

Enhancing business processes through sentiment driven approach.

Sentiment driven approach is used here-in to refer to the use of sentiment analysis in enhancing decision making and better service delivery.

Introduction

Sentiment driven approach is aimed at analyzing subjective information from customers and employees in order to better the decision making processes and meet customer satisfaction, thus achieving better service delivery. Subjective information include emotions, feelings, attitude and judgments.

Problem statement

Assessing the impact of a change/decision or an event on employees may be quite challenging to the management. For instance, management would like to know what employees think about a trip they recently had or intending to have. Introduction of new policies, employment of new staff and retrenchment of some staff might have a great negative impact at long run if key employees are not satisfied. Not being aware of this is living in denial and its impact can be unbearable to the organization.

Problem statement ...

Assessing the impact of a decision/event or change in a process on customers. For instance, increasing call tariff rates, unavailability of key services when they are most needed, product promotion campaign etc triggers some reactions to the customers, this might be positive or negative. Being aware of such reactions is very crucial for decision making and record tracking. Many of organizations have been eliminated from the market because of failure to listen to the general feeling of the market thus, assessing the feelings of customers concerning a competing products is very important.

Implementation – data collection

- Gathering data from social network platforms like twitter, Facebook, Whatsapp groups, text messages(sms), survey, online questionnaires etc.
- Gathering of information from debates and discussions, here sound recording devices can be used to capture the data for further procesing.
- Call sniffing with the intent to perform sentiment analysis.

Implementation - machine learning

- Use kafka to live stream data from various sources.
- Kafka consumers to pass messages to sentiment analyzer and persist data in noSQL databases like cassandra.
- Use natural language processing algorithms, libraries, frameworks to build sentiment analyzer, natural language toolkit(nltk), a python library is chosen.
- Persist output data in RDBs for decision making, such data include the topic and sentiment analysis output.

Implementation - machine learning...

- Supply relevant data to markof chains for immediate decision making. For instance, to decide whether another product promotion is necessary soon or not. Necessity of a product promotion is often dependent on the status quo.

Conclusion

Taking advantage of sentiment driven approach can be very useful especially in this reality where several decisions are made based on psychological effects and theory of mind. Knowing how customers will react in advance, their actual reactions after an event and what to do after a certain reaction is a common driver of many decision making processes. Having all this at hand would earn an organization competitive advantages like making informed decisions and enhancing customer satisfaction.