Project Proposal

**Study of The Predictive Power of**

**Online Product Reviews Sentiments**

**in Forecasting Revenue Trends**

BYGB 7978 Web Analytics

Section 1

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1. **Problem Statement**

Checking online reviews written by critics and consumers have become a necessity for actual purchases of tech-related products. It is, therefore, important for companies to determine how well sentiments and reviews expressed online, such as on TechRadar, CNET, and Engadget can predict their revenue trends related to specific product sales.

1. Data Set (scope)

* Reviews for Apple and Samsung phones on TechRadar, CNET, and Engadget websites during the years 2013 to 2015 (present):
  + Samsung Galaxy phones (S3, S4, S5, S6)
  + Apple iPhones (5S, 5C, 6, 6 plus)
* 2013-2015 Quarterly Revenue (in USD) of Apple iPhones
* 2013-2015 Quarterly Revenue (in USD) of Samsung’s IT and Mobile Communications Segment
* 2013-2015 Investor Relations documents for both Apple and Samsung

1. Process and Model (Methodology and Information to be extracted)

* Gather information on all product launches and schedules related to the specific product lines of each company
* Crawl the three review websites to get content related to Samsung Galaxy phones and Apple iPhones during the 3-year period, segmented quarterly
* Define a dictionary as basis for sentiment analysis
* Utilize a publicly available Sentiment Analysis Software
* Perform standard ratio analysis between the results of the Sentiment Analysis Software vis-a-vis the revenue trends of the two competing companies on a quarterly basis
* Determine whether a Decision Tree can enhance the analysis by identifying which factors (specifications) of a mobile phone best predict the outcome of converted sales

1. Expected Results and how it benefits the business

* Positive opinions expressed on these websites, relating to a particular product are positively correlated with the revenue trend; negative sentiments will consequently have negative impact on the company’s revenue trend.
* Predict sales in advance to proactively address public opinion through improved customer support, marketing strategies, and launch campaigns
* Improve product quality based on the most number of negative feedback on a certain criteria/specification