Cognitive driven customer sentiment analysis for improving the overall sale of products or services and increasing brand value.

PROBLEM DESCRIPTION

Build a robust customer feedback model and help in identifying key burning issues based on its severity and impact on the customers as well as the management.

> Stage 1: Collect the data that could be structured like terms of ratings, churn, loss of sales OR unstructured such as conversation logs (textual or verbal), social media etc. Identify the key metrics to profile the information and categorize them into various issues of importance.

> Stage 2: Identify the top ranked issues (for example, an issue surfacing with highly negative sentiments would be treated with high priority) and calculate a score based on data. These will become the next action items for the management to consider.

WORKING EXAMPLE

Statement: A Business hotel is experiencing lesser occupancy rates in recent times and wants to take some steps to be able to contain this. They have a lot of structured data in terms of how many guests were the first-time visitors, how many guests were returning customers, their demographics and they also have unstructured information in terms of feedback for dining, amenities, ambience as well as after stay reviews on social media. What could be the ways to mine this information and come up with some key issues that the management needs to address?

Description: The key things to consider here –

- Create buckets/categories for the issues. Housekeeping, ambience, dining could be some for our hotel example.
- Identify the key metrics on which you want to profile the information (for analytics driven approach) and map them to the issue categories. For example, bedsheets could be a metric measured on cleanliness and mapped to the broader issue category of housekeeping.
- Decide what makes an issue more important than others and give it an appropriate priority.
- Find an appropriate metric to measure unstructured information. For example, a highly negative comment could be "The food was horrible today" or a neutral sentiment could be "the support staff in the hotel is fine".
- Not every input would be weighted the same. Few feedbacks which are more aggressive will need to be given more importance. Deciding the weights while calculating the score as against the issues is hence an important task.
- Not every customer is the same, so priority of issue needs to consider the value of the customer.

Suggested Approach for the Data & Analytics Challenge:
- Identify potential factors (data fields or variables impacting management issues).
- Finalize information retrieval methods.
- Extract and collate the data (for your identified factors) from available data sources.
- Build an Analytical model that can score **EVENTS** and **CUSTOMER IMPACT**.

- Train the model with data sourced from recent matches to arrive at top ranked events and impact.
- Rank the issues and choose the **TOP BURNING TOPICS.**

Data points to address the problem statement:

- You can select any industry where there is a strong customer touchpoint. For example, telecom provider, hotel/restaurant, automotive industry, retail shops etc.
- Structured data can be collected through the website of the management in question such as the number of ITC hotels in the city, the number of rooms in such hotels, the type of the hotels and their general clientele.
- The customer feedback data can be collated from external sources such as social media or various review sites.
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EXPECTATION

- Solution should be cognitive driven.
- Participants should demonstrate through a system demo at least five valuable insights using which management can take necessary action to enhance customer satisfaction and sale of products and services.
- Outcome should have documentation explaining thought processes and design approaches to arrive at the solution.

TOOLS AND TECHNOLOGY

IBM Cloud:

https://console.bluemix.net/

Starter Kits:

https://www.ibm.com/watson/developercloud/starter-kits.html

Developer Journeys:

https://developer.ibm.com/code/journey/

IBM Developer community help:

https://www.ibm.com/developerworks/