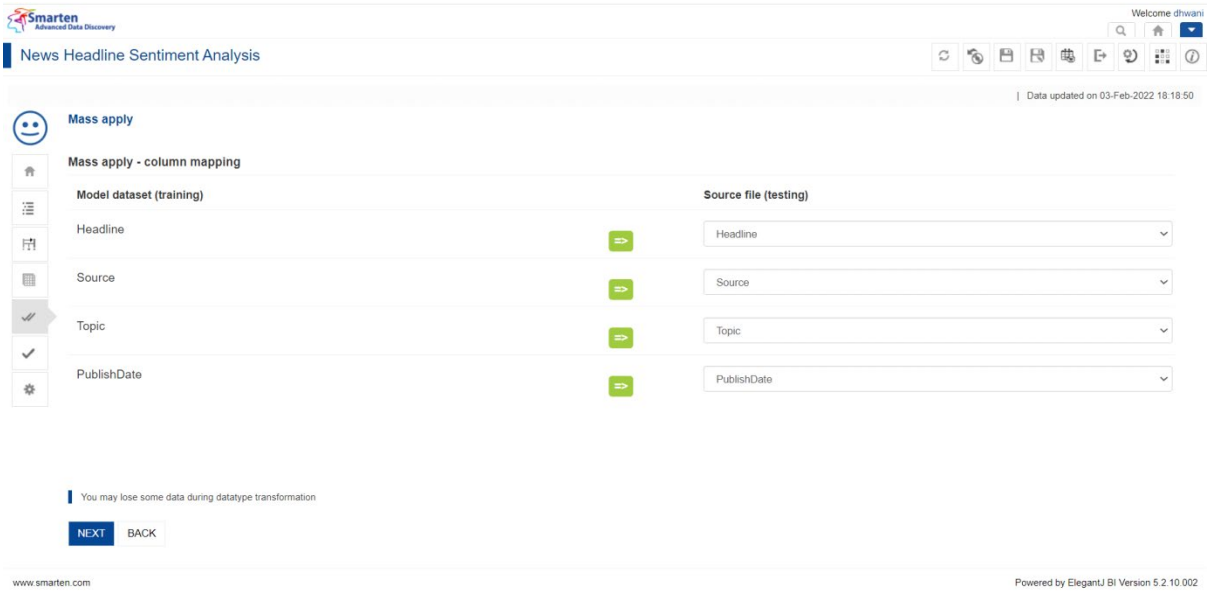
This component displays the chosen dataset for sentiment analysis along with a sentiment label and sentiment support corresponding to each record.



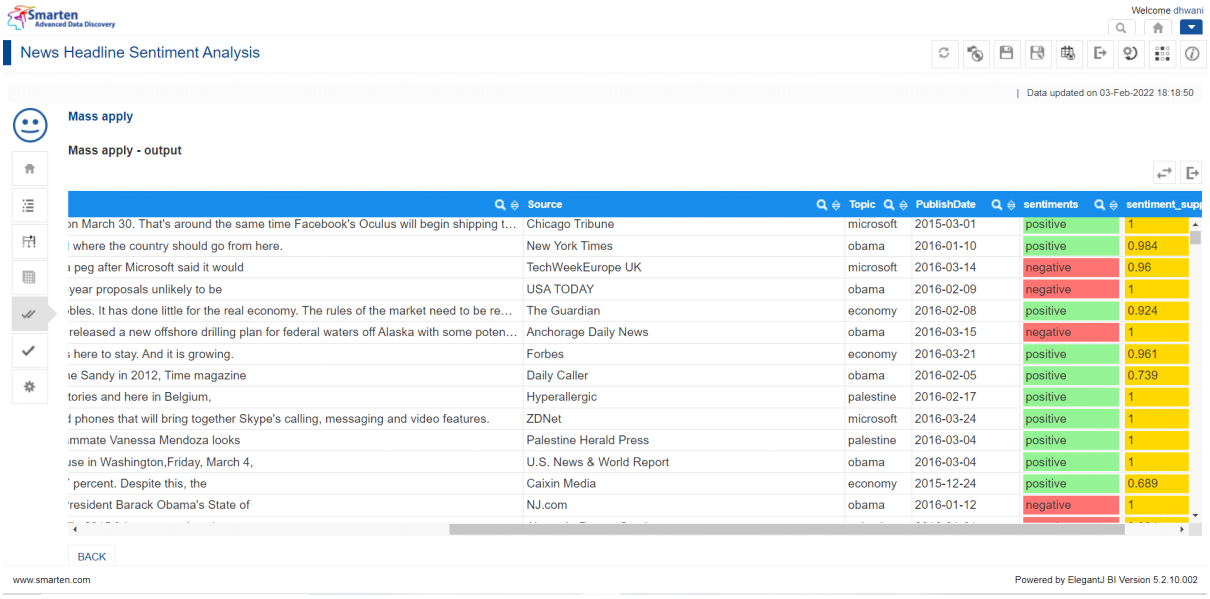
SENTIMENT ANALYSIS—DATA TAB WITH SENTIMENT LABEL AND SENTIMENT SUPPORT

4.8 Mass Apply

This component enables predicting sentiment for multiple records from the SmartenInsight model for the data available in a CSV file or dataset created using Smarten. You can map the columns available in the file with the columns used to generate SmartenInsight. The system will predict the sentiment label as well as display sentiment support for provided data and generate the result. A user can export this result in CSV format for further use.



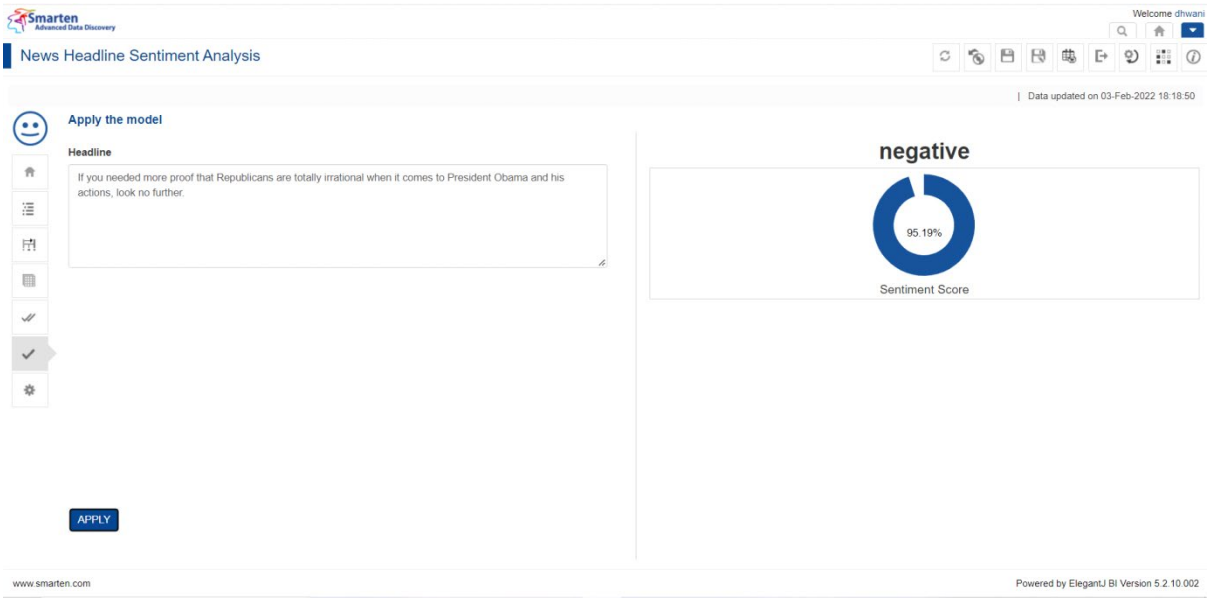
SENTIMENT ANALYSIS—MAP COLUMNS FOR MASS APPLY



SENTIMENT ANALYSIS—MASS APPLY SCREEN TO VALIDATE THE MODEL

4.9 Single Apply

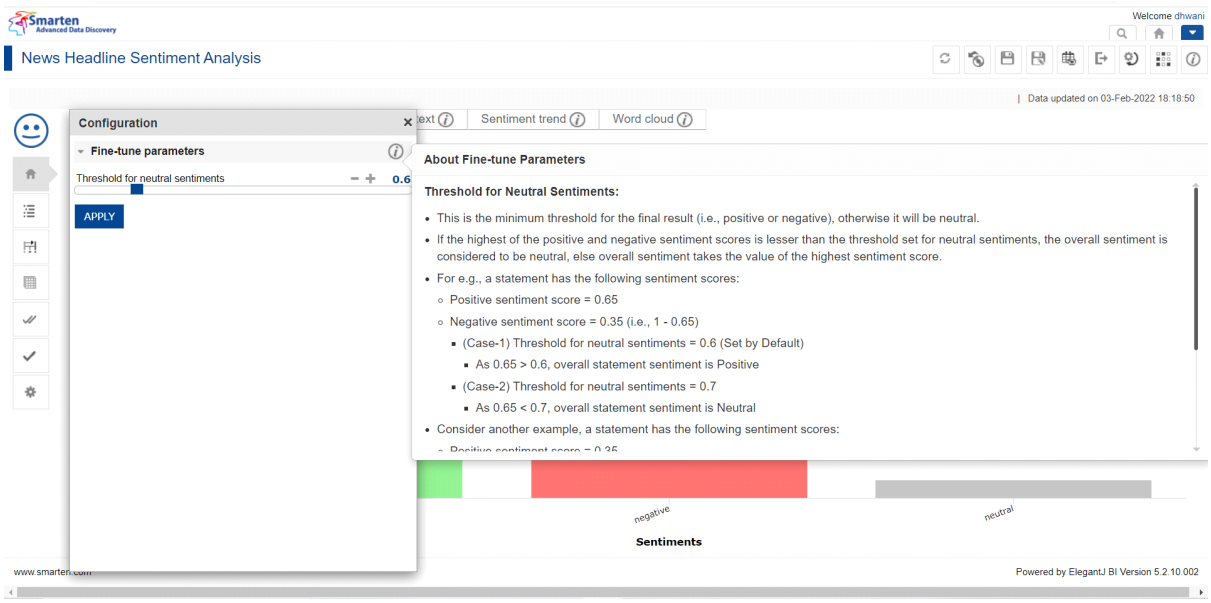
This component enables predicting the sentiment label and sentiment support corresponding to the data entered by the user in real time to validate the model.



SENTIMENT ANALYSIS—SINGLE APPLY SCREEN TO VALIDATE THE MODEL

4.10 Configuration

This component provides flexibility to users to select the threshold for neutral sentiment as needed. By default, it is set to 0.6, and the values can range from 0.5 to 1. The higher the threshold set for neutral sentiment, the better the chance to obtain neutral sentiment for the content.



SENTIMENT ANALYSIS—CONFIGURATION FOR FINE-TUNING THRESHOLD FOR NEUTRAL SENTIMENT

5 Product and Support Information

Find more information about Smarten and its features at www.smarten.com
Support: support@smarten.com
Sales: sales@smarten.com
Feedback & Suggestions: support@smarten.com
Support & Knowledgebase Portal: support.smarten.com