# Research Statement

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## Background

The ability of users to create and publish content has provided vast amount of user-generated content such as online reviews, blogs etc. However, the amount of data is overwhelmingly large and unstructured, making information difficult to quantify. This creates challenge in understanding how user-generated content affect consumer purchase decision.

## Prior Research

The goal of my research is to apply sentiment mining techniques that are scalable for large scale datasets and use the extracted information to solve business problems. In this regard, I applied sentiment mining techniques and present a measurement that quantifies sentiments with respect to a multi-point scale. Using the sentiment metrics generated, I estimate the weight that customers place on each segment of the review and examine how these segments affect the sales for a given product. The results empirically verified that sentiments influence sales, of which ratings alone do not capture. In my second research, I propose a method to detect online review manipulation using writing style analysis and assess how consumers respond to such manipulation. In my third research, I find that societal norms have influence on posting behavior and significant differences do exist across cultures. Users should therefore exercise care in interpreting the information from online reviews. Having tapped into the abundant supply of online review data, the results in my research are based on large-scale datasets which extend beyond the scale of traditional word-of-mouth research.

## Current Research

I am currently writing a short piece on the conception of the Next Generation Sentiment Analysis System and welcome any suggestions or comments from interested parties.

I am also interested in mining bloggers' sentiments relating to government policies, governance and leadership. In my preliminary analysis on thousands of Singaporean blog postings, I find that the opinions expressed are skewed towards the extremes. Those who post their opinions online are either very dissatisfied or very satisfied with the government. Despite the subjectivity and extreme opinions posted, I am interested to

estimate the degree of influence these blogs have on the general public / readers and the effect on the final votes cast.

## Publications

Noi Sian KOH, Nan HU, Eric K CLEMONS. "Do Online Reviews Reflect a Product's True Perceived Quality? - An Investigation of Online Movie Reviews across Cultures." *in the Journal of Electronic Commerce Research and Applications, 2010, 9, 5, pp.374-385.*

Nan HU, Indranil BOSE, Noi Sian KOH, Ling LIU. "Manipulations of Online Reviews: An analysis of ratings, readability and sentiments." *Conditionally accepted at Decision Support Systems.*

## Working Papers

"**Ratings Lead You to the Products, Reviews Help You Clinch It?: The Dynamics and Impact of Online Review Sentiments on Product Sales**," with Nan HU and Srinivas REDDY.

**"Bloggers' Behavior and the Influence of Bloggers,"** with Eric CLEMONS, Nan HU, Robert BARRIMOND and Ying WANG.

## Refereed Conference Papers & Invited Talks

Noi Sian KOH, Nan HU, Eric K CLEMONS. "Do Online Reviews Reflect a Product's True Perceived Quality? - An Investigation of Online Movie Reviews across Cultures" in *43rd Hawaii International Conference on System Sciences (HICSS)*, Jan 2010. (ERA ranking: A)

Nan HU, Ling LIU and Noi Sian KOH. "An Investigation of Online Review Manipulation." *Marketing Management Association Conference*, Chicago, March 2010.

Noi Sian KOH, Youngsoo KIM, Nan HU and Srinivas REDDY. "The Dynamics of the Buzz: How do online reviews change over time?" *Invited Special Session at the INFORMS Marketing Science,* June 2010.

Noi Sian KOH. "Sentiment Analysis of Online Consumer Reviews," *Invited Speaker at the SAS Singapore User Forum,* October 2009.

Nan HU, Noi Sian KOH, and Vallabh SAMBAMURTHY. "The Value Implication of Online Consumer Reviews." *The 17th Annual Research Workshop on Artificial Intelligence and Emerging Technologies (AIET) in Accounting, Auditing and Tax, American Accounting Association Annual Meeting*, August 2008.