Discovering Customers’ Preferences in Social Media for Innovative Product Design

Suppawong Tuarob (Advisor: Dr. Conrad Tucker)
MS Student in Industrial and Manufacturing Engineering, Pennsylvania State University. Email: suppawong@psu.edu

:: Central Problems ::
- Designs need feedback from customers.
- Too costly to conduct user studies.
- Ideas from limited groups of customers are limited.

:: Proposed Solution ::
- Social media users typically express their personal opinions/preferences publicly, even during product use. For example, messages such as: “I LOVE MY NEW GALAXY S 4G” and “wish my iPhone had a built-in toothpick” are common.
- If we can build an automated system that discovers these user preferences from large social media data, designers could use such knowledge to innovate next generation products in timely and cost-efficient manners.

:: Challenges ::
- Noise, Too Much (Garbage) Data, False Data, Non-structure Data, All Sort of Natural Language Processing (NLP) Issues.

:: Finding LEAD Users ::
- A lead user is a consumer of a product who faces needs unknown to the public.

:: Characteristics of Lead Users ::
- High incentives to solve problems → Innovation.
- Ahead of the market.

"What they want in the present is what the market wants in the future." – Eric Von Hippel

Ok. Now we know that lead users are important and social media is a good place to look for them.

However, there are currently 1.82 BILLIONS social media users worldwide.

"I know with all the glass in the iPhone 4 they really should think about integrating a solar panel to recharge the battery."

Social media allows these lead users to seamlessly express their innovative ideas.

:: Other Relevant Stuff That We do ::

:: Automatic Feature SYNTHESISATION ::

:: Forecasting Product SALES ::

:: TRANSLATING Implicit Product Inferences ::

:: References ::

:: Our Works Have Been Well Received By ::

Evaluation of Auto Lead User Discovery. Avg Precision = 31.3%, suggesting that our method may increase the chance of finding lead users in random population by 1,148%.

Latent Feature Hit Rate

Waterproof 1.007

Sales Panel 1.000

Solar Panel 1.006

Hybrid 1.007

Trend - Rich 1.003

Jeakson 1.001

The iPhone 5 business looks very strong and future will be a great success.


First world problems: mad because my iPhone 5 is not compatible with this phone dock in the kitchen.

Can we automatically identify lead users in the pool of social media users?

I can’t express how much I love the iPhone 5s black Friday. Phone 5 is a cheap phone but no one wants it.

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