

# Association Meaning in Identifying Pleasant Tweets

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**Abstract:** Social media, such as Twitter, can be used by the government to analyze netizens' opinions. From thousands of tweets, certainly it will take time if the analysis is conducted manually. Therefore, an analysis tool is needed to know current opinion in a fast and real-time way. The purposes of this research are: 1) to describe the association meaning formed from pleasant tweets in Bandung, 2) to build a classification system based on semantic analysis to find out pleasant tweets of society in Bandung in near real-time way. The step conducted was by filtering words from the tweets to examine which words experience changes in meaning (have pleasant association meaning), mainly on words which convey places then change by getting additional meaning because of undergoing association process. The results of this research are 1) the database of association meaning of tweets from society in Bandung, 2) the application to analyze pleasant tweets in near real-time way based on association meaning.

## 1 INTRODUCTION

Research on the use of Twitter for the measurement of happiness index has been widely studied. Curini, Iacus, and Canova (2014), built a measure of the level of happiness at the provincial level using statistical techniques which is innovative with data from Twitter Italian society. Another study related to happiness index has been done by Mitchell, et.al. (2013) which the results suggest that social media can potentially be used to estimate real-time rates and changes in measuring the population scale. Ponilan, Herdiani and Selviandro (2016) measured the happiness index in Bandung on social media Twitter using Top-Down Hierarchy ontology method. The research described how to build ontology to calculate happiness index of Bandung citizens. However, there is no study that analyzes the tweets semantically to know the happiness index. Because the happiness index factor is so complex, this research just analyzing the semantic meaning of the tweets to identify the pleasant meaning. Based on this gap, the purposes of this research are: 1) to describe the association meaning formed from pleasant tweets on tweets in Bandung, 2) to build a classification system based on semantic analysis to find out pleasant tweets of society in Bandung in near real-time way.

Commonly, tweets contain statement and frequently involve adverb of places, for example "walking around@Lembang". The word *Lembang* in this case is not only to declare the name of region instead it gets additional meaning such as exciting place for nature tour and culinary tour. In consequence, the data will be analysed based on association meaning from the tweets.

Association meaning can occur in several types of words, such as noun and adverb of place. In this research, however, the analysis is limited to adverb of place.

## 2 ASSOCIATION MEANING

Leech (in Chaer, 2012) divides meaning into conceptual and associative. Conceptual meaning is from lexeme which is without any correlation to its context and other associations. Another division, associative meaning is from lexeme which has correlation with the thing out of the language itself.

Based on those definitions, association is the relationship between the original meaning, meaning in the environment where the original word grows with the new meaning; i.e. meaning in the environment in which the word is transferred into language usage. Between the old meaning and the

new meaning, there is a close relationship. The association meaning can be linked to a place or location. If we mention Senayan, people must know. Its meaning does not refer to the place, but what is there. Senayan is famous for its complex of sports activities. That is why if people say, "Let's go to Senayan" then what is meant is not to Senayan area, but it means to watch the game (related to sports) in Senayan. Here it is the change of meaning seen, that is not the place, but the things related to the place (Pateda, 2010).

Associative meaning is similar to the symbolization used by a certain language society to state other concept which is related to moral value and principles, therefore, it will be associated with taste value (Chaer, 2002).

The shifting and changing of the meaning based on the above explanation can effect on assessing the word meaning. This assessment can be negative (something dislike or peyorative) or positive (something like or ameliorative). This arises based on the use of word meaning in context and situation (Parera, 2004).

This study focuses on the association meaning which has assessment on pleasant meaning. According to KBBI (2016), pleasant means 1) making fun, 2) making joy, 3) exciting, 4) satisfying, 5) attracting (heart), and 6) being happy (satisfied and so on), 7) like.

Associated with the association meaning, words such as *bioskop*, *Burangrang*, and *alun-alun* are the places with association meaning. This is owing to the fact that the word *bioskop* does not only refer to the building alone but also has additional meaning as a pleasant place to watch movies, *Burangrang* also does not only refer to the name of the road but it means areas of fun for culinary tour, and *alun-alun* is not only the land roomy, but it gets extra pleasant meaning because it usually becomes a place of sightseeing, culinary tour, and shopping.

### 3 METHODS

The tweets taken as data were simply the tweets uploaded from Bandung city area. The data were taken from one week, from Monday to Sunday. Data collection was done in the hope that the tweets taken could represent all days, both weekdays and weekends, so that places with pleasant association meaning were found all days. This one-week limit was also due to Twitter's terms. Unfortunately, at the time of the research, there was a disruption from the

Twitter so that the tweet data could be taken in only 1 day, i.e. September 26, 2017.

The data were taken from Bandung area from 1 geocode with Trans Studio Mall radius of 8 km (about 200 km<sup>2</sup>). The tweets were filtered until it generated tweets containing words with association meaning. The next step was to rank words with association meaning to know the public's opinion in general whether those words have pleasant association meaning or not. Then, a list of words that had been ranked were analysed semantically, to find out that the word means a pleasant association. The last step was to build a system based on data from the list of words with association meaning and to test system accuracy.

Below is the flow diagram of the study portrayed with the description in figure 1.

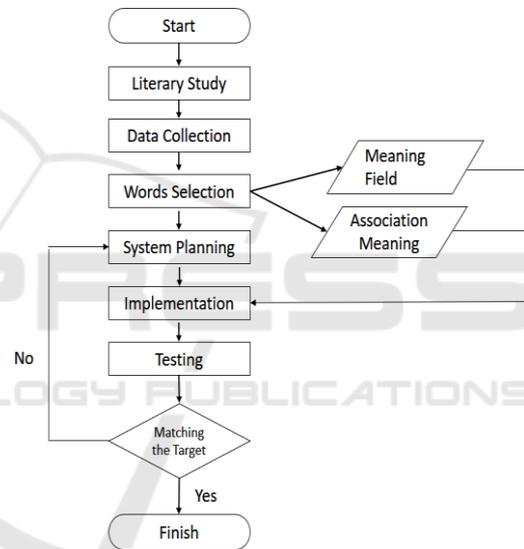


Figure 1: Flow diagram of the study.

The research method was done with the following steps:

- a. Literary Study
- b. Data Collection
- c. Data Selection (words filtering)
- d. System Planning

At this stage, analysis and system planning was conducted to classify the tweets into the category of pleasant or not. The design includes determining the required features and techniques for mapping features into categories.

- e. Implementation

The design result was then implemented by creating a computer program using python language and utilizing association meaning database. Implementation could also be

developed into web-based applications in order to perform data retrieval in real time as well as accessible to the public.

f. Testing

At this stage, testing was committed to determine the effectiveness of systems that had been built in classifying the tweets on Twitter. The evaluation involved the respondents to compare the compatibility between system output and human judgment or expert judgment.

g. Improvements

h. Arrangement of Conclusions and Reports

#### 4 FINDINGS AND DISSCUSION

Based on data taken from the tweets on Twitter from users in Bandung city, below are presented some findings of words that have experienced change into pleasant association meaning.

Table 1: List of places with pleasant association meaning.

No	Places with Pleasant Association	Explanation
1	Jabar	Jabar associates as a place that has beauty, progress, and friendliness. Jabar is a province that is considered advanced in Indonesia in many ways. Jabar associates pleasant.
2	Buah Batu	Buah Batu associates as a pleasant place with cool air and car free day.
3	Bandung	Bandung is the capital of Jabar Province which is identical with the coolness of the air, nature tourism, and culinary. Bandung is also known as a creative city, a culinary paradise, and fashion lovers paradise. Bandung associates pleasant.
4	Braga	Braga associates as a place to walk or hang out in Bandung with a unique atmosphere and classic. Braga associates pleasant.
5	Tamansari	Tamansari associates as a pleasant place of recreation, because the air there is cool, there is a zoo, also adjacent to the famous university, ITB. Tamansari associates pleasant.
6	Garut	Garut, a city in West Java, identic with its natural beauty, tourist attractions, famous for leather products, as well as

No	Places with Pleasant Association	Explanation
		distinctive culinary. Garut associates as a pleasant place.
7	The Lodge Maribaya	The Lodge Maribaya is a tourist attraction in Lembang associated with the natural beauty and uniqueness of the resort. This place associates as a pleasant place.

Table 1 contains only an example of the analysis that has been done. Based on the frequency of occurrences of the word place, the words above often appear used at pleasant tweets. From the frequency of occurrences, the above words occupy the top ranking compared to expressing unpleasant meanings. Based on the rankings, the post data was analyzed semantically based on information sources, such as Wikipedia and based on search through Google.

1,093 tweets from users in Bandung that have been studied, found 37 words (adverb of place) with pleasant association meaning, 2 words (adverb of place) with unpleasant association meaning, and 4 words (adverb of place) which have no association.

The accuracy of the classification system that has been built is 58.71% (using only the analysis of the association meaning). This means the accuracy of the system in interpreting the tweets is 58.71% in accordance with the results of meaning manually (human opinion).

#### 5 CONCLUSIONS

This research is still in development process, data of the tweets will still be added. Analysis through the association meaning will also be developed, not limited to the description of the place but also equipped with semantic field analysis.

Hopefully, this research is developed completely, either from semantic or other sides, so that it can be used to interpret any kind of tweets. For example, it is used to measure the happiness of the people of Bandung and to see the response of citizens to government policies, etc.

#### REFERENCES

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